

**NUCLEAR REGULATORY COMMISSION  
ISSUANCES**

**OPINIONS AND DECISIONS OF THE  
NUCLEAR REGULATORY COMMISSION  
WITH SELECTED ORDERS**

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January 1, 2015 – March 31, 2015

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Prepared by the  
Office of Administration  
U.S. Nuclear Regulatory Commission  
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## PREFACE

This is Book I of the eighty-first volume of issuances (1–480) of the Nuclear Regulatory Commission and its Atomic Safety and Licensing Boards, Administrative Law Judges, and Office Directors. It covers the period from January 1, 2015, to March 31, 2015. Book II covers the period from April 1, 2015, to June 30, 2015.

Atomic Safety and Licensing Boards are authorized by Section 191 of the Atomic Energy Act of 1954. These Boards, comprised of three members, conduct adjudicatory hearings on applications to construct and operate nuclear power plants and related facilities and issue initial decisions which, subject to internal review and appellate procedures, become the final Commission action with respect to those applications. Boards are drawn from the Atomic Safety and Licensing Board Panel, comprised of lawyers, nuclear physicists and engineers, environmentalists, chemists, and economists. The Atomic Energy Commission (AEC) first established Licensing Boards in 1962 and the Panel in 1967.

Between 1969 and 1990, the AEC authorized Atomic Safety and Licensing Appeal Boards to exercise the authority and perform the review functions which would otherwise have been exercised and performed by the Commission in facility licensing proceedings. In 1972, that Commission created an Appeal Panel, from which were drawn the Appeal Boards assigned to each licensing proceeding. The functions performed by both Appeal Boards and Licensing Boards were transferred from the AEC to the Nuclear Regulatory Commission by the Energy Reorganization Act of 1974. Appeal Boards represented the final level in the administrative adjudicatory process to which parties could appeal. Parties, however, were permitted to seek discretionary Commission review of certain board rulings. The Commission also could decide to review, on its own motion, various decisions or actions of Appeal Boards.

On June 29, 1990, however, the Commission voted to abolish the Atomic Safety and Licensing Appeal Panel, and the Panel ceased to exist as of June 30, 1991. Since then, the Commission itself reviews Licensing Board and other adjudicatory decisions, as a matter of discretion. *See* 56 FR 29403 (1991).

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Issuances are referred to as follows: Commission (CLI), Atomic Safety and Licensing Boards (LBP), Administrative Law Judges (ALJ), Directors' Decisions (DD), and Decisions on Petitions for Rulemaking (DPRM).

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## **CONTENTS**

### **Issuances of the Nuclear Regulatory Commission**

<b>DOMINION VIRGINIA POWER</b>	
(North Anna Power Station, Unit 3)	
Docket 52-017-COL	
Memorandum and Order, CLI-15-4, February 26, 2015 .....	221
<b>DTE ELECTRIC COMPANY</b>	
(Fermi Nuclear Power Plant, Unit 2)	
Docket 50-341-LR	
Memorandum and Order, CLI-15-4, February 26, 2015 .....	221
(Fermi Nuclear Power Plant, Unit 3)	
Docket 52-033-COL	
Memorandum and Order, CLI-15-1, January 13, 2015 .....	1
Memorandum and Order, CLI-15-4, February 26, 2015 .....	221
<b>DUKE ENERGY CAROLINAS, LLC</b>	
(William States Lee III Nuclear Station, Units 1 and 2)	
Dockets 52-018-COL, 52-019-COL	
Memorandum and Order, CLI-15-4, February 26, 2015 .....	221
<b>ENTERGY NUCLEAR OPERATIONS, INC.</b>	
(Indian Point, Units 2 and 3)	
Dockets 50-247-LR, 50-286-LR	
Memorandum and Order, CLI-15-2, February 18, 2015 .....	213
Memorandum and Order, CLI-15-3, February 18, 2015 .....	217
Memorandum and Order, CLI-15-4, February 26, 2015 .....	221
Memorandum and Order, CLI-15-6, March 9, 2015 .....	340
<b>FIRSTENERGY NUCLEAR OPERATING COMPANY</b>	
(Davis-Besse Nuclear Power Station, Unit 1)	
Docket 50-346-LR	
Memorandum and Order, CLI-15-4, February 26, 2015 .....	221
<b>FLORIDA POWER &amp; LIGHT COMPANY</b>	
(Turkey Point Nuclear Generating Plant, Units 6 and 7)	
Dockets 52-040-COL, 52-041-COL	
Memorandum and Order, CLI-15-4, February 26, 2015 .....	221
<b>LUMINANT GENERATION COMPANY, LLC</b>	
(Comanche Peak Nuclear Power Plant, Units 3 and 4)	
Dockets 52-034-COL, 52-035-COL	
Memorandum and Order, CLI-15-4, February 26, 2015 .....	221

NEXTERA ENERGY SEABROOK, LLC	
(Seabrook Station, Unit 1)	
Docket 50-443-LR	
Memorandum and Order, CLI-15-4, February 26, 2015	221
NUCLEAR INNOVATION NORTH AMERICA LLC	
(South Texas Project, Units 3 and 4)	
Dockets 52-012-COL, 52-013-COL	
Memorandum and Order, CLI-15-4, February 26, 2015	221
OLD DOMINION ELECTRIC COOPERATIVE	
(North Anna Power Station, Unit 3)	
Docket 52-017-COL	
Memorandum and Order, CLI-15-4, February 26, 2015	221
OMAHA PUBLIC POWER DISTRICT	
(Fort Calhoun Station, Unit 1)	
Docket 50-285	
Memorandum and Order, CLI-15-5, March 9, 2015	329
PACIFIC GAS AND ELECTRIC COMPANY	
(Diablo Canyon Nuclear Power Plant, Units 1 and 2)	
Dockets 50-275-LR, 50-323-LR	
Memorandum and Order, CLI-15-4, February 26, 2015	221
PROGRESS ENERGY FLORIDA, INC.	
(Levy County Nuclear Power Plant, Units 1 and 2)	
Dockets 52-029-COL, 52-030-COL	
Memorandum and Order, CLI-15-4, February 26, 2015	221
STP NUCLEAR OPERATING COMPANY	
(South Texas Project, Units 1 and 2)	
Dockets 50-498-LR, 50-499-LR	
Memorandum and Order, CLI-15-4, February 26, 2015	221
TENNESSEE VALLEY AUTHORITY	
(Bellefonte Nuclear Power Plant, Units 3 and 4)	
Dockets 52-014-COL, 52-015-COL	
Memorandum and Order, CLI-15-4, February 26, 2015	221
(Sequoyah Nuclear Plant, Units 1 and 2)	
Dockets 50-327-LR, 50-328-LR	
Memorandum and Order, CLI-15-4, February 26, 2015	221
(Watts Bar Nuclear Plant, Unit 2)	
Docket 50-391-OL	
Memorandum and Order, CLI-15-4, February 26, 2015	221
UNION ELECTRIC COMPANY	
(Callaway Plant, Unit 1)	
Docket 50-483-LR	
Memorandum and Order, CLI-15-4, February 26, 2015	221

VIRGINIA ELECTRIC AND POWER COMPANY	
(North Anna Power Station, Unit 3)	
Docket 52-017-COL	
Memorandum and Order, CLI-15-4, February 26, 2015 .....	221

### **Issuances of the Atomic Safety and Licensing Boards**

CROW BUTTE RESOURCES, INC.	
(In Situ Leach Facility, Crawford, Nebraska)	
Docket 40-8943	
Memorandum and Order, LBP-15-2, January 21, 2015 .....	48
Memorandum and Order, LBP-15-11, March 16, 2015 .....	401
DTE ELECTRIC COMPANY	
(Fermi Nuclear Power Plant, Unit 2)	
Docket 50-341-LR	
Memorandum and Order, LBP-15-5, February 6, 2015 .....	249
(Fermi Nuclear Power Plant, Unit 3)	
Docket 52-033-COL	
Order, LBP-15-12, March 20, 2015 .....	452
ENTERGY NUCLEAR OPERATIONS, INC.	
(Vermont Yankee Nuclear Power Station)	
Docket 50-271-LA	
Memorandum and Order, LBP-15-4, January 28, 2015 .....	156
ENTERGY NUCLEAR VERMONT YANKEE, LLC	
(Vermont Yankee Nuclear Power Station)	
Docket 50-271-LA	
Memorandum and Order, LBP-15-4, January 28, 2015 .....	156
FIRSTENERGY NUCLEAR OPERATING COMPANY	
(Davis-Besse Nuclear Power Station, Unit 1)	
Docket 50-346-LR	
Memorandum and Order, LBP-15-1, January 15, 2015 .....	15
Order, LBP-15-9, March 10, 2015 .....	396
FLORIDA POWER & LIGHT COMPANY	
(Turkey Point Nuclear Generating Plant, Units 3 and 4)	
Dockets 50-250-LA, 50-251-LA	
Memorandum and Order, LBP-15-13, March 23, 2015 .....	456
PACIFIC GAS AND ELECTRIC COMPANY	
(Diablo Canyon Nuclear Power Plant, Units 1 and 2)	
Dockets 50-275-LR, 50-323-LR	
Memorandum and Order, LBP-15-6, February 11, 2015 .....	314



PROGRESS ENERGY FLORIDA, INC.	
(Levy County Nuclear Power Plant, Units 1 and 2)	
Dockets 52-029-COL, 52-030-COL	
Order, LBP-15-8, March 3, 2015 .....	393
SHIELDALLOY METALLURGICAL CORPORATION	
(Decommissioning of the Newfield, New Jersey Site)	
Docket 40-7102-MLA	
Order, LBP-15-10, March 12, 2015 .....	399
STRATA ENERGY, INC.	
(Ross In Situ Recovery Uranium Project)	
Docket 40-9091-MLA	
Initial Decision, LBP-15-3, January 23, 2015 .....	65
TENNESSEE VALLEY AUTHORITY	
(Sequoyah Nuclear Plant, Units 1 and 2)	
Dockets 50-327-LR, 50-328-LR	
Order, LBP-15-7, March 3, 2015 .....	391

#### **Issuances of Directors' Decisions**

ALL GENERAL ELECTRIC MARK I BOILING-WATER REACTOR OPERATING LICENSEES	
Director's Decision, DD-15-1, January 15, 2015 .....	193
ENTERGY NUCLEAR OPERATIONS, INC.	
(James A. FitzPatrick Nuclear Power Plant)	
Docket 50-333	
Director's Decision, DD-15-2, October 17, 2014 .....	205

#### **Indexes**

Case Name Index .....	I-1
Legal Citations Index .....	I-5
Cases .....	I-5
Regulations .....	I-61
Statutes .....	I-101
Others .....	I-105
Subject Index .....	I-107
Facility Index .....	I-257

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Stephen G. Burns**, Chairman  
**Kristine L. Svinicki**  
**William C. Ostendorff**  
**Jeff Baran**

**In the Matter of**

**Docket No. 52-033-COL**

**DTE ELECTRIC COMPANY**  
**(Fermi Nuclear Power Plant,**  
**Unit 3)**

**January 13, 2015**

**REVIEW, DISCRETIONARY**

The Commission will grant a petition for review at its discretion, upon a showing that the petitioner has raised a substantial question as to whether: (i) a finding of material fact is clearly erroneous or in conflict with a finding as to the same fact in a different proceeding; (ii) a necessary legal conclusion is without governing precedent or is a departure from or contrary to established law; (iii) a substantial and important question of law, policy, or discretion has been raised; (iv) the conduct of the proceeding involved a prejudicial procedural error; or (v) any other consideration that the Commission may deem to be in the public interest.

**RULES OF PRACTICE: *AMICUS CURIAE***

The Commission's rules of practice permit persons who are not parties to file a brief *amicus curiae* if a matter is taken up by the Commission under 10 C.F.R. § 2.341 or *sua sponte*.

#### **RULES OF PRACTICE: CONTENTIONS**

The Commission's rules of practice require contentions to be raised at the earliest possible opportunity.

#### **RULES OF PRACTICE: CONTENTIONS, NATIONAL ENVIRONMENTAL POLICY ACT**

Although environmental contentions are, in essence, challenges to the Staff's compliance with the National Environmental Policy Act, those contentions must be raised, if possible, in response to an applicant's environmental report.

#### **RULES OF PRACTICE: CONTENTIONS, NEW OR AMENDED**

Petitioners who choose to wait to raise contentions that could have been raised earlier do so at their peril. They risk the possibility that there will not be a material difference between the application and the Staff's review documents, thus rendering any newly proposed contention on previously available information impermissibly late.

#### **RULES OF PRACTICE: CONTENTIONS, NEW OR AMENDED**

The Commission's rules of practice require a material difference between the information on which the contention is based and the information that was previously available — for example, a difference between the environmental report and the draft environmental impact statement (EIS) or the draft EIS and the final EIS.

#### ***SUA SPONTE* ISSUES**

Section 2.340(b) sets forth the standard for *sua sponte* review in a combined license proceeding. With the Commission's express approval, a licensing board may make findings on a serious safety, environmental, or common defense and security matter not put into controversy by the parties. This authority shall be used only in extraordinary circumstances.

### **MEMORANDUM AND ORDER**

Today we rule on the Atomic Safety and Licensing Board's request to review, *sua sponte*, issues relating to the environmental impacts of the proposed

transmission-line corridor for Fermi Unit 3.<sup>1</sup> For the reasons set forth below, we deny the Board's request for *sua sponte* review. In addition, we deny Intervenor's petition for review of the Board's dismissal of Contention 23, also relating to transmission-corridor environmental impacts.<sup>2</sup>

## I. BACKGROUND

This proceeding concerns DTE's combined license application to construct and operate a GE-Hitachi Economic Simplified Boiling Water Reactor (ESBWR) on the Fermi site in Monroe County, Michigan.<sup>3</sup> Intervenor sought a hearing and originally proposed fourteen contentions; the Board granted a hearing and admitted four of those contentions.<sup>4</sup> Since their entry into the proceeding in July 2009, Intervenor has proposed several additional contentions, including Contention 23, their challenge to the NRC Staff's compliance with the National Environmental Policy Act of 1969 (NEPA) as it pertains to the anticipated environmental impacts of the proposed transmission-line corridor for Fermi Unit 3, the subject of our decision today.

Intervenor first proposed Contention 23 after the Staff issued the draft Environmental Impact Statement (EIS) for DTE's application.<sup>5</sup> Later, after the Board dismissed the contention as late, Intervenor resubmitted Contention 23 in

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<sup>1</sup> LBP-14-9, 80 NRC 15 (2014).

<sup>2</sup> Intervenor's Petition for Review of Atomic Safety and Licensing Board's Dismissal of Contention 23 for Lack of Timeliness (Oct. 6, 2014) (Petition). Intervenor are Beyond Nuclear, Citizens for Alternatives to Chemical Contamination, Citizens Environmental Alliance of Southwestern Ontario, Don't Waste Michigan, Sierra Club, Keith Gunter, Edward McArdle, Henry Newman, Derek Coronado, Sandra Bihn, Harold L. Stokes, Michael J. Keegan, Richard Coronado, George Steinman, Marilyn R. Timmer, Leonard Mandeville, Frank Mantei, Marcee Meyers, and Shirley Steinman.

<sup>3</sup> See Detroit Edison Company; Notice of Hearing, and Opportunity to Petition for Leave to Intervene and Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information for Contention Preparation on a Combined License for Fermi 3, 74 Fed. Reg. 836 (Jan. 8, 2009).

<sup>4</sup> The Board admitted Contentions 3, 5, 6, and 8. LBP-09-16, 70 NRC 227, 306 (2009). In three separate opinions, the Board granted summary disposition of Contentions 3, 5, and 6 in favor of DTE. See Order (Granting Motion for Summary Disposition of Contention 3) (July 9, 2010) (unpublished); Order (Granting Motion for Summary Disposition of Contention 5) (Mar. 1, 2011) (unpublished); LBP-12-23, 76 NRC 445, 452 (2012) (among other things, granting summary disposition of Contention 6). After an evidentiary hearing, the Board ruled on the merits of Contention 8 in favor of the NRC Staff and ruled on the merits of a new admitted contention pertaining to quality assurance, Contention 15, in favor of DTE. LBP-14-7, 79 NRC 451 (2014). In a separate decision, we denied Intervenor's petition for review of the Board's ruling on the merits of Contention 15. See CLI-14-10, 80 NRC 157 (2014).

<sup>5</sup> See Motion for Resubmission of Contention 10, to Amend/Resubmit Contention 13, and for Submission of New Contentions 17 through 24 (Jan. 11, 2012) at 1-2, 41-52 (Original Contention 23).

response to the Staff's final EIS.<sup>6</sup> The Board again dismissed the contention as late.<sup>7</sup> In Contention 23, as both originally proposed and resubmitted, Intervenor challenged the adequacy of the Staff's consideration of the environmental impacts of building new transmission lines for Fermi Unit 3.<sup>8</sup>

Although the Board did not admit Contention 23, it found some merit to Intervenor's arguments.<sup>9</sup> In its first ruling dismissing the contention, the Board suggested that the contention might have been admissible if not for its tardiness and recommended that the Staff consider Intervenor's concerns when preparing the final EIS.<sup>10</sup> In its second ruling, the Board again found the contention to be unjustifiably late, but it reiterated its view that Intervenor had raised "a substantial . . . issue that might have been admissible had it been timely filed."<sup>11</sup> The Board further observed that the adequacy of the Staff's review of transmission-corridor impacts might be appropriate for the Board's consideration *sua sponte*, pursuant to 10 C.F.R. § 2.340(b).<sup>12</sup> The Board thus sought briefing from the parties on the appropriateness of the Board's taking review of the issues raised in Contention 23 on its own motion.<sup>13</sup> Intervenor supported *sua sponte* review; DTE and the Staff opposed it.<sup>14</sup>

As it considered the parties' views on *sua sponte* review, the Board proceeded to hearing on Intervenor's then-pending admitted contentions and issued an initial decision ruling on those contentions in favor of the Staff and DTE.<sup>15</sup> The Board returned to the *sua sponte* issue shortly thereafter. In LBP-14-9, the Board determined that the issues raised in Contention 23 merited *sua sponte* review.<sup>16</sup> In

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<sup>6</sup> See LBP-12-12, 75 NRC 742, 776-80 (2012); Motion for Resubmission of Contentions 3 and 13, for Resubmission of Contention 23 or Its Admission as a New Contention, and for Admission of New Contentions 26 and 27 (Feb. 19, 2013) at 2, 21-53 (Resubmitted Contention 23).

<sup>7</sup> Licensing Board Memorandum and Order (Denying Intervenor's Motion for Resubmission of Contentions 3 and 13, for Resubmission of Contention 23 or Its Admission as a New Contention, and for Admission of New Contentions 26 and 27) (Apr. 30, 2013) at 21 (unpublished) (Second Board Ruling).

<sup>8</sup> Compare Original Contention 23 at 41-52, with Resubmitted Contention 23 at 21-53.

<sup>9</sup> See LBP-12-12, 75 NRC at 776-80; Second Board Ruling at 22-23.

<sup>10</sup> LBP-12-12, 75 NRC at 776, 780.

<sup>11</sup> Second Board Ruling at 23.

<sup>12</sup> See *id.*

<sup>13</sup> *Id.* at 23-24.

<sup>14</sup> Intervenor's Memorandum in Support of *Sua Sponte* ASLB Referral of Transmission Line Corridor NEPA Compliance Issue (May 30, 2013); Applicant's Brief Opposing *Sua Sponte* Review of Environmental Impacts in the Offsite Transmission Corridor (May 30, 2013); NRC Staff Response to Board Order Concerning Proposed *Sua Sponte* Review of Contention 23 (May 30, 2013).

<sup>15</sup> See *supra* note 4.

<sup>16</sup> LBP-14-9, 80 NRC at 27.

accordance with section 2.340(b), the Board requested our approval to undertake that review.<sup>17</sup>

We now have before us the briefs that we invited from the parties in response to the Board's *sua sponte* request,<sup>18</sup> as well as a motion from the Nuclear Energy Institute (NEI) to file a brief as *amicus curiae* in this matter.<sup>19</sup> Also pending before us is Intervenor's petition for review of the Board's dismissal of Contention 23.<sup>20</sup> It makes sense for us to review first whether the Board properly dismissed

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<sup>17</sup> *Id.* at 37-38, 69-70.

<sup>18</sup> Applicant's Opposition to *Sua Sponte* Consideration of Transmission Corridor Issues (July 28, 2014) (DTE Brief); NRC Staff Response to Commission's Order Inviting Comments on the Board's Request for Approval to Conduct *Sua Sponte* Review of Contention 23 (Transmission Lines) (July 28, 2014) (NRC Staff Brief); Intervenor's Motion for Commission Approval of LBP-14-09 (Memorandum Determining That Issues Related to Intervenor's Proposed Contention 23 Merit *Sua Sponte* Review Pursuant to 10 C.F.R. § 2.340(b) and Requesting Commission Approval) (e-mailed July 28, 2014 and refiled on July 30, 2014); Applicant's Reply Brief Opposing *Sua Sponte* Consideration of Transmission Issues (Aug. 7, 2014); NRC Staff Reply to Other Parties' Pleadings Related to the Board's Request for Approval to Conduct *Sua Sponte* Review of Contention 23 (Transmission Lines) (Aug. 7, 2014); Intervenor's Corrected Reply Memorandum in Support of Motion for Commission Approval of LBP-14-09 (Aug. 8, 2014) (Intervenor's Reply Brief). Intervenor apparently experienced technical difficulties that prevented their use of the agency's e-filing system on July 28, 2014. They e-mailed their reply on July 28, 2014, and then properly refiled the document on July 30, 2014. Although they did not request leave to file their reply out of time, we note that counsel for Intervenor also filed the same day a declaration that detailed these technical difficulties in the context of a separate filing in this proceeding. *See* Intervenor's Motion for Enlargement of Time to Reply in Support of Petition for Review (July 30, 2014); *see also* Intervenor's Reply to DTE Answer Opposing Petition for Review of LBP-14-07 (Ruling for Applicant on Quality Assurance) (July 30, 2014) at n.1; Intervenor's Reply to NRC Staff Answer to Petition for Review of LBP-14-07 (Ruling for Applicant on Quality Assurance) (July 30, 2014), at n.1. We therefore will consider Intervenor's reply for good cause shown. The same is true for Intervenor's refiled reply dated August 8, 2014 (in which only the caption appears to have been corrected from what was filed on August 7, 2014). *But see* CLI-14-10, 80 NRC at 165 n.41 (observing that failure to comply with agency procedural rules could result in disciplinary action).

<sup>19</sup> Motion of the Nuclear Energy Institute, Inc. for Leave to File Amicus Curiae Brief in Response to the Commission's July 11, 2014 Briefing Order (July 28, 2014); *Amicus Curiae* Brief of the Nuclear Energy Institute, Inc. in Response to the Commission's July 11, 2014 Briefing Order (July 28, 2014). Our rules of practice permit persons who are not parties to file a brief *amicus curiae* "if a matter is taken up by the Commission under [10 C.F.R.] § 2.341 or *sua sponte*." 10 C.F.R. § 2.315(d). Although this rule does not squarely apply here, it is within our discretion to grant leave for participation as *amicus curiae*. *See Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-13-4, 77 NRC 101, 104 n.9 (2013). NEI's motion is unopposed, and we find that its brief would further contribute to the record. We exercise our discretion and consider NEI's brief.

<sup>20</sup> *See generally* Petition; Order of the Secretary (Sept. 10, 2014) (unpublished) (amending the deadline to file a petition for review of the Board's ruling on Contention 23 "[b]ecause the issues raised . . . in [that contention] are intertwined with the Board's [*sua sponte*] request"). DTE and the Staff oppose Intervenor's petition for review. Applicant's Opposition to Petition for Review on Contention 23 (Oct. 31, 2014) (DTE Response to Petition); NRC Staff Response to Intervenor's

(Continued)

the contention to determine whether the transmission-corridor impacts issue is litigable in the traditional sense — as a contested matter between the parties — before turning to the Board’s *sua sponte* request. Therefore, we rule on both Intervenor’s petition for review and the Board’s *sua sponte* request in today’s decision.<sup>21</sup>

## II. DISCUSSION

### A. Intervenor’s Petition for Review

We will grant a petition for review at our discretion, upon a showing that the petitioner has raised a substantial question as to whether

- (i) a finding of material fact is clearly erroneous or in conflict with a finding as to the same fact in a different proceeding;
- (ii) a necessary legal conclusion is without governing precedent or is a departure from or contrary to established law;
- (iii) a substantial and important question of law, policy, or discretion has been raised;
- (iv) the conduct of the proceeding involved a prejudicial procedural error; or
- (v) any other consideration that we may deem to be in the public interest.<sup>22</sup>

Intervenor seeks review of the Board’s dismissal of the resubmitted version of Contention 23; they do not request review of the Board’s dismissal of the contention as originally proposed.<sup>23</sup>

Intervenor claims that the Board erred when it found late the version of Contention 23 that was submitted in response to the Staff’s final EIS.<sup>24</sup> Intervenor focuses their argument on dicta in the Board’s first ruling in which the Board recommended that the Staff consider Intervenor’s transmission-corridor claims when preparing the final EIS.<sup>25</sup> They assert that the Board’s recommendation to

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Petition for Review of Atomic Safety and Licensing Board’s Dismissal of Contention 23 for Lack of Timeliness (Oct. 30, 2014) (NRC Staff Response to Petition). Intervenor filed a reply. Intervenor’s Reply in Support of Petition for Review of Atomic Safety and Licensing Board’s Dismissal of Contention 23 for Lack of Timeliness (Nov. 10, 2014) (Reply).

<sup>21</sup> Intervenor expressed concern in their petition for review that we would treat their contention as “legally intertwined” with the Board’s request. Petition at 11-13; Reply at 1-5. We clarify that we do not view the two matters as legally intertwined but rather factually (and procedurally) intertwined. Although we address both matters in this decision, we consider them separately.

<sup>22</sup> 10 C.F.R. § 2.341(b)(4)(i)-(v).

<sup>23</sup> See Petition at 1. We discuss both Board decisions here, however, for completeness.

<sup>24</sup> *Id.* at 2-3.

<sup>25</sup> *Id.* at 2-3, 6-11.

the Staff constituted new information, a new “dispute” with the draft EIS, that cured the contention’s lateness the second time around.<sup>26</sup> Intervenor also assert that language in the final EIS relating to the transmission corridor is materially different from that in the draft EIS. They argue that this language raises an issue suitable for a new contention.<sup>27</sup>

Intervenor acknowledges that they could have raised Contention 23 at the outset of this proceeding.<sup>28</sup> They assert that they purposely waited to see whether the Staff would supplement the analysis provided in DTE’s environmental report at the draft EIS stage and that they again waited to see whether the Staff would take on the Board’s recommendation in the final EIS. But our rules of practice require contentions to be raised at the earliest possible opportunity.<sup>29</sup> And although environmental contentions are, in essence, challenges to the Staff’s compliance with NEPA, those contentions must be raised, if possible, in response to an applicant’s environmental report.<sup>30</sup> Petitioners who choose to wait to raise contentions that could have been raised earlier do so at their peril. They risk the possibility that there will not be a material difference between the application and the Staff’s review documents, thus rendering any newly proposed contention on previously available information impermissibly late.<sup>31</sup>

Contrary to Intervenor’s claims, the Board’s recommendation to the Staff in its first decision did not create a new reference point for determining whether the information raised in the second iteration of Contention 23 was timely raised. Our rules of practice require a material difference between the information on which the contention is based and the information that was previously available — for example, a difference between the environmental report and the draft EIS or the draft EIS and the final EIS.<sup>32</sup> In both of its contention admissibility decisions

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<sup>26</sup> *Id.* at 7-8.

<sup>27</sup> *Id.* at 8-11.

<sup>28</sup> *See id.* at 3-4, 6.

<sup>29</sup> *See* 10 C.F.R. § 2.309(b)(3)(i), (c). We amended our rules of practice in 2012, including the provision governing new or amended contentions in section 2.309(c). The standard for admitting a new or amended contention, however, was simplified rather than overhauled. *See* Final Rule: “Amendments to Adjudicatory Process Rules and Related Requirements,” 77 Fed. Reg. 46,562, 46,571 (Aug. 3, 2012) (Part 2 Amendment). Both before and after the 2012 amendment, proponents of new or amended contentions were, and are, required to demonstrate “good cause” for their filing, which includes a demonstration that the information on which the new or amended contention is based is materially different from information previously available. *See* 10 C.F.R. § 2.309(c)(1)(i)-(iii); Part 2 Amendment, 77 Fed. Reg. at 46,571 (focusing the requirements on the factor given the most weight — “good cause”).

<sup>30</sup> 10 C.F.R. § 2.309(f)(2); *see also* Part 2 Amendment, 77 Fed. Reg. at 46,566-67.

<sup>31</sup> *See* 10 C.F.R. § 2.309(c); *see also* *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-10, 75 NRC 479, 492-94 (2012).

<sup>32</sup> 10 C.F.R. § 2.309(c), (f)(2); *see also* *Pilgrim*, CLI-12-10, 75 NRC at 488-89; *Pa’ina Hawaii, LLC*, CLI-10-18, 72 NRC 56, 87-88 (2010).



the Board noted Intervenor's failure to point to any material difference between DTE's or the Staff's environmental documents. The Board was "satisfied that each of the issues that comprise the subject matter of the contention was discussed in the [Environmental Report]" and that "[t]he same issues were also reviewed in the [draft] EIS."<sup>33</sup> We see nothing that would cause us to disturb the Board's rulings on the timeliness of Contention 23 in this regard.

On appeal, Intervenor's point to language in the final EIS that they claim is materially different from information in the draft EIS.<sup>34</sup> But as the Staff and DTE point out, Intervenor's compare language from two distinct sections of the Staff's review documents.<sup>35</sup> When the same sections of both documents are properly aligned, there is in fact no difference between the draft EIS and the final EIS, let alone a material difference.<sup>36</sup> Therefore, this claim must fail. Because Intervenor's have not demonstrated a substantial question warranting review of the Board's dismissal of their contention, we deny their petition for review.

## **B. The Board's Request for *Sua Sponte* Review**

We turn now to whether issues pertaining to transmission-corridor environmental impacts should nevertheless be litigated in a contested proceeding before the Board. The Board specifically requests our approval to review two issues *sua sponte*:

(1) "[w]hether the building of offsite transmission lines intended solely to serve . . . Fermi Unit 3 qualifies as a connected action under NEPA and, therefore, requires the Staff to consider its environmental impacts as a direct effect of the construction of Fermi Unit 3"; and

(2) "[w]hether the Staff's consideration of environmental impacts related to the transmission corridor, performed as a cumulative impact review, satisfied NEPA's hard look requirement."<sup>37</sup>

Section 2.340(b) sets forth the standard for *sua sponte* review in a combined

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<sup>33</sup> Second Board Ruling at 21; *see also* LBP-12-12, 75 NRC at 775-76.

<sup>34</sup> *See* Petition at 8-11.

<sup>35</sup> NRC Staff Response to Petition at 13-14; DTE Response to Petition at 10-12.

<sup>36</sup> *Compare* "Draft Environmental Impact Statement for Combined License (COL) for Enrico Fermi Unit 3" (Draft Report for Comment), NUREG-2105 (Oct. 2011), at 2-45, 3-17 (ADAMS Accession No. ML13274A468 (package)) (DEIS), *with* "Environmental Impact Statement for the Combined License (COL) for Enrico Fermi Unit 3" (Final Report), NUREG-2105, Vols. 1-4 (Jan. 2013), at 2-46, 3-18 (ADAMS Accession Nos. ML12307A172, ML12307A176, ML12307A177, and ML12347A202) (FEIS).

<sup>37</sup> LBP-14-9, 80 NRC at 37.

license proceeding. With our express approval, a licensing board may make findings on a “serious safety, environmental, or common defense and security matter” not put into controversy by the parties.<sup>38</sup> This authority shall be used only in extraordinary circumstances.<sup>39</sup> We find that the two issues identified by the Board do not merit *sua sponte* review.

The Board appears to have focused on the distinctions between a direct impacts analysis and a cumulative impacts analysis, with the underlying conclusion that a cumulative impacts analysis will yield a shallower analysis than a direct impacts analysis. While that may be true in other cases, here the Staff has included what appears to be a comprehensive analysis of transmission-corridor impacts throughout the final EIS. Without commenting on the sufficiency of the Staff’s review, we note that the Staff discussed transmission-corridor impacts in Chapters 2, 3, 4, 5, 9, and 10 of the final EIS, in addition to referencing those impacts in the cumulative impacts analysis in Chapter 7.<sup>40</sup>

The final EIS itself is a source of minor confusion. Despite the final EIS’s introductory statement that preconstruction activities (which would include transmission-line development) are not part of the proposed action and are discussed in the context of cumulative impacts,<sup>41</sup> the Staff further stated that it included “pertinent information related to . . . potential impacts from the transmission lines” as part of its “integrated evaluations of potential environmental impacts from the proposed Fermi 3 facilities.”<sup>42</sup> Consequently, the Board’s discussion as to whether development of the transmission corridor is a “connected action” under NEPA, while thorough, is inapposite.<sup>43</sup> The Board’s treatment of this issue does not acknowledge that the Staff did discuss the proposed transmission corridor in

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<sup>38</sup> 10 C.F.R. § 2.340(b).

<sup>39</sup> *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22-23 (1998). The Board notes the absence of an express regulatory requirement that the authority for *sua sponte* review be used “sparingly” or in “extraordinary circumstances.” LBP-14-9, 80 NRC at 38-40. But our 1998 Policy Statement, which instructs boards to limit their use of *sua sponte* review, remains valid. Further, section 2.340(b) references the standard for Commission review in sections 2.323 and 2.341, both of which, we have held, require a heightened showing to prevent overuse, including a demonstration of “extraordinary circumstances.” See 10 C.F.R. §§ 2.323(f), 2.341(f)(1) (governing referred rulings or certified questions that raise “significant and novel legal or policy issues” or issues whose early resolution “would materially advance the orderly disposition of the proceeding”); *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-12-13, 75 NRC 681, 685 (2012); cf. *Diablo Canyon*, CLI-12-13, 75 NRC at 687 (regarding the standard for interlocutory review). The Board correctly notes that “a request to engage in *sua sponte* review should not be undertaken lightly.” LBP-14-9, 80 NRC at 39.

<sup>40</sup> See FEIS at M-1 to M-2.

<sup>41</sup> FEIS at 1-7. The Board referenced this statement in its *sua sponte* request. See LBP-14-9, 80 NRC at 36.

<sup>42</sup> FEIS at M-1.

<sup>43</sup> See LBP-14-9, 80 NRC at 40-57.

the final EIS, across multiple chapters, together with the impacts of constructing and operating Fermi Unit 3.<sup>44</sup> The first issue proposed for review would therefore appear to be moot.<sup>45</sup>

Moreover, much of the Board's request fundamentally challenges the agency's Limited Work Authorization Rule.<sup>46</sup> For example, the Board takes issue with the Staff's classification of the proposed transmission lines as a "preconstruction activity" rather than "construction."<sup>47</sup> In the Limited Work Authorization Rule, however, we expressly excluded transmission lines from the delineated "construction" activities that would require NRC approval before being undertaken.<sup>48</sup> We would not allow a litigant to challenge a rule in an NRC adjudicatory proceeding absent a showing of special circumstances;<sup>49</sup> we likewise will not allow the Board to do the same.<sup>50</sup>

The Board's second issue proposed for review, aside from its reference to cumulative impacts, is in essence a concern about the overall sufficiency of the Staff's transmission-corridor analysis. But this is a potentially amorphous issue that does not appear to lend itself well to a contested proceeding, and the Board has not given us the benefit of a roadmap of what specifically would be litigated with regard to the Staff's analysis. For example, the Board opines that the Staff must evaluate reasonable alternatives as well as measures to mitigate any detrimental environmental impacts.<sup>51</sup> But again, without making a sufficiency finding, the Staff discussed the proposed transmission corridor in its alternatives analysis (including alternative sources of electricity and alternative sites) and also discussed potential mitigation measures for constructing new transmission lines

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<sup>44</sup> See, e.g., FEIS at 4-3 (explaining that due to its collaboration with the United States Army Corps of Engineers in the environmental review, "the combined impacts of . . . preconstruction and construction activities . . . are presented in [Chapter 4]" even though "the environmental effects of preconstruction activities on each resource area would be addressed as cumulative impacts normally presented in Chapter 7").

<sup>45</sup> In any event, the Board apparently has already established a position on this issue — after briefing from the parties — that the transmission corridor is "connected" to the licensing decision for Fermi Unit 3. See LBP-14-9, 80 NRC at 46-47 (opining, "based on the information . . . before the Board," that the transmission corridor appears to be a proposed action and that it has "'no discernible purpose' apart from connecting Fermi 3 to the grid"). For these reasons, further litigation of this issue would not significantly inform the record on the "connected action" question.

<sup>46</sup> See, e.g., LBP-14-9, 80 NRC at 48-57; see generally Final Rule: "Limited Work Authorizations for Nuclear Power Plants," 72 Fed. Reg. 57,416 (Oct. 9, 2007) (Limited Work Authorization Rule).

<sup>47</sup> LBP-14-9, 80 NRC at 36.

<sup>48</sup> See 10 C.F.R. §§ 50.10(a)(2)(vii), 51.4 (defining "construction"); see also Limited Work Authorization Rule, 72 Fed. Reg. at 57,417 (requiring NRC authorization "only before undertaking activities that have a reasonable nexus to radiological health and safety and/or common defense and security").

<sup>49</sup> See 10 C.F.R. § 2.335(a), (b).

<sup>50</sup> See LBP-14-9, 80 NRC 49-50.

<sup>51</sup> See *id.* at 43-44, 64.

in its main analysis of the impacts of constructing and operating Fermi Unit 3.<sup>52</sup> Our rules of practice are designed to avoid such an unfocused inquiry in contested proceedings.<sup>53</sup>

In February of this year, we will be holding the uncontested hearing on the *Fermi* combined license application. The uncontested hearing will provide us with an opportunity to review the sufficiency of the Staff's environmental (and safety) analyses. Given that the Board's request, at bottom, questions the sufficiency of the Staff's consideration of the environmental impacts of the proposed new transmission lines for Fermi Unit 3, the issue whether the Staff has taken a "hard look" at the environmental impacts of the transmission corridor is among the range of issues that are appropriately before us in the uncontested hearing.<sup>54</sup> Thus, as part of this hearing, we will take the Board's concerns regarding examination of the environmental impacts of the transmission corridor in the final EIS under advisement.

### III. CONCLUSION

Intervenors have failed to raise a substantial question warranting review of the Board's dismissal of Contention 23. We therefore *deny* the petition for review. In addition, we *deny* the Board's request for *sua sponte* review. We will review the adequacy of the Staff's environmental review, including consideration of transmission-corridor environmental impacts, as part of the uncontested hearing.

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<sup>52</sup> See, e.g., FEIS at 4-60 (noting "that the small streams that would be crossed by the proposed transmission line corridor could be easily spanned without placing structures in stream channels and that [best management practices] would be implemented to protect water quality in streams during building activities"); *id.* at 9-7 (noting that "new transmission lines would be needed to deliver power from the alternative coal-fired plant and that these lines would be identical in both capacity and location to the lines being proposed to support Fermi 3"); *id.* at 9-87 (noting that "[e]nvironmental conditions along the transmission line corridor [for the alternative Belle River-St. Clair site] are similar to those of the site, with a mixture of cropland, wooded areas, and some wetlands").

<sup>53</sup> See 10 C.F.R. § 2.309(f)(1)(i)-(vi). The Board, to be sure, is not strictly bound by the contention admissibility rules when requesting approval to review issues *sua sponte*. But our contested proceedings must be governed by some level of specificity to ensure the proceeding is conducted efficiently, with fairness to all of the parties. Cf. Final Rule: "Rules of Practice in Domestic Licensing Proceedings — Procedural Changes in the Hearing Process," 54 Fed. Reg. 33,168, 33,179 (Aug. 11, 1989) (amending the rules of practice to "ensure[ ] that the resources of all participants in NRC proceedings are focused on real issues and disputes among the parties").

<sup>54</sup> We reject Intervenors' argument that the uncontested hearing "is not a serious avenue of relief." Intervenors' Reply Brief at 10. As the Intervenors note, compliance with NEPA is the responsibility of the NRC. See Petition at 3, 6. In the uncontested hearing it is our duty to ensure, among other things, that we have adhered to our obligations under that statute. See 10 C.F.R. § 51.107(a). We therefore find the uncontested proceeding to be an appropriate venue in which to address the transmission-corridor issue.

IT IS SO ORDERED.

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 13th day of January 2015.

### **Concurring Opinion of Commissioner Baran**

I concur in the result of the Memorandum and Order but write separately to respectfully express my disagreement with the majority's treatment of the Board's request for *sua sponte* review in Section II.B. In my view, this portion of the opinion would benefit from a more tailored discussion of only those issues necessary to reach a decision. I do not believe it is necessary for the opinion to characterize the Board's request for *sua sponte* review as "fundamentally challeng[ing]" the Limited Work Authorization Rule, the Board as having "already established a position" on the question of whether the transmission corridor construction is a connected action under NEPA, or the requested review of the Staff's transmission corridor analysis as "potentially amorphous" and "unfocused." I also do not believe that it makes sense for the opinion to state that "the Staff has included what appears to be a comprehensive analysis of transmission-corridor impacts throughout the final EIS." This description of the Staff's analysis as "comprehensive" could leave readers with the impression that the Commission is prejudging the sufficiency of the final EIS in advance of the uncontested hearing. The juxtaposition of this description with the subsequent statement that the Commission is not "commenting on the sufficiency of the Staff's review" may also confuse readers.

For these reasons, this section of the Memorandum and Order could simply state:

With respect to whether the building of offsite transmission lines for Fermi Unit 3 qualifies as a connected action under NEPA, the Board's request for *sua sponte* review appears relevant only to determining if an analysis of the direct effects of such activities is warranted. However, the Staff examined the impacts of the proposed transmission corridor on land use, terrestrial ecology, aquatic ecology, historic and cultural resources, and nonradiological health in Chapters 2, 3, 4, 5, 9, and 10 of the final EIS, in addition to referencing those impacts in the cumulative impacts analysis in Chapter 7. Without commenting on the sufficiency of the review, there is no question that the Staff discussed the environmental impacts of the proposed transmission corridor in multiple chapters of the final EIS. Consequently, a *sua sponte* review by the Board of the legal question of whether a direct effects analysis was required is unnecessary. At their core, both issues raised by the Board relate to the sufficiency of the Staff's consideration of the environmental impacts of the proposed new transmission corridor for Fermi Unit 3. The upcoming uncontested hearing is a natural time for the Commission to examine whether the Staff has taken the requisite "hard look" at the environmental impacts of the transmission corridor in its final EIS.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**William J. Froehlich, Chairman  
Nicholas G. Trikouros  
Dr. William E. Kastenberg**

**In the Matter of**

**Docket No. 50-346-LR  
(ASLBP No. 11-907-01-LR-BD01)**

**FIRSTENERGY NUCLEAR  
OPERATING COMPANY  
(Davis-Besse Nuclear Power  
Station, Unit 1)**

**January 15, 2015**

**RULES OF PRACTICE: TIMELINESS, LATE FILED  
CONTENTIONS**

The requirements for demonstrating “good cause” under 10 C.F.R. § 2.309(c)(1)(i)-(iii) are the same as the requirements for filing late contentions previously available under 10 C.F.R. § 2.309(f)(2)(i)-(iii). Therefore, despite the change in the rules, in general, contentions proposed after the filing deadline, which would have been allowable under the previous 10 C.F.R. § 2.309(f)(2) requirements, will also be allowable under the current 10 C.F.R. § 2.309(c)(1) requirements.

**RULES OF PRACTICE: TIMELINESS, LATE FILED  
CONTENTIONS**

If a petitioner cannot meet the requirements for filing a contention under the new 10 C.F.R. § 2.309(c)(1), he or she can still take advantage of an extension request under 10 C.F.R. § 2.307 “if unanticipated events, such as a weather event



or unexpected health issues, prevented the participant from filing for a reasonable period of time after the deadline.”

**RULES OF PRACTICE: TIMELINESS, NEW AND MATERIAL INFORMATION; OYSTER CREEK**

Under *AmerGen Energy Co.* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235 (2009), in general, if the applicant’s enhanced monitoring program is inadequate, then an unenhanced monitoring program would have been *a fortiori* inadequate, and petitioners would have had a regulatory obligation to challenge it earlier. However, *Oyster Creek* cannot be read so broadly as to exclude contentions that are founded upon genuinely new safety concerns.

**RULES OF PRACTICE: TIMELINESS, NEW AND MATERIAL INFORMATION; OYSTER CREEK**

*Oyster Creek* instead stands for the more limited proposition that enhancements to a license renewal application (LRA) or environmental impact statement (EIS), not made in the presence of a newly discovered safety or environmental concern, generally cannot be grounds for a new contention. However, if a newly discovered safety or environmental concern presents itself, a petitioner can file a new contention alleging that the LRA or EIS does not adequately address the new concern. Furthermore, preemptive amendment of an LRA or EIS in response to the new discovery does not insulate the LRA or EIS from public oversight.

**RULES OF PRACTICE: CONTENTION ADMISSIBILITY, GENUINE DISPUTE**

The crux of the “genuine dispute” prong under 10 C.F.R. § 2.309(f)(1)(vi) is the requirement for specificity: a contention must have more than general allegations. Rather, it must explain “what” specific deficiencies exist and “why” they materially impact the LRA or EIS. Stated another way, in addition to stating *what* they disagree with, petitioners must also explain, with specific support, *why* the disagreed-upon issue will have a material impact.

**RULES OF PRACTICE: CONTENTION ADMISSIBILITY, GENUINE DISPUTE**

Requests for more testing, more methods of testing, and more information, all of which are sought without explaining why the current program is inadequate, are insufficient to create a genuine dispute with the application.

**RULES OF PRACTICE: CONTENTION ADMISSIBILITY, GENUINE DISPUTE**

“[T]he Commission expects that in almost all instances a petitioner must go beyond merely quoting an RAI [NRC Staff request for more information] to justify admission of a contention into the proceeding. . . . This means they must develop a fact-based argument that actually and specifically challenges the application.” *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 341 (1999).

**RULES OF PRACTICE: CONTENTION ADMISSIBILITY, GENUINE DISPUTE, FACTUAL OR EXPERT SUPPORT**

In explaining why there is a genuine material dispute, the contention must give the Board a reason to believe that the alleged deficiency will lead to a material safety or environmental outcome, based on factual or expert support. Because of the need to provide specific support for a contention in order to raise a genuine dispute, the genuine dispute admissibility requirement is sometimes discussed together with the requirement for petitioners to provide alleged factual or expert support for their allegations under 10 C.F.R. § 2.309(f)(1)(v).

**RULES OF PRACTICE: CONTENTION ADMISSIBILITY, FACTUAL OR EXPERT SUPPORT**

To meet the section 2.309(f)(1)(v) requirement for providing factual and expert support, petitioners must “proffer at least some minimal factual and legal foundation in support of their contentions.” Neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention.

**RULES OF PRACTICE: CONTENTION ADMISSIBILITY, FACTUAL OR EXPERT SUPPORT**

Where a petitioner neglects to provide the requisite support for its contentions, it is not within the board’s power to make assumptions or draw inferences that favor the petitioner, nor may the board supply information that is lacking. Likewise, simply attaching material or documents as a basis for a contention, without setting forth an explanation of that information’s significance, is inadequate to support the admission of the contention.

**RULES OF PRACTICE: CONTENTION ADMISSIBILITY, FACTUAL OR EXPERT SUPPORT**

On the other hand, “[a]t the contention filing stage the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion.” *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 442 n.81 (2011) (quoting Final Rule: “Rules of Practice for Domestic Licensing Proceedings — Procedural Changes in the Hearing Process,” 54 Fed. Reg. 33,168, 33,171 (Aug. 11, 1989)).

**NATIONAL ENVIRONMENTAL POLICY ACT: COST ARGUMENTS**

The Commission has clearly stated that “[g]eneralized ‘economic cost’ arguments, unsupported by asserted facts or expert opinion, are insufficient to show a genuine dispute with the application.” *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 334 n.199 (2012).

**RULES OF PRACTICE: APPEALS**

The Commission stated that the right to appeal under 10 C.F.R. § 2.311 “attaches only when the Board has fully ruled on the initial intervention petition — that is, when it has admitted or rejected all proposed contentions.” *Tennessee Valley Authority* (Sequoyah Nuclear Plant, Units 1 and 2), CLI-14-3, 79 NRC 31, 36 (2014).

**TABLE OF CONTENTS**

I.	PROCEDURAL BACKGROUND . . . . .	20
A.	Initial Contentions 1 Through 4 . . . . .	20
B.	Contentions Pertaining to Storage and Disposal of Spent Nuclear Fuel . . . . .	21
C.	Previous Cracking-Related Contentions 5 and 6 . . . . .	22
II.	SUMMARY OF CONTENTION 7 . . . . .	25
III.	LEGAL STANDARDS . . . . .	28
A.	General Admissibility Requirements . . . . .	28
B.	Timeliness of New or Amended Contentions . . . . .	29
IV.	ANALYSIS AND RULING . . . . .	31
A.	Contention 7, as Amended, Is Timely . . . . .	31

B. Intervenor’s Motion to Supplement Contention 7 Is Not Based on New and Material Information and Is Therefore Untimely .....	34
C. Contention 7 Does Not Raise a Genuine Dispute with the Davis-Besse LRA .....	35
V. FURTHER ANALYSIS OF THE LONG-TERM IMPACTS OF CONCRETE CRACKING AT THE DAVIS-BESSE SHIELD BUILDING MAY BE WARRANTED .....	43
VI. CONCLUSION .....	45

**MEMORANDUM AND ORDER**  
**(Denying Intervenor’s Motion to Admit Contention No. 7)**

Before this Licensing Board is a September 2, 2014 motion from Beyond Nuclear, Citizens Environment Alliance of Southwestern Ontario, Don’t Waste Michigan, and the Green Party of Ohio (collectively, Intervenor’s). Intervenor’s seek admission of Contention 7, concerning cracks in the shield building at the Davis-Besse Nuclear Power Station, Unit 1 (Davis-Besse).<sup>1</sup> Also before the Board are two motions to amend and supplement Contention 7.<sup>2</sup>

FirstEnergy Nuclear Operating Company (FENOC) opposes Intervenor’s Motion to Admit Contention 7 on the grounds that it does not meet the NRC’s contention admissibility requirements and is untimely.<sup>3</sup> The NRC Staff also op-

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<sup>1</sup> See Intervenor’s Motion for Admission of Contention No. 7 on Worsening Shield Building Cracking and Inadequate AMPs [Aging Management Programs] in Shield Building Monitoring Program (Sept. 2, 2014) [hereinafter Motion to Admit Contention 7].

<sup>2</sup> See Intervenor’s Motion to Amend and Supplement Contention No. 7 on Worsening Shield Building Cracking and Inadequate AMPs in Shield Building Monitoring Program (Sept. 8, 2014) [hereinafter Motion to Amend Contention 7]. Shortly after filing their Motion to Amend Contention 7, Intervenor’s filed an erratum to the motion, correcting a citation to a document referenced in the motion to amend. See Erratum to Intervenor’s Motion to Amend and Supplement Contention No. 7 on Worsening Shield Building Cracking and Inadequate AMPs in Shield Building Monitoring Program (Sept. 12, 2014).

On December 30, 2014, Intervenor’s filed a second motion to supplement Contention 7. See Intervenor’s Motion to Supplement Contention No. 7 on Worsening Shield Building Cracking and Inadequate AMPs in Shield Building Monitoring Program (Dec. 30, 2014) [hereinafter Motion to Supplement Contention 7]. This motion, however, did not seek to amend the text of the contention. *Id.* at 2.

<sup>3</sup> See FENOC’s Answer Opposing Admission of Intervenor’s Original and Amended Contention No. 7 at 2-3 (Oct. 3, 2014) [hereinafter FENOC Answer].

poses Intervenor's Motion to Admit Contention 7 for similar reasons.<sup>4</sup> Intervenor's filed a reply to FENOC's and the NRC Staff's Answers,<sup>5</sup> and oral argument was held on November 12, 2014.<sup>6</sup> For the reasons discussed below, Intervenor's Motion to Admit Contention 7 is denied.<sup>7</sup>

## I. PROCEDURAL BACKGROUND

### A. Initial Contentions 1 Through 4

On August 27, 2010, FENOC filed to renew its operating license for Davis-Besse for 20 years.<sup>8</sup> Intervenor's petitioned to intervene on December 27, 2010, proposing four contentions.<sup>9</sup> The Board found that Intervenor's had standing and admitted Contention 1 (dealing with renewable energy alternatives)<sup>10</sup> and Con-

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<sup>4</sup> See NRC Staff's Answer to Intervenor's Motion for Admission of Contention No. 7 on Worsening Shield Building Cracking and Inadequate AMPs in Shield Building Monitoring Program at 2-3 (Oct. 3, 2014) [hereinafter NRC Staff Answer].

<sup>5</sup> See Intervenor's Reply in Support of Motion to Amend and Supplement Contention No. 7 on Worsening Shield Building Cracking and Inadequate AMPs in Shield Building Monitoring Program (Oct. 10, 2014) [hereinafter Intervenor's Reply].

<sup>6</sup> See Licensing Board Notice and Order (Scheduling Oral Argument) (Oct. 27, 2014) (unpublished); see also Transcript of Oral Argument on Contention 7 (Nov. 12, 2014) [hereinafter Tr.]; Joint Proposed Changes to the Transcript of the Oral Argument Held on November 12, 2014 (Dec. 1, 2014).

<sup>7</sup> Intervenor's September 8, 2014 Motion to Amend Contention 7 was not opposed by FENOC or the NRC Staff. The Board considers Contention 7, as amended by the September 8 motion, in reaching its admissibility determination. However, Intervenor's December 30, 2014 Motion to Supplement Contention 7 does not alter the amended contention and is untimely. Therefore, the Board does not consider the December 30 motion in determining the admissibility of Contention 7.

<sup>8</sup> [FENOC's] License Renewal Application, Davis-Besse Nuclear Power Station at 1.0-1, 1.1-1, 2.1-25 (Aug. 31, 2010) (ADAMS Accession Nos. ML102450567, ML102450563) [hereinafter LRA]. The application "also seeks renewal of the source material, special nuclear material, and by-product material licenses under 10 CFR Parts 30, 40, and 70 that are subsumed in or combined with the facility operating license." *Id.* at 1.0-1. FENOC's LRA is available on the NRC's public website at <http://www.nrc.gov/reactors/operating/licensing/renewal/applications/davis-besse/davis-besse-lra.pdf>.

<sup>9</sup> See generally Beyond Nuclear, Citizens Environment Alliance of Southwestern Ontario, Don't Waste Michigan, and the Green Party of Ohio Request for Public Hearing and Petition for Leave to Intervene (Dec. 27, 2010) [hereinafter Petition to Intervene].

<sup>10</sup> See LBP-11-13, 73 NRC 534, 588-89 (2011). Intervenor's Contention 1 stated that FENOC's Environmental Report "'fails to adequately evaluate the full potential for renewable energy sources, such as wind power.'" *Id.* at 554-55 (quoting Petition to Intervene at 10). The Board concluded that Contentions 2 and 3, which also discussed Applicant's consideration of renewable energy alternatives, raised the same issues as Contention 1. See *id.* at 554-56. The Board thus decided to "analyze Contentions One, Two, and Three as if they were a single contention that challenges the sufficiency of the [Environmental Report's] analysis of renewable energy sources . . . ." *Id.* at 556.

tention 4, in part (dealing with severe accident mitigation alternatives (SAMA)).<sup>11</sup> FENOC appealed the Board's ruling and the Commission reversed the Board's admission of Contention 1 in whole and Contention 4 in part.<sup>12</sup> FENOC subsequently moved for,<sup>13</sup> and the Board granted, summary disposition of Contention 4, concluding that the "Davis-Besse SAMA analysis is reasonable under" the National Environmental Policy Act (NEPA).<sup>14</sup>

## **B. Contentions Pertaining to Storage and Disposal of Spent Nuclear Fuel**

On July 9, 2012, Intervenors proposed a contention regarding the temporary storage and ultimate disposal of spent nuclear fuel from Davis-Besse.<sup>15</sup> The contention was the result of the June 8, 2012 decision of the United States Court of Appeals for the District of Columbia Circuit in *New York v. NRC*, 681 F.3d 471 (D.C. Cir. 2012), vacating the "Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation" rule, 10 C.F.R. § 51.23 (Temporary Storage Rule).<sup>16</sup> On August 7, 2012, the Commission directed that all such contentions be held in abeyance.<sup>17</sup>

On August 26, 2014 the Commission adopted (1) a generic environmental impact statement identifying and analyzing the environmental impacts of continued storage of spent nuclear fuel; and (2) associated revisions to the Temporary Storage Rule in 10 C.F.R. § 51.23 (now called the "Continued Storage of Spent

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<sup>11</sup> See *id.* at 558-89.

<sup>12</sup> See CLI-12-8, 75 NRC 393 (2012). The Commission concluded that Intervenors "fall short of providing the requisite support for the proposition that wind, alone or in combination with solar and storage, could produce sufficient baseload power by 2017 as to be considered a reasonable alternative to extending the Davis-Besse license." *Id.* at 402. The Commission also reasoned that parts of Contention 4 were "far too generalized to show a genuine material dispute with the Davis-Besse SAMA analysis." *Id.* at 417.

<sup>13</sup> See [FENOC's] Motion for Summary Disposition of Contention 4 (SAMA Analysis Source Terms) (July 26, 2012).

<sup>14</sup> LBP-12-26, 76 NRC 559, 581 (2012).

<sup>15</sup> Intervenors' Motion for Leave to File a New Contention Concerning Temporary Storage and Ultimate Disposal of Nuclear Waste at Davis-Besse Nuclear Power Station (July 9, 2012).

<sup>16</sup> *New York v. NRC*, 681 F.3d 471, 483 (D.C. Cir. 2012). The court also vacated the NRC's Waste Confidence Decision Update, 75 Fed. Reg. 81,037 (Dec. 23, 2010). See *id.*

<sup>17</sup> *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63, 68-69 (2012). The Board held this contention in abeyance on August 8, 2012. Licensing Board Order (Suspending Procedural Date Related to Proposed Waste Confidence Contention) at 2 (Aug. 8, 2012) (unpublished).

Nuclear Fuel” Rule).<sup>18</sup> The Commission directed all Licensing Boards, including this one, to reject the pending waste confidence contentions that had been held in abeyance, noting that “[b]ecause these generic impact determinations have been the subject of extensive public participation in the rulemaking process, they are excluded from litigation in individual proceedings.”<sup>19</sup> This Board denied Intervenor’s July 9, 2012 motion on October 8, 2014.<sup>20</sup>

On September 29, 2014, shortly after the issuance of CLI-14-8, Intervenor moved to admit a new contention regarding waste confidence safety findings for Davis-Besse, arguing that the new Continued Storage of Spent Nuclear Fuel Rule “no longer makes generic safety findings concerning the feasibility and capacity of spent fuel disposal in the Continued Storage Rule.”<sup>21</sup> The Commission indicated that it will exercise its “inherent supervisory authority over agency adjudications to review” Intervenor’s September 29, 2014 motion, together with a separate petition currently before the Commission addressing the same issue.<sup>22</sup>

### C. Previous Cracking-Related Contentions 5 and 6

On January 10, 2012, Intervenor filed Contention 5, concerning concrete cracking at the Davis-Besse shield building.<sup>23</sup> Intervenor argued that cracks in the shield building identified during an October 2011 scheduled reactor head replacement raised safety and environmental concerns, and that FENOC’s License Renewal Application (LRA) was inadequate in discussing how the aging effect of these cracks would be managed.<sup>24</sup> Intervenor argued in Contention 5 that:

The cracking and cracking-related phenomena raise valid aging-management and NEPA issues within the scope of this proceeding which must be addressed as part

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<sup>18</sup> See generally *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71 (2014); see also Continued Storage of Spent Nuclear Fuel, 79 Fed. Reg. 56,238 (Sept. 19, 2014); Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel, 79 Fed. Reg. 56,263 (Sept. 19, 2014).

<sup>19</sup> *Calvert Cliffs*, CLI-14-8, 80 NRC at 79.

<sup>20</sup> Licensing Board Order (Denying Motion to File a New Contention Concerning Temporary Storage of Nuclear Waste) at 3 (Oct. 8, 2014) (unpublished).

<sup>21</sup> See Intervenor’s Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Relicensing Proceeding for Davis-Besse Nuclear Power Station at 1-2 (Sept. 29, 2014).

<sup>22</sup> See *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-14-9, 80 NRC 147, 149-50 (2014).

<sup>23</sup> See Motion for Admission of Contention No. 5 on Shield Building Cracking (Jan. 10, 2012) [hereinafter Motion to Admit Contention 5].

<sup>24</sup> See *id.* at 1-2.

of the assurances the NRC is obliged to give concerning operational, safety and environmental obligations surrounding the re-licensing determination.<sup>[25]</sup>

After oral argument,<sup>26</sup> the Board denied Intervenor's Motion to Admit Contention 5.<sup>27</sup> The Board found that the record "contains extensive studies about the extent and origins of the cracking," indicating that the cracks were caused by a single extreme weather event, a blizzard in 1978, and Intervenor "neither proffered supporting facts or expert opinion to demonstrate that FENOC's conclusion is incorrect."<sup>28</sup> At that time, Intervenor claimed without supporting evidence that the cracking in the shield building was propagating.<sup>29</sup> The Board noted that FENOC's LRA had been amended to include an Aging Management Program (AMP)<sup>30</sup> which consisted of periodic inspections and tests on the shield building, thus rendering Contention 5 moot.<sup>31</sup> The Board further concluded that the other parts of Contention 5, including criticisms of FENOC's "safety culture," were beyond the scope of this proceeding.<sup>32</sup>

On April 21, 2014, Intervenor filed Contention 6, claiming that "in September 2013, additional concrete cracking which had not hitherto been identified was discovered in the shield building."<sup>33</sup> Intervenor added that "[o]n or about February 13, 2014, FENOC discovered an extensive air pocket or void of concrete in the

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<sup>25</sup> *Id.* at 10.

<sup>26</sup> Transcript of Oral Argument on Contention 5 (Nov. 5-6, 2012).

<sup>27</sup> See generally LBP-12-27, 76 NRC 583 (2012). Intervenor also submitted five motions to amend and/or supplement Contention 5, which were also denied. See *id.* at 586-87.

<sup>28</sup> *Id.* at 607.

<sup>29</sup> See *id.* at 611.

<sup>30</sup> Intervenor defines the acronym AMP as meaning "Aging Management Plan." Motion to Admit Contention 7 at 1. FENOC and the NRC Staff both define AMP as meaning "Aging Management Program." FENOC Answer at 1; NRC Staff Answer at 1. The technical documents shared between FENOC and the NRC Staff also indicate that AMP stands for "Aging Management Program." See, e.g., Request for Additional Information for the Review of the Davis-Besse Nuclear Power Station License Renewal Application, Enclosure, Recent Plant-Specific Operating Experience — Shield Building Monitoring Program at 1 (April 15, 2014) (ADAMS Accession No. ML14097A454) [hereinafter NRC April 15 RAI]. The Board adopts the definition of AMP provided by FENOC and the NRC Staff.

<sup>31</sup> See LBP-12-27, 76 NRC at 607-09.

<sup>32</sup> See *id.*

<sup>33</sup> Motion for Admission of Contention No. 6 on Shield Building Concrete Void, Cracking and Broken Rebar Problems at 6 (Apr. 21, 2014) [hereinafter Motion to Admit Contention 6]. Intervenor quote from Applicant's September 20, 2013 Preliminary Notification of Event or Occurrence: "This year, using new instrumentation with enhanced capabilities, [FENOC] plant workers identified a crack that had not been seen before. To date, the core bore examinations revealed seven previously unidentified cracks. FENOC has taken steps to reevaluate 43 core bores and will be looking at the remaining 39 going forward." *Id.* (quoting Preliminary Notification of Event or Unusual Occurrence (Sept. 20, 2013) (ADAMS Accession No. ML13263A410) [hereinafter 2013 Preliminary Notification of Occurrence]).



Davis-Besse shield building's inner wall," which was "caused by FENOC workers or contractors having left forming devices in the concrete" when replacing a reactor head at Davis-Besse in 2011.<sup>34</sup> According to Intervenor's contention:

These problems represent ongoing aging problems compounded and intertwined with management failures; they are unmentioned and undocumented within the DSEIS [Draft Supplemental Environmental Impact Statement] for Davis-Besse; they may be interrelated or synergistic; they each are preceded at Davis-Besse; and they must be more intensely subjected to Aging Management Plans (AMPs) than has heretofore happened. The Draft and Final SEIS documents must be reconfigured in recognition of the lax management and QA failings, and the failings of the physical components of the shield building so that the true nature of these historic problems can be revealed and analyzed in the NEPA documents and in the severe accident mitigation alternatives analysis (SAMA). Relevant AMPs must be redrawn to anticipate and account for the implications or insufficient and irregular aging management of the shield building. Also, the Safety Evaluation review and overall SE Report must be rewritten to articulate modified AMPs and QA procedures which will reasonably assure that the plant can operate safely between now and April 22, 2017, and during the extended operating license period from 2017 until 2037.<sup>35]</sup>

On July 25, 2014, the Board denied Intervenor's Motion to Admit Contention 6, finding it was outside the scope of a license renewal proceeding, lacked adequate support, failed to raise a genuine dispute with the applicant's LRA, and failed to raise a material issue.<sup>36</sup> The Board also found that Intervenor's assertions that there are recurring concrete void, cracking, and rebar problems were not supported by facts or expert opinion.<sup>37</sup> The Board found that, "Intervenor do not explain why, using facts or expert opinion, the shield building cracks, concrete void, or broken rebar impacts the shield building's ability to perform its intended safety functions or how these issues reflect 'age-related degradation' of the shield building."<sup>38</sup> Although Intervenor submitted a report and affidavit with their Motion to Admit

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<sup>34</sup> *Id.* at 3 (citing Preliminary Notification of Event or Unusual Occurrence (Feb. 19, 2014) (ADAMS Accession No. ML14112A009) [hereinafter 2014 Preliminary Notification of Occurrence]). Intervenor, citing from a February 15, 2014 newspaper article, further claimed that "[t]he flaw runs the 25-foot length of a cut made through the building's wall in fall 2011," and "varies in width from six to 12 inches." *Id.* (citing Tom Henry, *Davis-Besse had Air Gap in Shield Building: FirstEnergy Found Flaw While Replacing 2 Steam Generators*, *The Blade* (Toledo, Ohio) (Feb. 15, 2014), <http://www.toledoblade.com/Energy/2014/02/15/Davis-Besse-had-air-gap-in-shield-building.html>).

<sup>35</sup> *Id.* at 26.

<sup>36</sup> Licensing Board Memorandum and Order (Denying Intervenor's Motion for Admission of Contention No. 6 on Shield Building Concrete Void, Cracking and Broken Rebar Problems) at 9 (July 25, 2014) (unpublished).

<sup>37</sup> *Id.* at 11-12.

<sup>38</sup> *Id.* at 12.

Contention 6, the Board found that the two documents did not connect the Davis-Besse shield building cracking to an aging-related environmental or safety impact.<sup>39</sup>

The Board also found that Contention 6 did not raise a genuine dispute between Intervenor and the Davis-Besse LRA, because Intervenor's generalized allegations did not specify how the applicant's shield building AMPs were deficient.<sup>40</sup> Lastly, the Board found Contention 6 did not raise a material issue as Intervenor merely asserted that the applicant's shield building AMPs were deficient, and did "not indicate what portion of the License Renewal Application is inadequate or what specifically is wrong with the analysis."<sup>41</sup>

The Board also emphasized that Intervenor was seeking admission of Contention 6 in advance of FENOC's future filings and actions, noting: "Intervenor claim that they 'seek to litigate the adequacy of FENOC's *anticipated modifications* to Davis-Besse's Shield Building Monitoring Program and the Structures Monitoring AMPs.'"<sup>42</sup> The Board thus rejected Contention 6 in part because it was premature.<sup>43</sup>

## II. SUMMARY OF CONTENTION 7

Intervenor filed Contention 7 on September 2, 2014, and amended it on September 8, 2014. Contention 7, as amended, states:

FENOC's revisions to the AMPs in its Shield Building Monitoring Program, dated July 3, 2014, acknowledge not only the risk, but the reality, of aging-related cracking propagation — that is, worsening — in the already severely cracked Shield Building, an admission which brings the issue within the scope of this License Renewal Application proceeding. FENOC's proposed modifications to its Shield Building Monitoring Program AMPs, regarding the scope (areas of the Shield Building to be examined), sample size (number of tests to be performed), and the frequency of its surveillance activities, are woefully inadequate. Significantly more core bores, as well as a broader diversity of complementary testing methods should be required, and at a much greater frequency than FENOC has proposed. The cracking phenomena must be identified, analyzed and addressed within the Final Supplemental Environmental Impact Statement for the license renewal both in the

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<sup>39</sup> See *id.* at 11-12.

<sup>40</sup> See *id.* at 13. The Board also noted that Intervenor's failure to "specifically challenge the adequacy of the Shield Building Monitoring AMP in Contention 5" also led to the denial of Intervenor's Motion to Admit Contention 5. *Id.* at 13-14.

<sup>41</sup> See *id.* at 15.

<sup>42</sup> *Id.* at 16 (quoting Motion to Admit Contention 6 at 2).

<sup>43</sup> *Id.*

consideration of alternatives to granting the 20-year license extension for Davis-Besse as well as in the Severe Accident Mitigation Alternatives analysis (SAMA). The cracking problems do not support a conclusion that there is “reasonable assurance” that Davis-Besse can be operated in a manner protective of the public health and safety under the Atomic Energy Act during the 20-year proposed license extension period.<sup>[44]</sup>

Intervenors allege that Contention 7, the third cracking-based contention filed in this proceeding, is founded upon the “belated emergence and admission” by FENOC that there is undetected cracking in the Davis-Besse shield building and that the cracks detected in September 2013 are propagating throughout the structure.<sup>45</sup> Intervenors contend that new information provided by FENOC renders insufficient “FENOC’s anticipated modifications to Davis-Besse’s Shield Building Monitoring Program and the Structures Monitoring Program Aging Management Plans (‘AMPs’).”<sup>46</sup>

Intervenors cite to a “Full Apparent Cause Evaluation” report (FACE Report),<sup>47</sup> published by Performance Improvement International, LLC, which evaluates the cracking discovered in September 2013<sup>48</sup> and identifies its root cause.<sup>49</sup> The FACE Report concludes that a phenomenon called “Ice-Wedging” is responsible.<sup>50</sup> According to the FACE Report, ice-wedging does not create new cracks in the shield building, but instead causes the existing laminar cracks to propagate.<sup>51</sup> “Ice-Wedging occurs when water accumulates in a cracked section of concrete and expands by a volume of 9% upon freezing. The force exerted by the Ice-Wedge on the adjacent concrete faces causes existing cracks to propagate.”<sup>52</sup> The FACE Report notes that a coating applied to the shield building in 2012 has trapped water inside the building, contributing to ice-wedging.<sup>53</sup> The FACE

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<sup>44</sup> Motion to Amend Contention 7 at 2 (emphasis removed; footnote omitted).

<sup>45</sup> Motion to Admit Contention 7 at 2, 9.

<sup>46</sup> *Id.* at 2.

<sup>47</sup> Motion to Amend Contention 7 at 4 (citing Full Apparent Cause Evaluation, Shield Building Laminar Crack Propagation Condition Report 2013-14097 (Sept. 11, 2013) (ADAMS Accession No. ML14189A452)).

<sup>48</sup> The FENOC 2013 Preliminary Notification of Occurrence indicates that the cracking that is the subject of the instant contention was first identified on August 26, 2013, but analyzed and reported to the NRC in September. The parties however refer to the cracks as discovered in September or “August/September.” See Motion to Admit Contention 7 at 3; FENOC Answer at 7; NRC Staff Answer at 7. For simplicity, the Board refers to the cracks as having been discovered in September 2013.

<sup>49</sup> FACE Report at 4.

<sup>50</sup> *Id.*

<sup>51</sup> *Id.* at 4-5.

<sup>52</sup> *Id.* at 71.

<sup>53</sup> *Id.* at 4.

Report became publicly available on the NRC's Agencywide Documents Access and Management System (ADAMS) on July 8, 2014.<sup>54</sup>

Intervenors also cite to a July 3, 2014 letter from FENOC.<sup>55</sup> On April 15, 2014, the NRC Staff sent a request for additional information (RAI) asking FENOC to "[e]xplain, with sufficient technical detail, any modifications or enhancements that will be made to the Shield Building Monitoring Program; the Structures Monitoring Program; or other applicable AMP" to account for the cracking identified in September 2013.<sup>56</sup> FENOC's July 3, 2014 letter replied to this RAI stating that FENOC issued Amendment No. 51 to the Davis-Besse LRA in response to the NRC Staff's concerns, and to preemptively address the ice-wedging issue.<sup>57</sup>

LRA Amendment No. 51 modified the shield building AMP. It increased the number of core bores inspected per cycle, increased the frequency of inspections, and updated the method by which core bores were located around the shield building. Specifically, the amendment increased the number of core bores to be inspected each cycle from twenty to twenty-three.<sup>58</sup> It changed the inspection interval from a biennial cycle to an annual cycle for the first 4 years, and from a 5-year cycle to a biennial cycle through 2026.<sup>59</sup> After 2026, inspections could be reduced to once every 4 years provided no aging effects were identified.<sup>60</sup> The amended LRA now sets aside ten of the twenty-three boreholes to monitor specifically for ice-wedging-induced crack propagation.<sup>61</sup> The amended LRA also states that "past evidence of crack propagation will be considered in choosing future inspection locations."<sup>62</sup>

Although this Board has addressed the cracking concerns at Davis-Besse in prior orders, Intervenors contend that Contention 7 is based on the new

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<sup>54</sup> See Letter from Timothy P. Matthews, Counsel for FENOC, to the Davis-Besse Atomic Safety and Licensing Board, Regarding Notification of Documents Related to the Davis-Besse Shield Building, Enclosure 2 (July 8, 2014).

<sup>55</sup> Reply to Request for Additional Information for the Review of the Davis-Besse Nuclear Power Station, Unit No. 1, License Renewal Application and License Renewal Application Amendment No. 51 (July 3, 2014) (ADAMS Accession No. ML14184B184) [hereinafter FENOC July 3 RAI Reply Letter].

<sup>56</sup> NRC April 15 RAI at 2. The RAI also asked about the broken rebar detected in February 2014. *Id.*

<sup>57</sup> See FENOC July 3 RAI Reply Letter at 2-4; *see also* Amendment No. 51 to the Davis-Besse License Renewal Application [hereinafter LRA Amendment No. 51].

<sup>58</sup> LRA Amendment No. 51 at 1.

<sup>59</sup> *Id.* at 4.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.* at 3 (stating that a "minimum of 10 of the core bores at inspection locations are currently uncracked [but] adjacent to areas of known cracking" (emphasis removed)).

<sup>62</sup> *Id.* at 4 (emphasis removed).

information made public on July 3 and July 8, 2014.<sup>63</sup> Intervenor allege that these FENOC submissions have “exposed the distinct change of position of FENOC.”<sup>64</sup> According to Intervenor, as a result of these documents:

Applicant now concedes that significant mistakes were made in remediation and in understanding the implications of the cracking phenomena which were first noticed in 2011. FENOC’s latest, “ice-wedging” cracking propagation root cause is an admission that the Shield Building cracking is aging-related, which brings it within the scope of this LRA proceeding. FENOC acknowledged worsening cracking in August-September 2013; on July 8, 2014, FENOC provided, at long last, the supposed root cause of this worsening, or “propagating,” cracking — ice-wedging, per PII’s 9/11/13 RCA-2 [FACE Report].<sup>65</sup>

Intervenor also maintain that propagation of already-existing cracks threatens to expose the shield building rebar to corrosive water conditions, which will lead to failure of the rebar.<sup>66</sup>

Intervenor’s Contention 7 claims that three parts of FENOC’s amended LRA are inadequate: (1) the shield building-specific AMP; (2) the discussion of alternatives to license renewal in the draft supplemental environmental impact statement (DSEIS); and (3) the SAMA analysis in the DSEIS.<sup>67</sup> Intervenor maintain that to protect public health and safety, FENOC must amend the shield building AMP to increase the number of core bores sampled per inspection, the diversity of placement of those core bores, the frequency of inspections, and the types of testing methods to be employed per inspection.<sup>68</sup>

### III. LEGAL STANDARDS

#### A. General Admissibility Requirements

Contentions must meet the admissibility criteria in 10 C.F.R. § 2.309(f)(1).

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<sup>63</sup> Motion to Amend Contention 7 at 3, 15.

<sup>64</sup> *Id.* at 3.

<sup>65</sup> *Id.*

<sup>66</sup> Motion to Supplement Contention 7 at 7-8, 12-13.

<sup>67</sup> See Motion to Amend Contention 7 at 2. A SAMA analysis is conducted pursuant to NEPA, and thus is an environmental issue, not a safety issue. *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-15, 75 NRC 704, 706 (2012) (“The SAMA analysis is not part of the agency’s safety review for license renewal under the Atomic Energy Act (AEA), but is instead a mitigation alternatives analysis conducted pursuant to the National Environmental Policy Act (NEPA).”).

<sup>68</sup> Motion to Admit Contention 7 at 21-23. During oral argument, Intervenor further clarified that they are trying to obtain a thorough investigation from FENOC of cracking issues for the Davis-Besse shield building. Tr. at 892, 909. According to Intervenor, “[FENOC] has a wait-and-see approach without understanding clearly, after 3 years, the scope of the [cracking] problem.” Tr. at 839.

Each contention must: (1) provide a specific statement of the issue of law or fact to be raised; (2) provide a brief explanation of the basis for the contention; (3) demonstrate that the issue raised in the contention is within the scope of the proceeding; (4) demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the licensing action; (5) provide a concise statement of the alleged facts or expert opinions in support of the petitioner's position on the issue and on which the petitioner intends to rely at hearing; and (6) provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact, with reference to specific disputed portions of the application.<sup>69</sup> A failure to meet any of these criteria renders the contention inadmissible.

## **B. Timeliness of New or Amended Contentions**

Once the deadline for filing petitions to intervene has passed, which in this proceeding was December 27, 2010,<sup>70</sup> a party may file new or amended contentions if it is able to demonstrate "good cause."<sup>71</sup> Good cause for a newly proposed contention exists when:

- (i) The information upon which the amended or new contention is based was not previously available;
- (ii) The information upon which the amended or new contention is based is materially different than information previously available; and

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<sup>69</sup> 10 C.F.R. § 2.309(f)(1)(i)-(vi).

<sup>70</sup> See Notice of Acceptance for Docketing of the Application, Notice of Opportunity for Hearing for Facility Operating License No. NPF-003 for an Additional 20-Year Period; FirstEnergy Nuclear Operating Company, Davis-Besse Nuclear Power Station, Unit 1, 75 Fed. Reg. 65,528 (Oct. 25, 2010); see also 10 C.F.R. § 2.309(b) (establishing deadlines for the filing of petitions to intervene).

<sup>71</sup> See 10 C.F.R. § 2.309(c)(1) (2014). Prior to September 4, 2012, intervenors could submit new or amended contentions after the filing deadline by meeting the requirements of 10 C.F.R. § 2.309(f)(2)(i)-(iii) (2012), as discussed in the Board's prior orders and Initial Scheduling Order. See Licensing Board Initial Scheduling Order at 12 (July 15, 2011) (unpublished) [hereinafter Initial Scheduling Order]; see also LBP-12-27, 76 NRC at 592-93. On September 4, 2012, this option under 10 C.F.R. § 2.309(f)(2) was rescinded. See 77 Fed. Reg. 46,562, 46,571, 46,582 (Aug. 3, 2012). Under the currently effective regulations, new or amended contentions proposed after the initial filing deadline can only be admitted if they meet the three requirements specified in 10 C.F.R. § 2.309(c)(1) which determine if an intervenor has "good cause" for a motion made after the intervention petition filing deadline. 10 C.F.R. § 2.309(c)(1) ("Hearing requests, intervention petitions, and motions for leave to file new or amended contentions filed after the [petition filing] deadline in paragraph (b) of this section will not be entertained absent a determination by the presiding officer that a participant has demonstrated good cause . . .").

(iii) The amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.<sup>[72]</sup>

Pursuant to the Board's Initial Scheduling Order, a new or amended contention is considered timely under 10 C.F.R. § 2.309(c)(1)(iii) "if it is filed within sixty (60) days of the date when the material information first becomes available to the moving party through service, publication, or any other means."<sup>73</sup>

The Board's Initial Scheduling Order sets the requirements for admission of new or amended contentions. The Initial Scheduling Order was issued before the September 4, 2012 amendment of 10 C.F.R. § 2.309.<sup>74</sup> The Commission has stated, however, that "the new or amended requirements will be effective and govern all obligations and disputes that arise after the effective date of the final rule [September 4, 2012]," even for adjudicatory proceedings opened prior

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<sup>72</sup> 10 C.F.R. § 2.309(c)(1)(i)-(iii). The requirements for demonstrating "good cause" under 10 C.F.R. § 2.309(c)(1)(i)-(iii) are the same as the requirements for filing late contentions previously available under 10 C.F.R. § 2.309(f)(2)(i)-(iii). Therefore, despite the change in the rules, it appears in general that contentions proposed after the filing deadline, which would have been allowable under the previous 10 C.F.R. § 2.309(f)(2) requirements, will also be allowable under the current 10 C.F.R. § 2.309(c)(1) requirements. See also 77 Fed. Reg. at 46,566 ("The NRC is adopting this change because it will allow participants in NRC proceedings to focus on the most relevant question with regard to whether a filing after the deadline will be granted — whether the filing has demonstrated good cause by meeting the three factors from current § 2.309(f)(2).").

<sup>73</sup> Initial Scheduling Order at 12 (citing 10 C.F.R. § 2.309(f)(2)(iii) (2011)). Before September 4, 2012, 10 C.F.R. § 2.309(c)(1) contained an eight-factor test, which, if met, allowed a Board to consider new or amended contentions that did not meet the three requirements for admissibility of late-filed contentions available under 10 C.F.R. § 2.309(f)(2). See 10 C.F.R. § 2.309(c)(1)(i)-(viii) (2012); see also LBP-12-27, 76 NRC at 593 (noting that most important among these eight factors was that the intervenors demonstrate "good cause" (citing as example *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 3), CLI-09-5, 69 NRC 115, 125-26 (2009))). It appears that after September 3, 2012, this alternative option no longer exists, and new or amended contentions proposed after the filing deadline must meet the three requirements specified under the currently effective 10 C.F.R. § 2.309(c)(1), unless an extension is granted. See 77 Fed. Reg. at 46,572 ("Final § 2.309(c) requires all filings after the deadline in § 2.309(b) to satisfy the current § 2.309(f)(2)(i)-(iii) factors.").

The Commission has suggested that if an intervenor cannot meet the requirements for filing a contention under the new 10 C.F.R. § 2.309(c)(1), he or she can still take advantage of an extension request under 10 C.F.R. § 2.307 "if unanticipated events, such as a weather event or unexpected health issues, prevented the participant from filing for a reasonable period of time after the deadline." See 77 Fed. Reg. at 46,571-72 ("The revisions to § 2.309 do not affect participants' ability to request modifications to deadlines under § 2.307."). The Commission has added "that 'good cause' in § 2.307 does not share the same definition that is used for 'good cause' in final § 2.309(c)." *Id.*

<sup>74</sup> Motion to Admit Contention 7 at 8-9; FENOC Answer at 19, 51-52; NRC Staff Answer at 12-13, 27.

to that date.<sup>75</sup> As Intervenor’s Motion to Admit Contention 7 was brought on September 2, 2014, significantly after the date of amendment of 10 C.F.R. § 2.309, the Board applies the rules currently in effect.<sup>76</sup> Nonetheless, as noted by FENOC, the timeliness “requirements under the former and amended rules are generally the same” as applied to Intervenor’s instant motion.<sup>77</sup>

#### IV. ANALYSIS AND RULING

This Memorandum and Order first addresses the timeliness of Contention 7, and then whether it meets the NRC’s contention admissibility requirements. The Board’s analysis regarding admissibility focuses on whether Contention 7 presents a genuine dispute with the Davis-Besse LRA, as well as the sufficiency of the facts alleged by Intervenor in their pleadings.

##### A. Contention 7, as Amended, Is Timely

FENOC asserts that Contention 7, as amended,<sup>78</sup> is not timely because the shield building AMP had already been modified to address “‘cracking, change of material properties and loss of material of concrete,’” before the July 3, 2014 revision to the LRA.<sup>79</sup> According to FENOC, Intervenor’s Contention 7 thus mirrors a contention rejected by the Commission in *Oyster Creek*, in which “the Commission affirmed the licensing board’s rejection of attempts by the petitioners to challenge aspects of an AMP that they could have challenged earlier.”<sup>80</sup>

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<sup>75</sup> 77 Fed. Reg. at 46,562. The Commission explained, for example, that “if a Board issues a scheduling order before the effective date of the final rule that incorporates § 2.336(d), which currently requires parties to update their disclosures every 14 days, that obligation would change to every month on a day specified by the Board (unless the parties agree otherwise) once the effective date of the rule is reached.” *Id.*

<sup>76</sup> The Board issued a Notice on August 22, 2012, shortly after the promulgation of the amendments to 10 C.F.R. § 2.309, stating that the amended regulations “take effect on September 4, 2012, and apply to ‘obligations and disputes that arise after’ that date.” Licensing Board Notice (Advising Parties of Amendments to 10 C.F.R. Part 2) at 1 (Aug. 22, 2012) (unpublished). The Board’s statement that “[t]he Initial Scheduling Order (ISO) will continue to govern the conduct of this proceeding” was meant to clarify the high-level schedule of this adjudicatory proceeding, and not speak to this specific issue. *See id.* at 2.

<sup>77</sup> FENOC Answer at 18.

<sup>78</sup> FENOC and the NRC Staff both refer to Contention 7 as it is presented in the September 8, 2014 Motion to Amend Contention 7.

<sup>79</sup> *Id.* at 52 (quoting Amendment No. 36 to the Davis-Besse LRA at 4-11 (Nov. 20, 2012)).

<sup>80</sup> *Id.* at 53 (citing *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235 (2009), *petition for review denied sub nom. New Jersey Environmental Federation v. NRC*, 645 F.3d 220 (3d Cir. 2011)).



The NRC Staff expands upon FENOC's *Oyster Creek* argument and quotes from the decision: "if — as [Intervenors] allege — [Applicant's] *enhanced* monitoring program is inadequate, then [Applicant's] *unenanced* monitoring program embodied in its [license renewal application] was *a fortiori* inadequate, and [Intervenors] had a regulatory obligation to challenge it in their original Petition [t]o Intervene."<sup>81</sup> Relying on *Oyster Creek*, the NRC Staff argues that because Intervenors did not challenge the Shield Building Monitoring AMP before the recent amendment, increasing the scope and number of boreholes and frequency of testing, they cannot bring a timely contention on the same issues now.<sup>82</sup>

Intervenors reply that the coating of the shield building, and its impact on the cracking of the structure due to ice-wedging, is new, material information.<sup>83</sup> They emphasize that the FACE Report discloses previously unknown causes and "clearly identifies the Shield Building cracking as aging-related," a new and different finding by FENOC.<sup>84</sup> Intervenors also note that the FACE Report was published in September 2013, but only made public in July 2014: "This four-year-old LRA adjudication is near its close, and it is oddly coincidental that two significant Shield Building discoveries were not divulged to the public, particularly in light of Beyond Nuclear's standing [Freedom of Information Act] request for information to the NRC Staff which dates to 2012."<sup>85</sup>

FENOC's and the NRC Staff's reliance on *Oyster Creek* is misplaced. In *Oyster Creek*, the intervenors opposed the renewal of the Oyster Creek nuclear power plant license, and proposed new contentions for increased ultrasonic testing of sand bed epoxy coating integrity.<sup>86</sup> The intervenors brought their contentions after an enhancement was made to the LRA by the applicant adding limited ultrasonic testing in lieu of visual testing; Intervenors maintained that the ultrasonic testing plan proposed was too limited in scale.<sup>87</sup> It appears that the decision to add the ultrasonic testing was not in response to the discovery of a new safety or environmental concern: "The ultrasonic testing commitments AmerGen made in April and June of 2006 did not alter the acceptance criteria themselves."<sup>88</sup>

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<sup>81</sup> NRC Staff Answer at 24 (emphases and modifications in original) (quoting *Oyster Creek*, CLI-09-7, 69 NRC at 274).

<sup>82</sup> *Id.* at 24-25.

<sup>83</sup> Intervenors' Reply at 2.

<sup>84</sup> *Id.*

<sup>85</sup> *Id.* at 2-3.

<sup>86</sup> *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-22, 64 NRC 229, 231-32, 245-46 (2007), *aff'd*, CLI-09-7, 69 NRC 235 (2009).

<sup>87</sup> *See id.* at 233.

<sup>88</sup> *Oyster Creek*, CLI-09-7, 69 NRC at 272; *see also Oyster Creek*, LBP-06-22, 64 NRC at 231-33 (discussing the background of the case).

The *Oyster Creek* Licensing Board noted that “as a matter of policy, an applicant’s decision to improve an existing program to promote health and safety or to boost public support and confidence ought not ordinarily be viewed as conferring petitioners with an automatic opportunity to advance a new contention.”<sup>89</sup> As a result, the Board stated, and the Commission affirmed, the rule that:

[A]s a matter of law and logic, if — as Citizens [intervenors] allege — AmerGen’s *enhanced* monitoring program is inadequate, then AmerGen’s *unenanced* monitoring program embodied in its [license renewal application] was *a fortiori* inadequate, and Citizens had a regulatory obligation to challenge it in their original Petition [t]o Intervene.<sup>[90]</sup>

The critical difference in this case, however, is the reason FENOC enhanced its LRA. FENOC amended the LRA in response to the 2013 discovery of a new cracking issue, ice-wedging, which causes age-related crack propagation in a manner previously unplanned for by FENOC. It appears that concerns about “freeze-thaw” damage as a potential driver of microcrack *creation*<sup>91</sup> were known and considered in the FENOC LRA before 2013. However, the FACE Report makes clear that “Ice-Wedging” is a different cracking phenomenon, which *propagates* already-existing laminar cracks, and which could not have been considered by FENOC beforehand.<sup>92</sup> The FACE Report states multiple

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<sup>89</sup> *Oyster Creek*, LBP-06-22, 64 NRC at 246.

<sup>90</sup> *Oyster Creek*, CLI-09-7, 69 NRC at 274 (emphases and modifications in original).

<sup>91</sup> See, e.g., Davis-Besse Nuclear Power Station — Inspection to Evaluate the Root Cause Evaluation and Corrective Actions for Cracking in the Reinforced Concrete Shield Building of the Containment System, Report No. 0500346/2012009(DRS) at 9 (June 21, 2012) (ADAMS Accession No. ML12173A023) [hereinafter NRC 2012 Inspection Report]; Tr. at 776-79 (discussing microcracking due to freeze-thaw conditions).

<sup>92</sup> As noted above, the FACE Report defines ice-wedging as “when water accumulates in a cracked section of concrete and expands by a volume of 9% upon freezing. The force exerted by the Ice-Wedge on the adjacent concrete faces causes existing cracks to propagate.” FACE Report at 71. However, “Freeze-Thaw Damage” is a separate phenomenon, which can create “internal microcracking” in conditions of freezing temperatures and high humidity. See FACE Report at 69 (“The presence of high relative humidity, 90-100% as measured in the first 8 inches of the outer most layer, in combination with Freeze-Thaw temperature exposure will result in internal microcracking.”) (emphasis removed). The FACE Report notes that “freeze-thaw damage does not necessarily indicate Ice-Wedging (as no pre-existing cracks are needed for this phenomenon [freeze-thaw damage]).” FACE Report at 41. FENOC at oral argument also explained:

We did treat ice wedging as its own mechanism separate [sic]. . . . ice wedging is a very specific mechanism where you do have this pre-existing laminar crack . . . . And freeze/thaw refers to other things as well or refers to mechanisms such as the micro-cracking we talked about earlier. It’s a different mechanism, but they’re related as they’re both dealing with water that’s freezing in the concrete.

Tr. at 875.

times that “[t]he failure mechanism of Ice-Wedging was unknown in the concrete community at the time” of the coating of the shield building in 2012, and until its discovery in 2013.<sup>93</sup> Intervenors were not aware of this until LRA Amendment No. 51 and the FACE Report were made publicly available July 2014.

Intervenors’ Contention 7 concerns primarily this new ice-wedging phenomenon, as well as the related concern that water trapped in the shield building could aggravate this concern.<sup>94</sup> Intervenors state, for example, that “FENOC’s latest, ‘ice-wedging’ cracking propagation root cause is an admission that the Shield Building cracking is aging-related . . . .”<sup>95</sup> The Board reads Intervenors’ pleadings as alleging that FENOC’s LRA inadequately addresses this new aging-related concern. *Oyster Creek* cannot be read so broadly as to exclude contentions that are founded upon genuinely new safety concerns. *Oyster Creek* instead stands for the more limited proposition that enhancements to an LRA or EIS, not made in the presence of a newly discovered safety or environmental concern, generally cannot be grounds for a new contention. However, if a newly discovered safety or environmental concern presents itself, an intervenor can file a new contention alleging that the LRA or EIS does not adequately address the new concern. Furthermore, preemptive amendment of an LRA or EIS in response to a new discovery, such as FENOC’s preemptive amendment of the Davis-Besse LRA after the discovery of ice-wedging, does not insulate the LRA or EIS from public oversight.

#### **B. Intervenors’ Motion to Supplement Contention 7 Is Not Based on New and Material Information and Is Therefore Untimely**

Although FENOC and the NRC Staff have not been afforded an opportunity to reply to Intervenors’ December 30, 2014 Motion to Supplement Contention 7 concerning rebar corrosion, the Board addresses the motion at this time. Intervenors claim their motion is timely because it relies on new and material information from FENOC’s October 28 reply to an NRC Staff RAI, in which FENOC discusses its strategy to “conduct opportunistic inspections of the rebar” for corrosion.<sup>96</sup> However, FENOC’s brief, one-page discussion in the October 28

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<sup>93</sup> FACE Report at 66; *see also id.* at 44, 59, 61, 62, 64 (also explaining that ice-wedging was unknown at the time of the 2012 coating of the shield building).

<sup>94</sup> Motion to Amend Contention 7 at 4.

<sup>95</sup> *Id.* at 3.

<sup>96</sup> Motion to Supplement Contention 7 at 6, 22; FENOC Reply to Request for Additional Information for the Review of the Davis-Besse Nuclear Power Station, Unit No. 1, License Renewal Application at 2-4 (Oct. 28, 2014) [hereinafter FENOC October 28 RAI Reply Letter]. Oddly, Intervenors purport to supplement Contention 7 to include rebar corrosion concerns, yet the motion never proposed to alter the text of the contention itself to mention either rebar or corrosion.

letter does not add any new information. The letter instead merely repeats what was already explained in past public filings: that FENOC plans to pursue opportunistic testing of the rebar to detect corrosion,<sup>97</sup> and that although the groundwater may be corrosive to rebar,<sup>98</sup> the water detected in the shield building itself is high-pH and not conducive to corrosion.<sup>99</sup> Because there is no new or materially different information in FENOC's October 28 reply to the NRC Staff RAI, intervenors' motion to supplement and amend Contention 7 is denied.

### **C. Contention 7 Does Not Raise a Genuine Dispute with the Davis-Besse LRA**

Intervenors' Contention 7 contains both safety and environmental components. Regarding the safety-related portion of Contention 7, intervenors maintain that "[t]here is a dispute over whether Davis-Besse conforms to its current licensing basis (CLB) merely by providing a slightly more engaged monitoring program."<sup>100</sup> They add that "[p]art of that dispute is how and why FENOC intends principally to take samples from areas where there already are known cracks, as opposed to sampling from a more dispersed set of locations on the Shield Building exterior."<sup>101</sup> Intervenors also contend that the parties disagree regarding "[t]he scope of causation of the water saturation within the Shield Building."<sup>102</sup> Intervenors believe their safety concerns are material because "[t]he severe, and finally-admitted increased cracking of the Shield Building threatens to fail the Shield Building from performing its vital design safety and environmental functions,"<sup>103</sup> including as a biological, radiological, and environmental shield.<sup>104</sup>

Regarding the environmental portion of Contention 7, intervenors maintain that FENOC and the NRC Staff have not taken the "hard look" required by NEPA, and also have failed to modify the SAMA analysis in light of new information.<sup>105</sup> Intervenors claim their environmental concerns are material because the current SAMA and alternatives analyses in the DSEIS are unreasonable and unrealistic.<sup>106</sup>

Intervenors primarily rely on the FACE Report for factual support. They also allege that FENOC's increase in the number of boreholes from twenty to twenty-

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<sup>97</sup> See FENOC July 3 RAI Reply Letter at 3; LRA Amendment No. 51 at 5-6.

<sup>98</sup> LRA § 3.5.2.2.1.1.

<sup>99</sup> FACE Report at 18, 22.

<sup>100</sup> Motion to Amend Contention 7 at 24.

<sup>101</sup> *Id.*

<sup>102</sup> *Id.*

<sup>103</sup> *Id.* at 23.

<sup>104</sup> *Id.*; Motion to Admit Contention 7 at 15.

<sup>105</sup> Motion to Amend Contention 7 at 24.

<sup>106</sup> See *id.* at 23.

three is statistically insignificant.<sup>107</sup> Intervenors add that “there are multiple kinds of cracking, located at diverse places across the huge Shield Building . . . including sub-surface laminar cracking, surface cracking, dome cracking, micro-cracking, and radial cracking.”<sup>108</sup> Furthermore, Intervenors assert that FENOC’s current inspection tools are inadequate and that its reliance on past cracking to determine future inspection locations will miss future cracks.<sup>109</sup>

FENOC responds that “Intervenors do not proffer any independent technical basis, nor even a mere fact-based argument in support of Contention 7’s admissibility. Rather, they simply state that they want more of what FENOC already has incorporated into its Shield Building AMP (*e.g.*, more core bores, more frequently, and in more areas).”<sup>110</sup> FENOC also argues that Intervenors fail to provide an explanation for why FENOC’s analysis and approach in the AMP are materially incorrect, even if Intervenors would prefer something different.<sup>111</sup>

The NRC Staff similarly argues that Intervenors’ Contention 7 is comprised of unsupported assertions that lack any factual basis or supporting expert opinion.<sup>112</sup> According to the NRC Staff, Intervenors merely claim that the AMP is deficient and that other tests “can and should” be done, but provide no explanation for why other testing methods would be more appropriate.<sup>113</sup> The NRC Staff also asserts that Intervenors’ suggested additions to the DSEIS and SAMA analysis are immaterial and do not impact the reasonableness of the current analyses.<sup>114</sup>

Intervenors reply that “[a] commitment to develop a program — and FENOC has only a plan to have a plan by the time the 20-year extension begins — does not demonstrate that the effects of aging will be adequately managed.”<sup>115</sup> Quoting from a decision of the *Pilgrim* Licensing Board, Intervenors also argue that the factual support required to support their contention is less than FENOC and the NRC Staff suggest: “The admissibility requirement ‘generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of

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<sup>107</sup> Motion to Admit Contention 7 at 21-22; Tr. at 839.

<sup>108</sup> Motion to Admit Contention 7 at 24.

<sup>109</sup> *Id.* at 21-22.

<sup>110</sup> FENOC Answer at 24.

<sup>111</sup> *Id.* at 50.

<sup>112</sup> See NRC Staff Answer at 33-34, 42-46.

<sup>113</sup> *Id.* at 46-47.

<sup>114</sup> *Id.* at 53-55. The NRC Staff further argues that “Intervenors do not indicate why this SAMA analysis deficient.” *Id.* at 51.

<sup>115</sup> Intervenors’ Reply at 15 (citing *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 86, *aff’d*, CLI-08-28, 68 NRC 655 (2008)).

the factors underlying the contention or references to documents and texts that provide such reasons.’”<sup>116</sup>

To raise a genuine dispute on a material issue of law or fact, a properly formulated contention must challenge specific portions of, or alleged omissions from, the applicant’s application or the agency’s EIS, and provide reasons in support.<sup>117</sup> Any contention that fails to directly controvert the application or EIS, or mistakenly asserts the application does not address a relevant issue, will be dismissed.<sup>118</sup>

The crux of the “genuine dispute” prong under 10 C.F.R. § 2.309(f)(1)(vi) is the requirement for specificity: a contention must have more than general allegations. Rather, it must explain “what” specific deficiencies exist and “why” they materially impact the LRA or EIS.<sup>119</sup> The Commission has stated that “[p]etitioners seeking to litigate contentions must do more than attach a list of RAIs and declare an application ‘incomplete.’ It is their job to review the application and to identify *what* deficiencies exist and to explain *why* the deficiencies raise material safety concerns.”<sup>120</sup> A Licensing Board has similarly stated: “When an application is alleged to be deficient, the petitioner must identify the deficiencies [the what] and provide supporting reasons for its position that such information is required [the why].”<sup>121</sup>

Moreover, in explaining why there is a genuine material dispute, the contention must give the Board a “reason to believe” that the alleged deficiency will lead to a material safety or environmental outcome, based on “factual or expert support.”<sup>122</sup>

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<sup>116</sup> *Id.* at 19 (quoting *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356 (2006)).

<sup>117</sup> See 10 C.F.R. § 2.309(f)(1)(vi); see also *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), LBP-04-10, 59 NRC 296, 309 (2004) (A contention presenting a genuine dispute on a material issue should either reference “the specific portions of the application” in dispute or identify the omissions in the application, as well as provide supporting reasons.).

<sup>118</sup> See *Crow Butte Resources, Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 557 (2009); *USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 462-63 (2006).

<sup>119</sup> See *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 337 (1999).

<sup>120</sup> *Id.*

<sup>121</sup> *Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-09-16, 70 NRC 227, 267, *aff’d*, CLI-09-22, 70 NRC 932 (2009). The Commission has also held that the genuine dispute prong requires a “nexus” between alleged deficiencies and a material consequence. See *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 436 (2011) (“In short, PG&E asserts that SLOMFP did not offer any support ‘to establish a nexus between management of the design and licensing bases and the issues relevant to Part 54.’ We agree.” (footnote omitted)).

<sup>122</sup> See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 138-39 (2004) (Although the intervenor, Utah, contended that contamination from a defective canister and cask could lead to material environmental consequences, the Commission found

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The genuine dispute prong has its origin with amendments to the NRC rules in 1989 designed “to prevent the admission of contentions ‘based on little more than speculation.’ The agency deliberately ‘rais[ed] the admission standards for contentions . . . to obviate serious hearing delays caused in the past by poorly defined or [poorly] supported contentions.’”<sup>123</sup>

Because of the need to provide specific support for a contention in order to raise a genuine dispute, the genuine dispute admissibility requirement is sometimes discussed together with the requirement for petitioners and intervenors to provide alleged factual or expert support for their allegations under 10 C.F.R. § 2.309(f)(1)(v). A Licensing Board has stated that “a petitioner that fails to provide sufficient factual or expert support for the claims in its contention in contravention of section 2.309(f)(1)(v), also may have failed to show a genuine dispute with the application as required under section 2.309(f)(1)(vi).”<sup>124</sup> As the Commission explained earlier in this proceeding, “‘contentions shall not be admitted if at the outset they are not described with reasonable specificity or are not supported by ‘some alleged fact or facts’ demonstrating a genuine material dispute.’”<sup>125</sup>

To meet the section 2.309(f)(1)(v) requirement for providing factual and expert support, petitioners or intervenors must “proffer at least some minimal factual and legal foundation in support of their contentions.”<sup>126</sup> It is the petitioner’s obligation to present factual allegations and/or expert opinion necessary to support its contention.<sup>127</sup> While a Licensing Board may appropriately view a petitioner’s supporting information in a light favorable to the petitioner, the failure to provide such information requires that the contention be rejected.<sup>128</sup> Neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a

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that “Utah offers no factual or expert support for its attack on [Private Fuel Storage’s] plan. . . . To show a genuine material dispute, Utah’s contention would have to give the Board reason to believe that contamination from a defective canister could find its way outside of the cask.”).

<sup>123</sup> *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 307 (2012) (modifications in original) (quoting *Oconee*, CLI-99-11, 49 NRC at 334-35; *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 219 (2003)), *petition for review denied sub nom., Beyond Nuclear v. NRC*, 704 F.3d 12 (1st Cir. 2013).

<sup>124</sup> See *Union Electric Co.* (Callaway Plant, Unit 1), LBP-12-15, 76 NRC 14, 27 (2012) (internal citation omitted) (citing CLI-12-8, 75 NRC at 404-05 (noting that because petitioners failed to provide support for their claim, “they also have failed to show a genuine dispute with the application as required under 10 C.F.R. § 2.309(f)(1)(vi)”)); see also *Seabrook*, CLI-12-5, 75 NRC at 335.

<sup>125</sup> CLI-12-8, 75 NRC at 396 (quoting *Oconee*, CLI-99-11, 49 NRC at 335 (quoting Final Rule: “Rules of Practice for Domestic Licensing Proceedings — Procedural Changes in the Hearing Process,” 54 Fed. Reg. 33,168, 33,170 (Aug. 11, 1989))).

<sup>126</sup> *Oconee*, CLI-99-11, 49 NRC at 334.

<sup>127</sup> See 10 C.F.R. § 2.309(f)(1)(v); *Am. Centrifuge Plant*, CLI-06-10, 63 NRC at 457.

<sup>128</sup> See *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991).

matter should be considered will suffice to allow the admission of a proffered contention.<sup>129</sup>

Moreover, where a petitioner neglects to provide the requisite support for its contentions, it is not within the board's power to make assumptions or draw inferences that favor the petitioner, nor may the board supply information that is lacking.<sup>130</sup> Likewise, simply attaching material or documents as a basis for a contention, without setting forth an explanation of that information's significance, is inadequate to support the admission of the contention.<sup>131</sup> On the other hand, "[a]t the contention filing stage the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion."<sup>132</sup>

After a thorough review of the pleadings and the transcript of the oral argument, Intervenor has not provided sufficient support to demonstrate a genuine dispute with the FENOC application or the DSEIS. To present a genuine dispute, Intervenor must show a disagreement on a material issue.<sup>133</sup> In addition to stating *what* they disagree with, Intervenor must also explain, with specific support, *why* the disagreed-upon issue will have a material impact.

Regarding the safety aspect of Intervenor's Contention 7, Intervenor believes that FENOC's current LRA, even amended to increase the number of core bores and the rate of inspections,<sup>134</sup> is insufficient to deal with ice-wedging, and could lead to the failure or collapse of the shield building.<sup>135</sup> Intervenor's concerns represent a potential material issue. As the shield building functions as a radiation and biological shield,<sup>136</sup> failure or collapse of the shield building due to cracking propagation could lead to health and safety impacts. Intervenor's contention thus concerns a subject matter that could impact the grant or denial of a pending license application.<sup>137</sup>

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<sup>129</sup> See *Am. Centrifuge Plant*, CLI-06-10, 63 NRC at 472; *Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003).

<sup>130</sup> See *N. Trend Expansion Project*, CLI-09-12, 69 NRC at 553; *Palo Verde*, CLI-91-12, 34 NRC at 155.

<sup>131</sup> See *Fansteel*, CLI-03-13, 58 NRC at 204-05.

<sup>132</sup> *Diablo Canyon*, CLI-11-11, 74 NRC at 442 n.81 (quoting 54 Fed. Reg. at 33,171).

<sup>133</sup> Motion to Amend Contention 7 at 24.

<sup>134</sup> LRA Amendment No. 51 at 3-4.

<sup>135</sup> Motion to Admit Contention 7 at 20-21; Motion to Amend Contention 7 at 19-20; Tr. at 804-05.

<sup>136</sup> LRA § 2.4.1.

<sup>137</sup> See 10 C.F.R. § 2.309(f)(1)(iv); See *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 75-76 (1996), *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996) (noting that a contention alleging a material deficiency must link the claimed deficiency to a public

(Continued)



However, in order to raise a genuine dispute with the Davis-Besse LRA, Intervenor must do more than point to issues with the shield building. Their contention must also indicate *what* is wrong with FENOC's response, its amended inspection program, and "*why* the petitioner [or intervenor] believes the particular inspection [program] makes the license renewal application unacceptable."<sup>138</sup> Intervenor does not point to any "recitation of the factors underlying the contention or references to documents and texts"<sup>139</sup> that give the Board a "reason to believe" the current FENOC inspection program may lead to a material negative impact on public safety, or that an improved program will lead to any positive impact.<sup>140</sup>

Reviewing the pleadings in the light most favorable to Intervenor, the Board notes that Intervenor recites few alleged facts in support of their position. Specifically, Intervenor alleges that the change in the number of boreholes in the amended LRA is statistically insignificant.<sup>141</sup> Intervenor also alleges that "there are multiple kinds of cracking, located at diverse places across the huge Shield Building . . . including sub-surface laminar cracking, surface cracking, dome cracking, micro-cracking, and radial cracking."<sup>142</sup> Intervenor adds that the presence of water in the shield building will increase the rate of cracking to "0.4 to 0.7 inches" per freeze cycle.<sup>143</sup> At oral argument, Intervenor noted that the surface area covered by the twenty-three boreholes is much less than the 280,000-square-foot surface area of the shield building.<sup>144</sup> Finally, Intervenor alleged that if more is not done to protect the shield building, continued cracking could eventually lead to the "collapse of a lot of the shield building material down to a thickness of perhaps three or four inches in the inner rebar layer."<sup>145</sup>

These allegations, while serious, do not refer to any deficiencies in the shield building AMP FENOC has proposed to address ice-wedging. As a result, Intervenor's allegations do not "plausibly" indicate that the shield building would

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health and safety or an environmental impact). We disagree with the NRC Staff's argument that ice-wedging crack propagation by itself is immaterial because it could not prevent the agency from granting a license renewal. NRC Staff Answer at 35-36. As the NRC Staff noted, "the Staff's aging management review focuses on managing the functionality of" systems, structures, and components, such as the shield building. Intervenor alleges the functionality of the shield building is at risk from ice-wedging. *Id.* at 17.

<sup>138</sup> *Oconee*, CLI-99-11, 49 NRC at 341.

<sup>139</sup> *Pilgrim*, LBP-06-23, 64 NRC at 356.

<sup>140</sup> *Private Fuel Storage*, CLI-04-22, 60 NRC at 138-39.

<sup>141</sup> Motion to Admit Contention 7 at 20.

<sup>142</sup> *Id.* at 24.

<sup>143</sup> Intervenor's Reply at 2.

<sup>144</sup> Tr. at 834-35.

<sup>145</sup> Tr. at 804-05.

lose its functionality under the proposed AMP.<sup>146</sup> This Board has previously faulted Intervenor for focusing too much on those matters on which they disagree with the FENOC LRA, while neglecting to explain why the FENOC LRA is itself deficient, or what they would suggest in response.<sup>147</sup>

At oral argument, FENOC explained that the company chose its inspection cycle based on the American Concrete Institute Report 349.3R.<sup>148</sup> The number and locations of core bores to be inspected are based on structural and weather-related analyses previously made public.<sup>149</sup> Significantly, Intervenor does not challenge FENOC's analyses. In effect, Intervenor's claims boil down to requests for more testing, more methods of testing, and more information, all of which are sought without explaining why the current program is inadequate. This is not sufficient to create a genuine dispute with the Davis-Besse LRA.<sup>150</sup>

Moreover, Intervenor confuses assertions for factual allegations. Intervenor asserts that the use of past evidence to determine future inspection locations is an inadequate method to find future cracks.<sup>151</sup> Intervenor also asserts that the current inspection tools contemplated by the FENOC LRA cannot find the ice-wedging-induced cracks, and instead "electronic testing; impact response mapping or impulse response testing" should be used.<sup>152</sup> Yet Intervenor does not refer to any technical document or expert opinion that either supports their position or

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<sup>146</sup> *Private Fuel Storage*, CLI-04-22, 60 NRC at 138 (The Commission noted that "it is still up to Utah to frame a contention plausibly showing that mistakes at a shipper's site will cause environmental consequences at [Private Fuel Storage's] site.").

<sup>147</sup> See LBP-11-13, 73 NRC at 576-77 (Although Intervenor disagreed with FENOC's SAMA analysis related to "fire hosing and plowing decontamination methods," derived from the MACCS2 Users Guide, this Board noted that "for their part the Joint Petitioners do not explain how the MACCS2 codes assumption about fire hosing and plowing could have caused FirstEnergy to underestimate the cost of a severe accident. Accordingly, Joint Petitioners' fire hosing and plowing claims do not dispute the Application.").

<sup>148</sup> Tr. at 847-48. FENOC explained in its July 3, 2014 letter that its inspection plan "is more stringent than the guidance in American Concrete Institute (ACI) Report ACI 349.3R, 'Evaluation of Existing Nuclear Safety-Related Concrete Structures' Chapter 5, Section 5.3." FENOC July 3 RAI Reply Letter at 3.

<sup>149</sup> Tr. at 849 (citing Reply to Request for Additional Information for the Review of the Davis-Besse Nuclear Power Station, Unit No. 1, License Renewal Application and License Renewal Application Amendment No. 36 at 3-4 (Nov. 20, 2012) (ADAMS Accession No. ML12331A125) (explaining the selection of the initial twenty core bore locations for the shield building inspection program)); see also FENOC October 28 RAI Reply Letter (discussing how FENOC concluded it was necessary to increase the number of boreholes in the shield building AMP to twenty-three).

<sup>150</sup> See *Seabrook*, CLI-12-5, 75 NRC at 310-11 (Although the *Seabrook* intervenors sought improvements to a Seabrook AMP, their contention was deemed inadmissible as it failed to "address the testing plan specified in the AMP, much less explain why it is inadequate."); *Oconee*, CLI-99-11, 49 NRC at 341.

<sup>151</sup> Motion to Amend Contention 7 at 21.

<sup>152</sup> See *id.* at 19, 27.

indicates that FENOC's approach is faulty. As FENOC noted at oral argument, Intervenor "provide one sentence that identifies eight different possible testing mechanisms . . . . Why are those better than the impulse response testing that we have done?"<sup>153</sup> As noted above, bare assertions and mere speculation cannot support an admissible contention.<sup>154</sup> While an admissible contention requires no more than "some minimal factual and legal foundation in support,"<sup>155</sup> at the same time "the Commission expects that in almost all instances a petitioner must go beyond merely quoting an RAI to justify admission of a contention into the proceeding. . . . This means they must develop a fact-based argument that actually and specifically challenges the application."<sup>156</sup>

Intervenor's environmental claims also do not raise a genuine dispute with the NRC DSEIS. Looking first to the DSEIS discussion of alternatives, Intervenor emphasizes that "[t]here is a dispute over whether the NEPA-required 'hard look' at alternatives to a 20-year license extension has been achieved."<sup>157</sup> However, the pleadings themselves add no detail to these statements, and do not discuss or reference any portion of the DSEIS. Intervenor argues that "'reasonable consideration of alternatives' should mean that an accurate economic costing of the replacement of the Shield Building . . . along with other remedial steps, such as replacement of portions of the reinforced concrete walls."<sup>158</sup> The Commission has clearly stated though that such "[g]eneralized 'economic cost' arguments, unsupported by asserted facts or expert opinion, are insufficient to show a genuine dispute with the application."<sup>159</sup> Intervenor fails to specify what other alternatives to the Davis-Besse LRA should be discussed in the DSEIS, much less show that any "proposed alternative would satisfy the purpose of the applicant's proposed action."<sup>160</sup>

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<sup>153</sup> Tr. at 846.

<sup>154</sup> See *Am. Centrifuge Plant*, CLI-06-10, 63 NRC at 472; *Fansteel*, CLI-03-13, 58 NRC at 203; *Exelon Nuclear Texas Holdings, LLC* (Victoria County Station Site), LBP-11-16, 73 NRC 645, 667 (2011) ("However, to be admissible, a contention must provide more than a 'bare assertion,' and must explain the supporting reasons for the dispute raised in that contention" (quoting *Fansteel*, CLI-03-13, 58 NRC at 203)); *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7), LBP-11-6, 73 NRC 149, 253 (2011).

<sup>155</sup> *Oconee*, CLI-99-11, 49 NRC at 334.

<sup>156</sup> *Id.* at 341. Likewise, Intervenor's concerns about rebar corrosion do not raise a genuine dispute on a safety issue. Although Intervenor disagrees with FENOC's opportunistic inspection strategy for managing rebar corrosion, they merely assert, and do not plausibly explain, how FENOC's approach will lead to a material safety impact. *Private Fuel Storage*, CLI-04-22, 60 NRC at 138.

<sup>157</sup> Motion to Amend Contention 7 at 24.

<sup>158</sup> *Id.* at 22.

<sup>159</sup> *Seabrook*, CLI-12-5, 75 NRC at 334 n.199.

<sup>160</sup> *Id.* at 342-43.

Intervenors' request for a more thorough SAMA analysis also is unsupported by alleged facts, and the pleadings do not reference the documents they are challenging as inadequate. We decline to entertain contentions "'based on little more than speculation,'" which represent "'negligible knowledge'" of the issues being challenged.<sup>161</sup> Moreover, in their motions to admit Contention 5, 6, and 7, Intervenors have repeatedly claimed that the cracking in the shield building warrants a modification to the FENOC SAMA analysis.<sup>162</sup> However, such claims cannot present material issues in this case because the Davis-Besse SAMA analysis does not account for the presence of the shield building when analyzing the consequences of a severe accident.<sup>163</sup>

As explained by counsel for FENOC at oral argument, "the vast majority of the SAMA the [sic] analysis assumes that there is no shield building in the release path."<sup>164</sup> FENOC's counsel indicated one caveat, which would not be altered by the presence of small cracks in the shield building walls:

There are some SAMA for interfacing system loss of coolant accidents where you have penetrations through. And so in small-break LOCA [loss of coolant accident] analysis there are some that consider the flow path there, the flow path up through the shield building vent, a very small consideration in the SAMA analysis. But that is the existence of a vent path, not the exterior laminar coating.<sup>[165]</sup>

A review of the DSEIS supports FENOC's statements.<sup>166</sup> For their part, Intervenors fail to reference any specific part of the SAMA analysis, much less demonstrate that it otherwise considers the presence of the shield building during a severe accident. Since the current SAMA analysis assumes no shield building is present for all relevant purposes, analyzing the cracking of the shield building would not materially change the results of the SAMA analysis.

## **V. FURTHER ANALYSIS OF THE LONG-TERM IMPACTS OF CONCRETE CRACKING AT THE DAVIS-BESSE SHIELD BUILDING MAY BE WARRANTED**

This is the third acknowledgment by FENOC of cracking or damage to the

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<sup>161</sup> *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 3), CLI-08-17, 68 NRC 231, 233 (2008) (quoting *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358-59 (2001)).

<sup>162</sup> See, e.g., Intervenors' Fifth Motion to Amend or Supplement Proposed Contention No. 5 at 32 (Aug. 16, 2012); Motion to Admit Contention 6 at 9; Motion to Admit Contention 7 at 6.

<sup>163</sup> See DSEIS § 5.3.

<sup>164</sup> Tr. at 802.

<sup>165</sup> *Id.*

<sup>166</sup> See DSEIS § 5.3.

Davis-Besse shield building: on October 20, 2011, FENOC reported laminar cracking resulting from the Blizzard of 1978;<sup>167</sup> on September 20, 2013 FENOC reported additional cracking, due to ice-wedging along with microcracking;<sup>168</sup> and on February 19, 2014, FENOC reported the presence of a concrete void and broken rebar in the shield building.<sup>169</sup> Thus, while Intervenor has to date failed to proffer an admissible contention regarding shield building cracking, the Board is concerned that FENOC and the NRC Staff do not fully grasp either the nature of the cracking issues plaguing the shield building, or how the presence of retained water in the building will influence crack propagation in the long term.

For example, at oral argument, the NRC Staff appeared to claim that freeze-thaw and ice-wedging are similar cracking concerns.<sup>170</sup> However, the FACE Report, as well as FENOC's statements at oral argument, indicate that the two phenomena are distinct.<sup>171</sup> Of equal concern to the Board, the NRC Staff also claimed that the ice-wedging cracking phenomenon was addressed pre-2014.<sup>172</sup> The Board, however, could not find any support for that statement. In fact, the FACE Report repeatedly asserts that ice-wedging is a newly discovered cracking phenomenon.<sup>173</sup> The Board is also concerned that the NRC Staff asserted that the shield building AMP is "agnostic" to different types of cracking phenomena.<sup>174</sup> This seems to be in direct conflict with the fact that the LRA has been specifically amended to focus primarily on crack propagation due to ice-wedging.<sup>175</sup> It appears to the Board that this potentially leaves large parts of the shield building unchecked based purely on the "presumption" that cracking will not occur elsewhere.<sup>176</sup>

Regarding the concern that water trapped in the shield building will dissipate over time, FENOC downplayed this concern by stating that the water will eventually disperse toward the inside unsealed edge and dissipate.<sup>177</sup> However, the FACE Report indicates just the opposite:

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<sup>167</sup> Preliminary Notification of Event or Unusual Occurrence (Oct. 20, 2011) (ADAMS Accession No. ML11293A092); *see also generally* NRC 2012 Inspection Report.

<sup>168</sup> 2013 Preliminary Notification of Occurrence; FACE Report at 15-17.

<sup>169</sup> 2014 Preliminary Notification of Occurrence.

<sup>170</sup> *See* Tr. at 870-72 ("I look at that as freeze/thaw is a much bigger description that includes the ice wedging phenomena.").

<sup>171</sup> FACE Report at 41, 69-71; Tr. at 875 (FENOC counsel indicating that ice-wedging is "a different mechanism" from freeze-thaw, even though both originate from water freezing in concrete).

<sup>172</sup> *See* Tr. at 784-85, 794 (The NRC Staff asserted that "multiple submittals from 2012 and through these years have indicated that ice wedging aging effects may be identified, including ice wedging, and that ice wedging could affect rebar and coating effectiveness.").

<sup>173</sup> *See, e.g.*, FACE Report at 44, 59, 61, 66.

<sup>174</sup> Tr. at 870.

<sup>175</sup> *See* LRA Amendment No. 51 at 2-3.

<sup>176</sup> Tr. at 863-864, 874.

<sup>177</sup> Tr. at 765-66.

The presence of thermal gradient across the concrete ([inner diameter] hotter than [outer diameter]), will tend to drive the moisture to the outer most layer and saturating it in that area. The presence of sealant coating will prevent the driven moisture from leaving the structure and saturate the moisture in the laminar crack zone (within the outer most layer).<sup>[178]</sup>

Counsel for FENOC indicated at oral argument that the presence of moisture and freezing temperatures in the outer layer of the shield building can contribute both to microcracking from freeze-thaw and to laminar crack propagation due to ice-wedging.<sup>179</sup> Without hearing evidence, the Board cannot conclude if either presents a significant danger to the shield building — but it certainly appears to be a matter deserving of attention from the NRC Staff and FENOC.

Although Intervenors have not pled the requisite elements to support an admissible contention, the Commission is respectfully encouraged to direct the NRC Staff to investigate<sup>180</sup> the variety of concrete cracking issues currently affecting the Davis-Besse shield building, and report on what effect these issues may or may not have on shield building integrity and function over the term of the renewed license.<sup>181</sup> Such an investigation may “put the Commission in [a] position, after receiving the views of the [applicant] if it desired, to assure itself about the significance, or lack thereof,” of the shield building cracking issues raised by Intervenors, “and to direct such followup proceedings, if any, as it might deem appropriate.”<sup>182</sup> This undertaking can provide a greater assurance of public health and safety than what is currently in the public record, without substantially delaying the license renewal proceeding.

## VI. CONCLUSION

For the reasons stated above, Intervenors’ Motion to Admit Contention 7 is denied, as it fails to present a genuine dispute, supported by alleged facts, with

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<sup>178</sup> FACE Report at 69, 71.

<sup>179</sup> See Tr. at 776-78; see also FACE Report at 43, 69.

<sup>180</sup> Previously, the NRC Staff performed an inspection of the shield building and prepared an inspection report following the initial discovery of laminar cracking in 2012. See NRC 2012 Inspection Report.

<sup>181</sup> See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-05-12, 61 NRC 319, 330-31 (2005) (a Licensing Board suggesting to the Commission that it direct the NRC Staff to investigate a safety issue that the Board itself could not reach through the adjudicatory process); see also *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-91-13, 34 NRC 185, 188 (1991) (the Commission commenting that Licensing Boards can refer potentially significant safety issues that cannot be addressed through the adjudicatory process to the NRC Staff for review).

<sup>182</sup> *Private Fuel Storage*, LBP-05-12, 61 NRC at 331.

the Davis-Besse LRA and the NRC Staff DSEIS. At the same time, the Board encourages the Commission to direct the NRC Staff to investigate the long-term effects of the discussed shield building cracking phenomena as it proceeds with the Davis-Besse license renewal.

Intervenors' motion concerning the continued storage of spent nuclear fuel is still outstanding,<sup>183</sup> although the Commission has indicated it will review the petition and motions.<sup>184</sup> Section 2.311 of the Commission's rules of practice permits an appeal as of right from a Licensing Board's ruling on an intervention petition only in two limited circumstances: (1) upon the denial of a petition to intervene and/or request for hearing, on the question as to whether it should have been granted; and (2) upon the granting of a petition to intervene and/or request for a hearing, on the question as to whether it should have been wholly denied.<sup>185</sup> Recently, in CLI-14-3, the Commission stated that "[t]his limited interlocutory appeal right attaches only when the Board has fully ruled on the initial intervention petition — that is, when it has admitted or rejected all proposed contentions."<sup>186</sup> As the Board has not ruled on all proposed contentions, awaiting further action by the Commission on the remaining continued storage contention, the adjudicatory process remains open. This Memorandum and Order is therefore not ripe for appeal.<sup>187</sup>

The parties may consider whether significant and novel legal or policy issues exist which would warrant a petition to the Commission for interlocutory review pursuant to 10 C.F.R. § 2.341(f).

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<sup>183</sup> See Motion to Admit Contention on Waste Confidence Safety Findings.

<sup>184</sup> *Fermi*, CLI-14-9, 80 NRC at 149-50.

<sup>185</sup> 10 C.F.R. § 2.311(c), (d)(1).

<sup>186</sup> *Tennessee Valley Authority* (Sequoyah Nuclear Plant, Units 1 and 2), CLI-14-3, 79 NRC 31, 36 (2014).

<sup>187</sup> In the Commission's decision in *Sequoyah*, the Commission concluded that because the Licensing Board had not yet "admitted nor denied [the intervenor's] waste confidence contention," the intervenor's appeal was not ripe for review. *Id.*

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

William J. Froehlich, Chairman  
ADMINISTRATIVE JUDGE

Nicholas G. Trikouros  
ADMINISTRATIVE JUDGE

Dr. William E. Kastenbergl  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
January 15, 2015



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Michael M. Gibson**, Chairman  
**Dr. Richard E. Wardwell**  
**Brian K. Hajek**  
**Alan S. Rosenthal** (Special Assistant to the Board)

**In the Matter of**

**Docket No. 40-8943**  
**(ASLBP No. 08-867-02-OLA-BD01)**  
**(License Renewal)**

**CROW BUTTE RESOURCES, INC.**  
**(In Situ Leach Facility, Crawford,**  
**Nebraska)**

**January 21, 2015**

**10 C.F.R. § 2.1213(a) APPLICATION FOR THE STAY OF A LICENSE**

Notification of the issuance of a renewed Source Materials License under 10 C.F.R. § 2.1202(a) triggers the 5-day filing deadline to file an application for the stay of the effectiveness of the license under 10 C.F.R. § 2.1213.

**10 C.F.R. § 2.1213(d) STAY FACTORS**

Boards must balance four separate interests in determining whether to grant or to deny an application for a stay: (1) Whether the requestor will be irreparably injured unless a stay is granted; (2) Whether the requestor has made a strong showing that it is likely to prevail on the merits; (3) Whether the granting of a stay would harm other participants; and (4) Where the public interest lies.

## **COMMISSIONERS, AUTHORITY: DELAY OF PROCEEDING**

The Commission, but not the Licensing Board, has the power to address a protracted delay in the proceeding and to direct, if so inclined, appropriate remedial measures. *Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), CLI-12-4, 75 NRC 154, 158 (2012).

## **DELAY OF PROCEEDING**

The extreme delay in the completion of the Staff's environmental review, and thus the equal delay in hearing the Intervenor's claim of injury, raises issues of compliance with section 189a of the Atomic Energy Act. It is reasonable to conclude that Congress assumed that individuals establishing a right to be heard in opposition to a license application would be heard with reasonable expedition. A delay exceeding 7 years hardly so qualifies.

## **NRC STAFF REVIEW**

The licensing boards are not empowered to superintend, to any extent, the conduct of Staff technical reviews. *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-6, 59 NRC 62, 67 (2004).

# **MEMORANDUM AND ORDER** **(Denying Applications for Stay of Source Materials** **License SUA-1534)**

## **I. INTRODUCTION**

On November 6, 2014, the NRC Staff notified the Board and parties that, pursuant to 10 C.F.R. § 2.1202(a), it had issued renewed Source Materials License SUA-1534 to Crow Butte Resources, Inc. (Crow Butte).<sup>1</sup> SUA-1534 “allows [Crow Butte] to possess and use source and byproduct material in connection with its Crow Butte in situ uranium recovery facility in Dawes County, Nebraska.”<sup>2</sup> This notification triggered the 5-day filing deadline established by 10

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<sup>1</sup> The renewed license expires on November 5, 2024. License Renewal Notification, Letter from Marcia Simon, NRC Staff Counsel, to Administrative Judges and Parties (Nov. 6, 2014). The agency generally issues materials licenses for 10-year terms. 10-Year License Terms for Materials Licensees, 62 Fed. Reg. 5656 (Feb. 6, 1997). Due to NRC Staff review delays, the renewed license does not expire until 16 years and 8 months after the previous license expired.

<sup>2</sup> *Id.* at 1.

C.F.R. § 2.1213 to apply for a stay of the license. The Board subsequently set November 14, 2014, as the deadline for Intervenor to apply for a stay of the effectiveness of SUA-1534.<sup>3</sup>

Both intervenors in this proceeding, Consolidated Intervenor<sup>4</sup> (CI) and the Oglala Sioux Tribe<sup>5</sup> (the Tribe), filed applications for a stay of license SUA-1534. Crow Butte<sup>6</sup> and the NRC Staff<sup>7</sup> filed answers to the stay applications. A telephonic oral argument on the stay applications was held on December 19, 2014.<sup>8</sup>

## II. BACKGROUND

Crow Butte's license was first issued in 1988 for a 10-year term, and renewed in 1998 for an additional 10 years. A second renewal application, at issue in this proceeding, was filed on November 27, 2007, 3 months before the license expired on February 28, 2008.<sup>9</sup> The timing of this application enabled Crow Butte to operate under the NRC's "timely renewal" provision until the agency renewed the license.<sup>10</sup>

On March 28, 2008, the Staff accepted the renewal application for technical review, and on May 27, 2008, a notice of opportunity for hearing to contest the license renewal was published in the *Federal Register*.<sup>11</sup> On July 28, 2008, several hearing requests were received in response to that notice.<sup>12</sup> On August 14, 2008,

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<sup>3</sup> Licensing Board Order (Computing Time for Filing a 10 C.F.R. § 2.1213(a) Stay Application) (Nov. 7, 2014) (unpublished).

<sup>4</sup> Consolidated Intervenor's Application for a Stay of the Issuance of License No. SUA-1534 Under 10 CFR Section 2.1213 (Nov. 14, 2014) [hereinafter CI Stay Application].

<sup>5</sup> Application The Oglala Sioux Tribed [sic] for a Stay of the Issuance of License No. SUA-1534 Under 10 CFR Section 2.1213 (Nov. 14, 2014) [hereinafter OST Stay Application].

<sup>6</sup> Crow Butte Resources' Response Opposing Motions for Stay of Effectiveness of Renewed License (Nov. 24, 2014) [hereinafter CBR Response].

<sup>7</sup> NRC Staff's Opposition to Applications for a Stay Introduction (Nov. 24, 2014) [hereinafter Staff Opposition].

<sup>8</sup> See Tr. at 507-64.

<sup>9</sup> Final Environmental Assessment for the License Renewal of U.S. Nuclear Regulatory Commission License No. SUA-1534 (Oct. 2014) at viii.

<sup>10</sup> See 10 C.F.R. § 40.42(a); see also 5 U.S.C. § 558(c) ("When the licensee has made timely and sufficient application for a renewal . . . , a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency.").

<sup>11</sup> Notice of Opportunity for Hearing, Crow Butte Resources, Inc., Crawford, NE, In Situ Leach Recovery Facility, 73 Fed. Reg. 30,426 (May 27, 2008).

<sup>12</sup> See Request for Hearing and/or Petition to Intervene, Oglala Sioux Tribe (July 28, 2008); Consolidated Request for Hearing and Petition for Leave to Intervene (July 28, 2008); Request for  
(Continued)

this Board was established, and on November 21, 2008, it issued its decision that, among other things, (1) determined the Tribe had standing and admitted its contentions A, C, and D, and (2) determined CI had standing and admitted its contention F.<sup>13</sup> Contentions A, C, and D allege that the radiological and nonradiological impacts from the Crow Butte in situ leach (ISL) mining project are or may impact the environment and local residents' health.<sup>14</sup> Contention F alleges that Crow Butte has failed to include recent research in its filings.<sup>15</sup> These contentions, in a general sense, convey the concern that the operation of the Crow Butte ISL mine is physically harming Tribe members.

On January 8, 2009, the Board entered an order in which it noted that the Staff estimated a December 2009 date for the completion of its final environmental review document and directed the Staff to file brief monthly reports advising the Board whether the estimated date for completion of that document or the Safety Evaluation Report<sup>16</sup> had changed or become more definite.<sup>17</sup> In compliance with that directive, the NRC Staff submitted monthly status reports beginning in January 2009 that continued until, 70 months later, the Staff released the final environmental review document, an Environmental Assessment (EA), in October 2014.<sup>18</sup>

Thirty of those status reports informed the Board of slippages in the estimated date of completion of the final environmental review document. An Appendix to this Order lists the month and year in which each of those thirty reports was submitted, together with the explanation (if any) given by the Staff for the announced slippage. None of the explanations attributed a slippage to limited Staff resources.

In March 2011, following the Staff's ninth report of a slippage in the estimated date for completion of the final environmental review document, the Board issued a Memorandum requesting the Staff to provide an explanation for the

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Hearing and Petition for Leave to Intervene, Oglala Delegation of the Great Sioux Nation Treaty Council (July 28, 2008).

<sup>13</sup> LBP-08-24, 68 NRC 691 (2008). Other contentions that the Board admitted were found inadmissible by the Commission on appeal. *See* CLI-09-9, 69 NRC 331, 366 (2012).

<sup>14</sup> LBP-08-24, 68 NRC at 716, 724-25.

<sup>15</sup> *Id.* at 738.

<sup>16</sup> The Staff notified the Board and parties of the public availability of the final Safety Evaluation Report on January 2, 2013. Safety Evaluation Report Availability Notification, Letter from Brett Klukan, NRC Staff Counsel, to Administrative Judges and Parties (Jan. 2, 2013). In August 2014 the Staff issued a Revised Safety Evaluation Report. Revised Safety Evaluation Report Availability Notification, Letter from David Cylkowski, NRC Staff Counsel, to Administrative Judges and Parties (Aug. 20, 2014).

<sup>17</sup> Initial Scheduling Order (Jan. 8, 2009) at 2, 4-5 (unpublished).

<sup>18</sup> Final Environmental Assessment for the License Renewal of U.S. Nuclear Regulatory Commission License No. SUA-1534 (Oct. 2014).

continuing delays.<sup>19</sup> In response, the Staff reported that it was “currently taking steps necessary to identify the presence of historic properties within the area” in accordance with the National Historic Preservation Act,<sup>20</sup> and that it had scheduled a meeting to consult with affected Indian Tribes in June 2011.<sup>21</sup> The Staff did not give any reason why these actions had not been initiated long before June 2011.<sup>22</sup> Finally, the Staff’s response stated that its projected date for completing the environmental review document had been pushed back yet again, from August to December 2011.<sup>23</sup>

By October 2011, the Staff’s estimated completion of its final environmental review document had slipped another 8 months, to August 2012.<sup>24</sup> This was 32 months beyond the original predicted date of issuance — from December 2009 to August 2012. The Board issued another Memorandum, this time “to bring to the Commission’s attention a potential deprivation of the Tribe’s hearing rights guaranteed to it by section 189a of the Atomic Energy Act.”<sup>25</sup> The Board questioned whether this statutory concern had been raised by the extreme delay in hearing the Tribe’s injury claim.<sup>26</sup> While the Board recognized it could not superintend the conduct of the NRC Staff’s technical reviews,<sup>27</sup> it suggested that “the Commission might deem it appropriate to ensure that the Staff will give priority” to environmental reviews, especially when, despite a pending serious challenge to renewal, the applicant was continuing mining operations.<sup>28</sup>

The Commission responded to the Board’s concerns in February 2012, and did not agree that the Tribe may have been deprived of its hearing rights.<sup>29</sup>

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<sup>19</sup> Memorandum (Requesting Report from the NRC Staff) (Mar. 29, 2011) at 4 (unpublished).

<sup>20</sup> 16 U.S.C. § 470 *et seq.*; in addition to the National Historic Preservation Act, such properties may also be protected by the Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. § 3001 *et seq.*; and by the Archaeological Resources Protection Act (ARPA), 16 U.S.C. § 470aa *et seq.*; see LBP-08-24, 68 NRC at 713 & n.105.

<sup>21</sup> NRC Staff’s Submittal in Response to March 29, 2011 Memorandum Requesting Report from the NRC Staff (Apr. 15, 2011) at 4-5.

<sup>22</sup> At oral argument on October 1, 2008 (2 months before the Staff announced its December 2009 expected completion date for the final environmental review document), the Staff informed the Board that “this process has begun . . . NRC personnel have been in contact with personnel in the Tribe, and this is ongoing and will occur.” Tr. at 363-64.

<sup>23</sup> NRC Staff’s Submittal in Response to March 29, 2011 Memorandum Requesting Report from the NRC Staff (Apr. 15, 2011) at 5.

<sup>24</sup> Estimated Issuance Dates, Letter from Brett Klukan, NRC Staff Counsel, to Administrative Judges and Parties (Oct. 14, 2011).

<sup>25</sup> LBP-11-30, 74 NRC 627, 628 (2011).

<sup>26</sup> *Id.* at 631.

<sup>27</sup> *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-6, 59 NRC 62, 67 (2004).

<sup>28</sup> LBP-11-30, 74 NRC at 633.

<sup>29</sup> CLI-12-4, 75 NRC 154 (2012).

Instead, the Commission was satisfied that the Staff was conducting its reviews “on an ongoing basis” and found that the Staff’s “efforts appear reasonable.”<sup>30</sup> The Commission also found it significant that the Tribe itself had not asserted prejudice or harm by delay.<sup>31</sup> The Commission declined to take any action, and Staff delays continued to accumulate for 26 additional months.

On October 27, 2014, 4 years and 10 months after the initially predicted issuance date, the Staff notified the Board and parties that the final environmental review document had been completed.<sup>32</sup> Ten days later, the Staff notified the Board that it had issued a renewed license with an expiration date of November 5, 2024,<sup>33</sup> which in turn precipitated the instant applications to stay that renewal.

### III. LEGAL STANDARDS

The stay of an NRC license is an extraordinary remedy, and a rare occurrence in NRC practice.<sup>34</sup> If granted, a stay preserves the status quo until a decision is made on the merits of the underlying controversy. In determining whether to grant or to deny an application for a stay, a Board must balance four separate interests: “(1) Whether the requestor will be irreparably injured unless a stay is granted; (2) Whether the requestor has made a strong showing that it is likely to prevail on the merits; (3) Whether the granting of a stay would harm other participants; and (4) Where the public interest lies.”<sup>35</sup> The movant has the burden of persuasion on these four factors.<sup>36</sup>

Discussing these four factors in the context of 10 C.F.R. § 2.342(e), the Com-

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<sup>30</sup> *Id.* at 157.

<sup>31</sup> *Id.* at 158.

<sup>32</sup> Environmental Assessment Availability Notification, Letter from Marcia Simon, NRC Staff Counsel, to Administrative Judges and Parties (Oct. 27, 2014).

<sup>33</sup> License Renewal Notification, Letter from Marcia Simon, NRC Staff Counsel, to Administrative Judges and Parties (Nov. 6, 2014). During the December 19, 2014 oral argument, the Staff advised the Board that the timing of the license issuance was informed by the 10 C.F.R. § 2.1202(a) instruction for the Staff “to promptly issue its approval or denial of the application” consistent with its findings, and despite the pendency of a hearing. Tr. at 518-19. The Board notes that, however, 10 C.F.R. § 2.1202(a) does not define a “prompt” issuance as an immediate one.

<sup>34</sup> *U.S. Department of Energy* (High-Level Waste Repository), CLI-05-27, 62 NRC 715, 718 (2005) (treating a stay as “an extraordinary equitable remedy” (quoting *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-77-27, 6 NRC 715, 716 (1977)).

<sup>35</sup> 10 C.F.R. § 2.1213(d).

<sup>36</sup> *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-493, 8 NRC 253, 270 (1978); *Alabama Power Co.* (Joseph M. Farley Nuclear Plant, Units 1 and 2), CLI-81-27, 14 NRC 795, 797 (1981).

mission stated that “of these factors, irreparable injury is the most important.”<sup>37</sup> And for a potential injury to be irreparable, it must be shown to be “imminent[,] . . . certain and great.”<sup>38</sup> Upon a strong showing of irreparable injury, “a movant need not always establish a high probability of success on the merits.”<sup>39</sup> But even if a party moving for a stay fails to show irreparable injury, a Board may still grant a stay if the movant has made “an overwhelming showing” or a demonstration of “virtual certainty” that it will prevail on the merits.<sup>40</sup> Where the movant cannot show either irreparable injury or a likelihood of prevailing on the merits, a Board “need not consider the remaining factors.”<sup>41</sup> In addressing the stay criteria in a Subpart L proceeding, “a litigant must come forth with more than general or conclusory assertions in order to demonstrate its entitlement” to relief.<sup>42</sup>

## IV. DISCUSSION

### A. Irreparable Injury

To qualify as an irreparable injury, the potential harm cited by the moving party first “must be related” to the underlying claim that is the focus of the adjudication.<sup>43</sup> Here, the Tribe and CI both base their stay applications on the risk of irreparable injury to (1) cultural resources through construction and operation activities, and (2) tribal members’ health through contamination of ground and surface water from the Crow Butte site.<sup>44</sup> Intervenors also generally allege that the Staff has not engaged in meaningful consultation with the Tribe, and assert that

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<sup>37</sup> *Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-11, 75 NRC 523, 529 (2012) (citing *Shieldalloy Metallurgical Corp.* (Decommissioning of the Newfield, New Jersey Site), CLI-10-8, 71 NRC 142, 151 (2010), and *David Geisen*, CLI-09-23, 70 NRC 935, 936 & n.4 (2009)).

<sup>38</sup> *Vogtle*, CLI-12-11, 75 NRC at 529 (quoting *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-06-8, 63 NRC 235, 237 (2006)).

<sup>39</sup> *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-820, 22 NRC 743, 746 n.8 (1985) (quoting *Cuomo v. NRC*, 772 F.2d 972, 974 (D.C. Cir. 1985)).

<sup>40</sup> *Vogtle*, CLI-12-11, 75 NRC at 529 (quoting *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-13, 67 NRC 396, 400 (2008), and *Shieldalloy*, CLI-10-8, 71 NRC at 154).

<sup>41</sup> *Vogtle*, CLI-12-11, 75 NRC at 529.

<sup>42</sup> *Babcock & Wilcox* (Apollo, Pennsylvania Fuel Fabrication Facility), LBP-92-31, 36 NRC 255, 263 (1992) (citing *U.S. Department of Energy* (Clinch River Breeder Reactor Plant), ALAB-721, 17 NRC 539, 544 (1983)).

<sup>43</sup> *Vogtle*, CLI-12-11, 75 NRC at 530-31 (quoting *United States v. Green Acres Enterprises, Inc.*, 86 F.3d 130, 133 (8th Cir. 1996)).

<sup>44</sup> CI Stay Application at 4-5; OST Stay Application at 7.

this violation of the trust responsibility of the federal government “constitutes an additional incident of irreparable harm.”<sup>45</sup>

Regarding harm to cultural resources, Crow Butte argues that because there is no active cultural resources contention, and irreparable harm must relate to a claim in the adjudication, harm to cultural resources cannot support a motion for a stay.<sup>46</sup> The NRC Staff opposes the stay on the basis that Intervenor failed to demonstrate specific harm to cultural resources, and instead provided only “general allegations that lack sufficient specificity.”<sup>47</sup>

In this proceeding, there is currently no admitted cultural resources contention. In 2008, the Board admitted the Tribe’s Contention B, which claimed that the NRC Staff had not consulted the Tribe for the purposes of identifying cultural resources in the license renewal area.<sup>48</sup> But, on appeal, the Commission reversed the Board’s decision.<sup>49</sup> While recognizing that the issue of consultation with the Tribe was material and within the scope of the proceeding, the Commission nevertheless held that Contention B was not ripe for adjudication until the Staff’s NEPA review was complete.<sup>50</sup> The Staff has since issued its EA, and on January 5, 2015, Intervenor timely filed new cultural resources contentions.<sup>51</sup>

In its decision relating potential irreparable injuries to the underlying claims in an adjudication,<sup>52</sup> the Commission cited a decision in which the Eighth Circuit found that an injury that had *never been* the focus of a lawsuit could not constitute irreparable harm.<sup>53</sup> However, in this proceeding a cultural resources contention previously had been a focus of the suit, and has again been proposed by Intervenor. The Board therefore declines to invalidate Intervenor’s irreparable harm to cultural resources allegation on this basis.

Moreover, harm to tribal cultural resources does constitute irreparable injury.<sup>54</sup> In a federal district court case granting a preliminary injunction halting a solar energy project, the Quechan Tribe claimed that the project would not avoid most

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<sup>45</sup> CI Stay Application at 5; OST Stay Application at 7.

<sup>46</sup> CBR Response at 3.

<sup>47</sup> Staff Opposition at 3.

<sup>48</sup> LBP-08-24, 68 NRC at 719.

<sup>49</sup> CLI-09-9, 69 NRC 331 at 350-51.

<sup>50</sup> *Id.* at 349-51.

<sup>51</sup> Consolidated Intervenor’s New Contentions Based on the Final Environmental Assessment (October 2014) (Jan. 5, 2015) at 4; The Oglala Sioux Tribe’s Renewed and New Contentions Based on the Final Environmental Assessment (October 2014) (Jan. 5, 2015) at 14.

<sup>52</sup> *Vogtle*, CLI-12-11, 75 NRC at 530-31.

<sup>53</sup> *National Football League v. McBee & Bruno’s, Inc.*, 792 F.2d 726, 733 (8th Cir. 1986) (finding that a key consideration was that “this sort of injury has never been the focus of the present lawsuit”).

<sup>54</sup> *United States v. Jenkins*, 714 F. Supp. 2d 1213, 1222 (S.D. Ga. Dec. 5, 2008) (“Harming Native American artifacts would constitute an irreparable injury because artifacts are, by their nature, unique, and their historical and cultural significance make them difficult to value monetarily.”).



of the 459 cultural sites identified, and that the NEPA and NHPA process had been insufficient.<sup>55</sup> In determining that the irreparable harm element of the test for issuance of injunctive relief was met, the court found that the Quechan Tribe's evidence showed that phase one of the project would involve damage to at least one known site, and "virtually ensure[d] some loss or damage."<sup>56</sup>

Here, however, CI's and the Tribe's general allegations, including their trust-based claim, were submitted without supporting declarations, and lacked the specificity and sufficient details needed to demonstrate serious, immediate, and irreparable harm to cultural and historic resources. As the Eighth Circuit has said, "a party must show that the harm is certain and great and of such imminence that there is a clear and present need for equitable relief."<sup>57</sup> Intervenors have presented no evidence that Crow Butte's mining poses either imminent or certain harm to cultural resources. As a result, the Board cannot find that a clear and present need exists for a stay under a claim of harm to cultural resources.

With respect to Intervenors' claim of contamination of ground and surface water, Crow Butte argues that Intervenors allege only a risk of speculative harm, without showing imminent or certain and great harm.<sup>58</sup> Similarly, the NRC Staff argues that Intervenors fail to provide any reliable data, affidavits, or specific pathways of water contamination that establish imminent, certain, and great harm.<sup>59</sup>

During oral argument, the Board asked Intervenors to explain what actual changes or injuries have emerged due to the Staff's issuance of Crow Butte's renewed license.<sup>60</sup> The Tribe responded that:

once the license has been issued, it becomes a vested interest of Crow Butte. Before that it does not have that character. It does not have all the protections that attach to that. . . . It also shifts the burden in regard — at least I would understand that it shifts the burden [so] the burden is actually upon the Intervenors to demonstrate why the license should not be issued.<sup>61</sup>

CI commented that the issuance of the license leaves the involved parties no longer believing "that this proceeding has any integrity or due process backbone.

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<sup>55</sup> *Quechan Tribe v. U.S. Department of the Interior*, 755 F. Supp. 2d 1104, 1106-07 (S.D. Cal. Dec. 15, 2010).

<sup>56</sup> *Id.* at 1120.

<sup>57</sup> *Iowa Utilities Board v. Federal Communications Commission*, 109 F.3d 418, 425 (8th Cir. 1996).

<sup>58</sup> CBR Response at 3-4.

<sup>59</sup> Staff Opposition at 4.

<sup>60</sup> Tr. at 550.

<sup>61</sup> Tr. at 546-47.

And they basically feel that it is a sham because their voice has not been heard and they've been squelched. . . . The perception is that this is a done deal.”<sup>62</sup>

Taking all of Intervenor's claims into account, the Board observes that Intervenor has not shown with the requisite specificity that Crow Butte's mining poses either imminent or certain harm to the health of Tribe members. In addition, the burden of proof in this proceeding has not been shifted by the NRC Staff's license renewal,<sup>63</sup> which is not yet final agency action.<sup>64</sup> Accordingly, based on Intervenor's non-specific health injury or burden shifting claims, the Board cannot find that there is the clear and present need required for the imposition of a stay.<sup>65</sup>

Finally, even were the Board to find that continued operation of Crow Butte's ISL mine would cause Intervenor irreparable harm, staying the renewal of Crow Butte's license would not prevent these injuries from continuing. The company could still continue to operate the mine under the agency's timely renewal provision.<sup>66</sup> As a result, the injuries Intervenor alleges are not redressable by the Board staying the renewed license. Staying the license would have no practical effect, and the Board declines to issue such an order.<sup>67</sup>

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<sup>62</sup> Tr. at 550-52.

<sup>63</sup> The applicant, Crow Butte, as proponent of the license renewal, has the ultimate burden of proof in this proceeding. “Unless the presiding officer otherwise orders, the applicant or the proponent of an order has the burden of proof.” 10 C.F.R. § 2.325; *see also* 5 U.S.C. § 556(d) (“The proponent of a rule or order has the burden of proof.”) Another Board, commenting on an intervenor challenge to an environmental report, observed that, once challenged, “there is no presumption that the [environmental report] is correct or accurate. To the contrary, the applicant, as the proponent of the license, bears the burden of proof.” *Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), LBP-09-10, 70 NRC 51, 101 (2009). The burden of NEPA compliance lies with the NRC Staff. *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983).

<sup>64</sup> *See infra* note 66.

<sup>65</sup> A party seeking a stay must specifically and “reasonably demonstrate [an injury], not merely allege” generalized harm. *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-814, 22 NRC 191, 196 (1985).

<sup>66</sup> *See* 10 C.F.R. § 40.42(a); *see also* 5 U.S.C. § 558(c) (“When the licensee has made timely and sufficient application for a renewal . . . , a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency.”). Crow Butte's license renewal application has not been finally determined by the agency until all administration actions have been completed, including issuance of this Board's Initial Decision. *Bennett v. Spear*, 520 U.S. 154, 178 (1997) (finding agency action to be final at the “consummation of the agency's decisionmaking process,” and when “rights or obligations have been determined”).

<sup>67</sup> *See* Licensing Board Order (Removing Temporary Stay and Denying Motions for Stay of Materials License Number SUA-1600), *Powertech USA, Inc.* (Dewey-Burdock In Situ Uranium Recovery Facility), Nos. 40-9075-MLA/10-898-02-MLA-BD01 (May 20, 2014) at 8 (unpublished).

## **B. Likelihood to Prevail on the Merits**

Even where a party moving for a stay fails to show irreparable injury, a Board may still grant a stay if the movant has made “an overwhelming showing” or a demonstration of “virtual certainty” that it will prevail on the merits.<sup>68</sup> As reviewed above, at this point in the proceeding, Intervenors have advanced only general claims, and so have not demonstrated a virtual certainty of prevailing on the merits. All live contentions in this proceeding will be adjudicated by this Board at the upcoming evidentiary hearing. At that hearing, and in the prefiled statements of position and testimony, all parties will be afforded the opportunity to present specific and detailed evidence supporting their respective positions to the Board. The Board will then issue its decision based on this presented evidence.

Because the movants have shown neither irreparable injury nor a virtual certainty of prevailing on the merits, the Board will not consider either the harm to other participants or public interest factors.<sup>69</sup>

## **IV. BOARD ORDER**

The applications for a stay of the effectiveness of Materials License Number SUA-1534 filed by CI and the Tribe on November 14, 2014 are DENIED. It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Michael M. Gibson, Chairman  
ADMINISTRATIVE JUDGE

Dr. Richard E. Wardwell  
ADMINISTRATIVE JUDGE

Brian K. Hajek  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
January 21, 2015

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<sup>68</sup> *Vogtle*, CLI-12-11, 75 NRC at 529 (quoting *Oyster Creek*, CLI-08-13, 67 NRC at 400, and *Shieldalloy*, CLI-10-8, 71 NRC at 154).

<sup>69</sup> *Vogtle*, CLI-12-11, 75 NRC at 529.

### Board Commentary on Staff Delay

As noted in the above Background statement, in October 2011 this Board brought to the Commission's attention by Memorandum the fact that, having initially estimated that the environmental review of the renewal would be completed by December 2009, the estimated completion date had just become August 2012 — a slippage of close to 3 years.<sup>70</sup> Given that the granted evidentiary hearing on Intervenor's claims of serious harm stemming from mine operations obviously had to await the issuance of the Staff's environment assessment, the Board was concerned that the extreme delay that had already occurred might be impinging upon Intervenor's statutory hearing rights.<sup>71</sup>

Although not sharing that concern, the Commission's response to the Board's Memorandum concluded with this specific direction to the Staff:

Looking ahead, and given the delays that already have taken place in this proceeding, we expect that "absent compelling circumstances, the Staff will accord sufficient priority and devote sufficient resources to meeting its current estimated safety and environmental review schedule."<sup>72</sup>

How did the Staff respond to this directive? Certainly not by making an apparent concerted effort to get the safety and environmental reviews completed by August 2012.

Rather, in sixteen subsequent monthly reports, the Staff announced further slippage in the estimated completion date of the review of the renewal application. And nothing in the explanation for the additional slippage, found in one report after another, suggested any real sense of urgency on the Staff's part in finishing the environmental review. In fact, it was not until October 2014 — over 2 years beyond the date by which the Commission "expected" review completion "absent compelling circumstances" — that the Staff informed the Board and parties that the final environmental review document had surfaced.<sup>73</sup> Ten days later, the mine's operating license was renewed.<sup>74</sup>

Given that time must be accorded the parties to respond with additional filings to the Staff's environmental determinations that undergirded license renewal, the evidentiary hearing now will not take place any earlier than this summer. That

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<sup>70</sup> LBP-11-30, 74 NRC 627, 630 (2011).

<sup>71</sup> *Id.* at 631.

<sup>72</sup> CLI-12-4, 75 NRC 154, 158 (2012) (quoting *Shieldalloy Metallurgical Corp.* (Decommissioning of the Newfield, New Jersey Site), CLI-09-1, 69 NRC 1, 5 (2009)).

<sup>73</sup> Environmental Assessment Availability Notification, Letter from Marcia Simon, NRC Staff Counsel, to Administrative Judges and Parties (Oct. 27, 2014).

<sup>74</sup> License Renewal Notification, Letter from Marcia Simon, NRC Staff Counsel, to Administrative Judges and Parties (Nov. 6, 2014).

will be a full 7 years after Intervenors filed their hearing requests challenging the license renewal application. Perhaps of even greater significance, over 6½ years will have elapsed since this Board ruled that Intervenors were entitled to evidentiary consideration of contentions alleging serious harm stemming from continued mine operation.

Still further, with an August 2015 evidentiary hearing,<sup>75</sup> and making allowance for the filing of post-hearing proposed findings of fact and conclusions of law, issuance of the Board's decision is not likely to occur before at least early 2016. Thus, the mine will have continued to operate 7½ years — perhaps even longer — before Intervenors have received an answer on their claims of harm that were put before this Board in July 2008.

Although the details contained in the foregoing recitation are beyond dispute, one might reasonably ask what useful purpose is served by recounting the history of this proceeding. After all, no part of the years of delay in reaching the merits of the controversy is now recoverable.

The answer lies in the Board's conviction that, irrespective of whether permissible under relevant statutory and regulatory provisions (an issue we need not address here), what has happened to date in this proceeding threatens the public perception of the integrity of the agency's adjudicatory process at substantial potential cost to the reputation of this agency. Can there be the slightest doubt how a disinterested observer of the passing scene would look upon a process that, after an independent adjudicatory board has granted a hearing request challenging the issuance of a particular license by the agency's regulatory Staff, permits the Staff both (1) to preclude for many years by its own inaction the conduct of the hearing and then (2) to issue the license before the hearing has taken place. Simply posing the question, we submit, provides the answer to it.

Atomic Safety and Licensing Boards are charged with the responsibility of conducting adjudicatory proceedings in a manner that leaves no room for questioning the integrity of those proceedings. That said, these boards are currently without the authority to prevent a repetition in some future proceeding of what has occurred here.

In the final analysis, when the evidentiary hearing takes place is largely controlled, not by the presiding tribunal, but by the Staff. This is because, as a practical matter, the hearing cannot take place until the Staff has completed its environmental review of the particular license application, a review that is not subject to board superintendence. The board can require the submission of periodic Staff status reports (as was done in this matter), but that is all.

We should not be understood as requesting the Commission now to empower

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<sup>75</sup> The week of August 24, 2015, was set for the evidentiary hearing after consultation with all parties. Tr. at 586-87.

its licensing boards to supervise the conduct of Staff environmental reviews. In our view at least, the boards are ill equipped to assume such an additional task, one that, in any event, seems inappropriate for assumption by a strictly adjudicatory tribunal. What we are suggesting is that, given what has transpired in this case, the Commission might see fit to make it clear to the Staff that future environmental reviews of other license applications, at least ones that likewise involve relatively minimal complexity, need to be conducted considerably more expeditiously. Such an expectation seems particularly compelling in circumstances where, as here, the possessor of an expired materials license is being allowed to continue activity under that license while the objections to its renewal are being adjudicated. It appears to the Board that the Staff attached no weight to that consideration when conducting the review of this license renewal application.

## APPENDIX

### Summary of Monthly Status Reports

<b>NRC Staff Status Report Due</b>	<b>Predicted Date of Issuance of the EA</b>	<b>Staff Explanation for Delay</b>	<b>Cumulative Delay</b>
January 2009	December 2009	—	—
June 2009	February 2010	Delays in receiving responses to Staff's requests for additional information	2 months
October 2009	May 2010	None	5 months
February 2010	June 2010	Necessity of having to reschedule public meetings	6 months
May 2010	July 2010	None	7 months
June 2010	November 2010	None	11 months
November 2010	December 2010	None	12 months
December 2010	April 2011	None	16 months
January 2011	June 2011	None	18 months
March 2011	August 2011	None	20 months
April 2011	December 2011	Need to consult with the Tribes to identify historic properties under section 106 of the National Historic Preservation Act.	24 months
October 2011	August 2012	Identification of historic properties taking significantly longer than previously anticipated. "Staff recently requested that the Applicant compile and proffer information regarding the identity and location of traditional cultural properties that could potentially be affected by the proposed project . . . Staff expects to receive the requested information from the Applicant by May 2012."	32 months

<b>NRC Staff Status Report Due</b>	<b>Predicted Date of Issuance of the EA</b>	<b>Staff Explanation for Delay</b>	<b>Cumulative Delay</b>
March 2012	August 2012	Noting a possibility of delay (up to 6 months) due to time potentially needed to accomplish National Historic Preservation Act section 106 duties.	32 months
April 2012	October 2012	Delays on the Safety Evaluation Report will in turn delay the environmental review document.	34 months
May 2012	November 2012	Delay in estimated issuance of Safety Evaluation Report results in delay of the environmental review document.	35 months
August 2012	December 2012	Delay in estimated issuance of Safety Evaluation Report results in delay of the environmental review document.	36 months
October 2012	March 2013	Delay associated with National Historic Preservation Act § 106 duties	39 months
February 2013	April 2013	Noting possibility of further delay due to the complicated nature of the National Historic Preservation Act § 106 consultation activities	40 months
April 2013	June 2013	Extra time needed to accomplish the National Historic Preservation Act § 106 consultation activities	42 months
June 2013	August 2013	Sufficient time needed for meaningful review and comment by the consulting parties regarding information obtained by the Staff in furtherance of its National Historic Preservation Act § 106 obligations	44 months



<b>NRC Staff Status Report Due</b>	<b>Predicted Date of Issuance of the EA</b>	<b>Staff Explanation for Delay</b>	<b>Cumulative Delay</b>
August 2013	October 2013	Sufficient time needed for meaningful review and comment by the consulting parties regarding information obtained by the Staff in furtherance of its National Historic Preservation Act § 106 obligations	46 months
September 2013	November 2013	Developing and promulgating relevant information for public consumption and comment taken longer than Staff initially anticipated	47 months
November 2013	December 2013	Variety of factors, including delay imposed by the partial government shutdown	48 months
December 2013	February 2014	Variety of complicating factors, including the finalization and documentation of the Staff's conclusions with respect to section 106 of the National Historic Preservation Act	50 months
January 2014	March 2014	Variety of factors, including the finalization and documentation of the Staff's conclusions with respect to section 106 of the National Historic Preservation Act	51 months
March 2014	April 2014	None	52 months
April 2014	May 2014	Request from State of Nebraska for additional time to review draft document	53 months
May 2014	June 2014	Continuing to revise	54 months
June 2014	August 2014	Continuing to revise	56 months
July 2014	September 2014	Continuing to revise	57 months
September 2014	October 2014	None	58 months

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**G. Paul Bollwerk, III, Chairman**  
**Dr. Craig M. White**

**In the Matter of**

**Docket No. 40-9091-MLA**  
**(ASLBP No. 12-915-01-MLA-BD01)**

**STRATA ENERGY, INC.**  
**(Ross In Situ Recovery Uranium**  
**Project)**

**January 23, 2015**

In this proceeding regarding the application of Strata Energy, Inc. (SEI), for a combined license to possess and use source and Atomic Energy Act (AEA) § 11e(2) byproduct materials pursuant to 10 C.F.R. Part 40 so as to authorize SEI to construct and operate a facility for the in situ recovery (ISR) of uranium at the Ross ISR Uranium Project (Ross Project) site in Crook County, Wyoming, in an Initial Decision the Licensing Board rules in favor of the Nuclear Regulatory Commission (NRC) Staff and SEI on the merits of Joint Intervenors' three admitted environmental contentions challenging the Staff's final supplemental environmental impact statement (FSEIS) analysis regarding proper characterization of baseline groundwater quality, the impacts of failing to restore groundwater to primary or secondary limits, and groundwater migration containment.

**RULES OF PRACTICE: EVIDENCE (WEBSITE AS EVIDENTIARY MATERIAL)**

The nonstatic nature of a website, as illustrated by a party's acknowledgment that its witness could modify the information input utilized to generate the web-

site information, precluded the Board, in the absence of a stand-alone compact disc/digital video disc (CD/DVD) that would allow the Board or the parties to run a “locked down” version of the website application, from allowing the website and the information it could generate from being considered as evidence. *See* Licensing Board Memorandum and Order (Responding to Motion for Clarification) (Sept. 19, 2014) at 1-5 (unpublished).

#### **NEPA: CEQ REGULATIONS**

The Council on Environmental Quality (CEQ) has implemented regulations that provide guidance on agency compliance with the National Environmental Policy Act (NEPA), *see* 40 C.F.R. Part 1500, that, while not binding on the NRC when the agency has not expressly adopted them, are entitled to considerable deference. *See Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 725, 743 (3d Cir. 1989).

#### **NEPA: ENVIRONMENTAL ANALYSIS (HARD LOOK); RULE OF REASON**

NEPA requires federal agencies to take a “hard look” at the environmental impacts of a proposed action, as well as reasonable alternatives to that action. *See Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87-88 (1998). This “hard look” is intended to “‘foster both informed agency decision-making and informed public participation’” so as to ensure that the agency does not act upon “‘incomplete information, only to regret its decision after it is too late to correct.’” *Id.* at 88 (quoting *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989)). This “hard look” is, however, subject to a “rule of reason” in that consideration of environmental impacts need not address “all theoretical possibilities,” but rather only those that have some “reasonable possibility” of occurring. *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-156, 6 AEC 831, 836 (1973).

#### **NEPA: SCOPE OF ENVIRONMENTAL ANALYSIS**

With regard to such reasonably foreseeable impacts, “NEPA . . . does not call for certainty or precision, but an *estimate* of anticipated (not unduly speculative) impacts.” *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-20, 62 NRC 523, 536 (2005). As a consequence, agencies are given broad discretion “to keep their inquiries within appropriate and manageable boundaries.” *Claiborne*, CLI-98-3, 47 NRC at 103. Therefore, in preparing an environmental impact statement (EIS), which “is not intended to be ‘a research

document,” *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-22, 72 NRC 202, 208 (2010) (quoting *Town of Winthrop v. Federal Aviation Administration*, 535 F.3d 1, 13 (1st Cir. 2008)), NEPA does not call upon the Staff to make an “examination of every conceivable aspect of federally licensed projects,” *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 349 (2002) (quoting *Claiborne*, CLI-98-3, 47 NRC at 102-03). Nor is there a “NEPA requirement to use the best scientific methodology, and NEPA [‘]“should be construed in the light of reason if it is not to demand”[‘] virtually infinite study and resources.” *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 315 (2010) (quoting *Natural Resources Defense Council, Inc. v. Hodel*, 865 F.2d 288, 294 (D.C. Cir. 1988) (quoting *Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972))) (footnotes omitted).

#### **NEPA: ADJUDICATORY RECORD (LICENSING BOARD FINDINGS SUPPLEMENT ENVIRONMENTAL IMPACT STATEMENT)**

“[I]n the context of an NRC adjudicatory proceeding, even if an EIS prepared by the Staff is found to be inadequate in certain respects, the Board’s findings, as well as the adjudicatory record, ‘become, in effect, part of the [final EIS].’ Thus, the Board’s ultimate NEPA judgments can be made on the basis of the entire adjudicatory record in addition to the Staff’s [final EIS].” *See Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613, 632 (2009) (quoting *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 53 (2001), and citing *Louisiana Energy Services, L.P.* (National Enrichment Facility), LBP-05-13, 61 NRC 385, 404 (2005), *aff’d*, CLI-06-22, 64 NRC 37 (2006), *petition for review denied sub nom. Nuclear Information & Resource Service v. NRC*, 509 F.3d 562 (D.C. Cir. 2007)), *petition for review denied*, CLI-10-5, 71 NRC 90 (2010).

#### **RULES OF PRACTICE: BURDEN OF PROOF (NEPA ISSUES)**

As the proponent of the agency action at issue, an applicant generally has the burden of proof in a licensing proceeding. *See* 10 C.F.R. § 2.325. The statutory obligation of complying with NEPA, however, rests with the NRC. *See, e.g., Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983). Consequently, when NEPA contentions are involved, the burden shifts to the Staff. *See Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), CLI-10-2, 71 NRC 27, 34 (2010); *see also Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), CLI-07-17, 65 NRC 392, 395 (2007) (stating “NRC hearings on NEPA issues focus entirely on

the adequacy of the Staff's work"). Nonetheless, because "the Staff, as a practical matter, relies heavily upon the Applicant's ER in preparing the EIS, should the Applicant become a proponent of a particular challenged position set forth in the EIS, the Applicant, as such a proponent, also has the burden on that matter." *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), LBP-96-25, 44 NRC 331, 339 (1996) (citing *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-471, 7 NRC 477, 489 n.8 (1978)), *rev'd on other grounds*, CLI-97-15, 46 NRC 294 (1997). And relative to factual matters, to carry that burden, the Staff and/or the applicant must establish that its position is supported by a preponderance of the evidence. *See Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-763, 19 NRC 571, 577 & n.22 (citing cases), *rev. declined*, CLI-84-14, 20 NRC 285 (1984).

#### **REGULATIONS: INTERPRETATION (10 C.F.R. PART 40, APP. A, CRITERIA 7, 7a)**

In light of the Commission's *Hydro Resources* decision, *Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), CLI-06-1, 63 NRC 1, 6 (2006), and the language of 10 C.F.R. Part 40, Appendix A, Criterion 7A, there is no legal basis for concluding that the Appendix A, Criterion 7 prelicensing monitoring program for the purpose of establishing existing characterization values for certain site groundwater constituents must be coextensive with the Criterion 7A preoperational monitoring, license condition-based program intended to provide the information needed for setting Appendix A, Criterion 5B groundwater protection standards and upper control limits (UCLs). At the same time, nothing in Appendix A, Criteria 5B, 7, or 7A precludes an inquiry, based on a well-pled contention, into whether the particular measures used in an applicant's prelicensing program were adequate to provide the necessary information to characterize properly the environmental impacts of employing an ISR mining process in the aquifers below a proposed site.

#### **NEPA: CONSIDERATION OF ALTERNATIVES**

Under the NEPA directive to provide a detailed statement of reasonable alternatives to a proposed action, *see* 42 U.S.C. § 4332(2)(C)(iii), an alternatives discussion need not include "every possible alternative, but every *reasonable* alternative." *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-91-2, 33 NRC 61, 71 (1991) (quoting *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985) (emphasis added)). Further, reasonable alternatives do not include alternatives that are "impractical[;] . . . that present unique problems; or that cause extraordinary costs." *Private Fuel Storage*,

*L.L.C.* (Independent Spent Fuel Storage Installation), LBP-03-30, 58 NRC 454, 479 (2003) (citing *Airport Neighbors Alliance v. United States*, 90 F.3d 426, 432 (10th Cir. 1996); *Communities, Inc. v. Busey*, 956 F.2d 619, 627 (6th Cir. 1992)). Nor is there a need to consider alternatives that are technologically unproven. See *Kelley v. Selin*, 42 F.3d 1501, 1521 (6th Cir. 1995); *Morton*, 458 F.2d at 837 (approving exclusion from alternatives discussion of alternative energy sources that “will be dependent on [future] environmental safeguards and [technological] developments”); *Busey*, 956 F.2d at 627 (upholding rejection of alternatives that “presented severe engineering requirements” or were “imprudent for reasons including their high cost, safety hazards, [and] operational difficulties”).

**REGULATIONS: INTERPRETATION (10 C.F.R. PART 40, APPENDIX A, CRITERION 5B(5))**

Three standards are accepted by the Commission as the bases for approval of an ISR operator’s groundwater restoration. The first returns the constituent to background levels. See 10 C.F.R. Part 40, App. A, Criterion 5B(5)(a). The second is restoration of constituent levels to the drinking water limits enumerated in Appendix A, Table 5C. *Id.* Criterion 5B(5)(b). The third is restoration to an alternate concentration limit (ACL), which is permitted only when restoration to a primary or the secondary Table 5C standard is not “practically achievable.” *Id.* Criteria 5B(5)(c), 5B(6).

**REGULATIONS: INTERPRETATION (10 C.F.R. PART 40, APPENDIX A, CRITERION 5B(6))**

To have an ACL approved, a licensee must demonstrate that the hazardous constituent value is “as low as reasonably achievable, after considering practicable corrective actions, and that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded.” 10 C.F.R. Part 40, App. A, Criterion 5B(6).

**RULES OF PRACTICE: EVIDENCE**

In the absence of some showing of substantial prior misdeeds, an applicant/licensee will be presumed to follow the agency’s regulatory requirements, including the directives in its license. See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-9, 53 NRC 232, 235 (2001) (stating that “the NRC does not presume that a licensee will violate agency regulations wherever the opportunity arises”) (citing *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 207 (2000) (declaring

the intervenor “also fails to offer documentary support for its argument that [the licensee] is likely to violate our safety regulations. Absent such support, this agency has declined to assume that licensees will contravene our regulations.”)).

**RULES OF PRACTICE: EVIDENCE**

A licensing board likewise is to assume that, in undertaking its role to assess whether an applicant/licensee adequately carries out a licensing directive, the Staff will be fair and judge the matter of an applicant/licensee’s compliance on the merits. *See Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-89-4, 29 NRC 62, 73 (1989) (citing *United States v. Chemical Foundation, Inc.*, 272 U.S. 1, 14-15 (1926)), *aff’d on other grounds*, ALAB-918, 29 NRC 473 (1989), *remanded on other grounds sub nom. Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir.), *appeal dismissed as moot*, ALAB-946, 33 NRC 245 (1991).

**TECHNICAL ISSUES DISCUSSED**

The following technical issues are discussed: Aquifer Sampling (Drilling Methods, Monitoring Well-Screening Intervals, Statistical Validity); Groundwater Fluid Migration (Excursion Detection, Historical Boreholes, Natural Attenuation, Preliminary Pump Test); Uranium ACL Bounding Analysis.

**TABLE OF CONTENTS**

ACRONYMS AND ABBREVIATIONS . . . . . 71

I. INTRODUCTION . . . . . 73

II. BACKGROUND . . . . . 74

    A. ISR Process . . . . . 74

        1. General Description . . . . . 74

        2. Sampling and Monitoring Wells . . . . . 75

    B. Contention Admission, Migration, and Summary Disposition . . . . . 77

    C. Evidentiary Hearing on EC 1, EC 2, and EC 3 . . . . . 78

III. APPLICABLE LEGAL STANDARDS . . . . . 81

    A. NEPA Requirements . . . . . 81

    B. 10 C.F.R. Part 51 Requirements Associated with Groundwater Information . . . . . 82

    C. Burden of Proof in NEPA Context . . . . . 84

IV. FINDINGS AND CONCLUSIONS .....	85
A. Contention EC 1 .....	85
1. Witnesses and Evidence Presented .....	85
2. Description of Baseline Groundwater Quality Monitoring Program at Ross Site .....	88
3. Scope of Regulatory Program Governing Groundwater Quality Monitoring for Purpose of Complying with NEPA .....	89
4. Joint Intervenor's Specific Technical Concerns About SEI's Preconstruction Monitoring Program .....	92
5. Board Conclusions Regarding EC 1 .....	111
B. Contention EC 2 .....	111
1. Witnesses and Evidence Presented .....	112
2. Legal Background for Contention 2 .....	113
3. FSEIS Discussion Relative to EC 2 .....	115
4. Issues Raised in EC 2 .....	118
5. Board Conclusions Regarding EC 2 .....	133
C. Contention EC 3 .....	133
1. Witnesses and Evidence Presented .....	134
2. FSEIS Discussion Relative to Contention EC 3 .....	136
3. Joint Intervenor's Issues Regarding Groundwater Fluid Migration .....	138
4. Board Conclusions Regarding EC 3 .....	153
V. SUMMARY FINDINGS AND CONCLUSIONS .....	153

#### **ACRONYMS AND ABBREVIATIONS**

ACL	Alternate Concentration Limit
AEA	Atomic Energy Act
AEC	Attenuation Environmental Company
ALARA	As Low As Reasonably Achievable
CAB	Commission-Approved Background
CBR	Crow Butte Resources, Inc.
CD	Compact Disc
CEO	Chief Executive Officer
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	<i>Code of Federal Regulations</i>



CPP	Central Processing Plant
CV	Curriculum Vitae
DM	Deep-Monitoring Zone or Unit
DSEIS	Draft Supplemental Environmental Impact Statement
DVD	Digital Video Disc
EC	Environmental Contention
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ER	Environmental Report
FSEIS	Final Supplemental Environmental Impact Statement
FSME	Office of Federal and State Materials and Environmental Management Programs
GEIS	Generic Environmental Impact Statement
ISR	In Situ Recovery
IX	Ion Exchange
JEC	Johnson Environmental Concepts
JTI	Joint Intervenors
LC	License Condition
MCL	Maximum Contaminant Level
NEPA	National Environmental Policy Act of 1969
NMSS	Office of Nuclear Material Safety and Safeguards
NRC	U.S. Nuclear Regulatory Commission
NRDC	Natural Resources Defense Council
OZ	Ore Zone
.pdf	Portable Document Format
PRBRC	Powder River Basin Resource Council
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
RES	Office of Nuclear Regulatory Research
SA	Surficial Aquifer

SEI	Strata Energy, Inc.
SM	Shallow-Monitoring
SPQ	Statement of Personal Qualifications
SRP	Standard Review Plan
TCEQ	Texas Commission on Environmental Quality
TDS	Total Dissolved Solids
TR	Technical Report
TWC	Texas Water Commission
UCL	Upper Control Limit
URL	Universal Resource Locator
USDW	Underground Source of Drinking Water
USGS	United States Geological Survey
WDEQ	Wyoming Department of Environmental Quality

## **INITIAL DECISION**

### **(Ruling on Joint Intervenors' Environmental Contentions 1-3)**

#### **I. INTRODUCTION**

1.1 On January 4, 2011, Strata Energy, Inc. (SEI), applied to the Nuclear Regulatory Commission (NRC) for a combined license to possess and use source and Atomic Energy Act (AEA) § 11e(2) byproduct materials pursuant to 10 C.F.R. Part 40 so as to authorize SEI to construct and operate a facility for the in situ recovery (ISR) of uranium at the Ross ISR Uranium Project (Ross Project) site in Crook County, Wyoming. This Initial Decision presents the Licensing Board's findings and conclusions relative to the three remaining admitted contentions in this proceeding, which were the subject of a September 30–October 1, 2014 evidentiary hearing. Those three National Environmental Policy Act (NEPA) environmental contentions (ECs), which were proffered by the Natural Resources Defense Council (NRDC) and the Powder River Basin Resource Council (PRBRC), hereinafter referred to as Joint Intervenors, were titled as follows:

[EC] 1: The [final supplement to the NRC's generic environmental impact statement on ISR projects (FSEIS)] fails to adequately characterize baseline (i.e., original or pre-mining) groundwater quality.

[EC] 2: The FSEIS fails to analyze the environmental impacts that will occur if the applicant cannot restore groundwater to primary or secondary limits.

[EC] 3: The FSEIS fails to include adequate hydrological information to demonstrate SEI's ability to contain groundwater fluid migration.

[Licensing Board] Notice of Hearing (Notice of Evidentiary Hearing and Opportunity to Provide Oral and Written Limited Appearance Statements), 79 Fed. Reg. 44,471, 44,471 (July 31, 2014).

1.2 For the reasons set forth below, in the face of Joint Intervenor's challenges to the FSEIS in EC 1, EC 2, and EC 3, the Board finds that the NRC Staff, in conjunction with SEI, has carried its burden of proof to demonstrate the adequacy of the FSEIS in accordance with 10 C.F.R. Part 51. The Board thus concludes that Joint Intervenor's three contentions cannot be sustained and enters a ruling on the merits of each contention in favor of the Staff and SEI.

## **II. BACKGROUND**

### **A. ISR Process**

#### **1. General Description**

2.1 As described in the Staff's FSEIS, the ISR process extracts uranium from layers of permeable uranium-bearing sandstone (also known as the ore zone (OZ) or ore body) that are hydrologically isolated between layers of shale that prevent the vertical migration of mining fluids beyond the OZ. An injection well is used to insert a lixiviant into an ore body. The lixiviant consists of native groundwater and chemicals, specifically an oxidant such as hydrogen peroxide or oxygen and a complexing agent such as sodium bicarbonate or carbon dioxide. As the lixiviant is pumped through the OZ, the chemicals in the lixiviant dissolve the uranium from the rock within the aquifer. Groundwater carrying the uranium-rich, or pregnant, lixiviant is then drawn out of the aquifer by pumping the lixiviant back to the surface via a recovery well. The pregnant lixiviant is then transferred to a central processing plant (CPP) where the uranium is extracted from the solution in columns that use an ion-exchange (IX) process by which the uranium is transferred to resin beads. The resulting barren solution is then recharged with complexing and oxidizing agents before being reinjected into the OZ to recover additional uranium. As for the uranium extracted from the lixiviant, it is eluted (i.e., washed) from the resin beads and precipitated into a solid material called yellowcake, which is packaged into NRC/United States Department of Transportation-approved 55-gallon steel drums and transported offsite by truck to an NRC-licensed uranium conversion facility. *See* Ex. SEI009A, at xix, 2-3, 2-9 (Office of Federal and State Materials and Environmental Management Programs (FSME), NRC, [Environmental Impact Statement (EIS)] for the Ross ISR Project in Crook County, Wyoming; Supplement to the Generic [EIS] for In-Situ Leach

Uranium Milling Facilities, Final Report, NUREG-1910 (Supp. 5 Feb. 2014)) [hereinafter FSEIS 9A].<sup>1</sup>

2.2 The Ross Project is to consist of fifteen to twenty-five specific groups of wells, or wellfield modules, that in total would encompass 1400 to 2200 injection and recovery wells. The wellfield modules are connected via piping to a central collection facility, referred to as a module building or header house, from which the pregnant lixiviant is transferred to the CPP and from which the lixiviant recharged in the CPP is reinjected into the OZ aquifer. A ring of monitoring wells would surround the perimeter of the wellfields tapping into the OZ aquifer as well as the overlying and underlying aquifers to provide warning if lixiviant is migrating outside the OZ. *See id.* at xix, 2-9.

## 2. *Sampling and Monitoring Wells*

2.3 In addition to the wells employed for production purposes described above, there are a number of other sampling and/or monitoring wells involved in the Ross Project licensing, operations, and restoration/decommissioning processes that are relevant to the issues before the Board. Although we will describe these in more detail below in our discussion of Joint Intervenors' contentions, the following provides an overview:

2.4 *Historical boreholes.* Within the Ross Project permit boundary, approximately 1500 boreholes exist that were constructed and abandoned prior to the commencement of SEI's exploration and site characterization studies for the Ross Project. Most of these historical boreholes were drilled in the 1970s in conjunction with ISR exploration, development, and site characterization efforts by the Nubeth Joint Venture (Nubeth). Analyses of groundwater collected by Nubeth in conjunction with its activities were included as part of the Ross site characterization study.<sup>2</sup> *See* FSEIS 9A, at 2-11, 2-26; *see also infra* section IV.C.3.a, 4.

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<sup>1</sup> *See infra* note 5 for an explanation of the exhibit numbering protocol used in this decision.

<sup>2</sup> In the course of the parties' dispute regarding, in particular, issue statement EC 1, there was some uncertainty about the labels to be applied to the activities associated with, and the data coming from, SEI's precensing groundwater monitoring associated with compliance with the dictates of 10 C.F.R. Part 40, Appendix A, Criterion 7, as contrasted to those SEI activities conducted to comply with the post-licensing dictates of Appendix A, Criteria 5B and 7A. The Staff has chosen to label those activities conducted under Criterion 7 prior to license issuance as "precensing, site characterization" and those conducted under Criteria 7A and 5B as "post-licensing, preoperational." *See* FEIS 9A, at 2-25. We have attempted to utilize this terminology as well.

Additionally, although the term "baseline" was initially utilized by the Staff to describe the data being sought both pre- and post-licensing for regulatorily significant constituent concentrations, *see*

(Continued)

2.5 *Monitoring and well clusters.* Six monitoring well clusters, each consisting of at least four wells, were constructed for SEI's site characterization study. At least one well in each cluster was completed in the OZ aquifer, one in the deep monitoring (DM) aquifer below the OZ horizon and one each in the shallow monitoring (SM) and surficial (SA) aquifers overlying the OZ horizon. Wells in the six clusters were used to perform pumping tests and for the collection of samples used to characterize the pre-licensing groundwater quality. *See* FSEIS 9A, at 2-25; *see also infra* sections IV.A.2, IV.C.3.b, 4.

2.6 *Wellfield production and injection wells.* A subset of the production and injection wells to be drilled within the boundaries of the ISR wellfield is to be used to sample groundwater from the OZ aquifer prior to the commencement of operations to establish hazardous constituent "Commission approved background" (CAB) concentrations pursuant to Criterion 5B(5)(a) of 10 C.F.R. Part 40, Appendix A. Wells used to establish these background values will be the same ones used to measure post-mining restoration success and stabilization. *See* FSEIS 9A, at 2-26; *see also infra* section IV.A.3.

2.7 *Perimeter monitoring wells.* As was noted above, perimeter monitoring wells will be constructed post-licensing but prior to the commencement of ISR operations and will be located about 400 feet from the edge of an ISL wellfield but inside the boundary of the exempted aquifer. Perimeter wells will be completed in the SM, OZ, and DM aquifers and samples collected from each aquifer prior to the commencement of ISL mining will be used to establish the groundwater protection upper control limits (UCLs) for detecting excursions of lixiviant after operations have begun. *See* FSEIS 9A, at 2-26; *see also infra* section IV.A.3.

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NRC Staff Response to Petition to Intervene and Request for Hearing by [Joint Intervenors] (Dec. 5, 2011) at 17 n.40 (both pre- and post-operational monitoring programs provide "baseline" data) [hereinafter Staff Intervention Response], in its FSEIS the Staff has seemingly eschewed that term, *see* FSEIS 9A, at 5-28 n.† (tbl. 5.4) (although values identified as "baseline" by Nubeth, "that term is not used" in FSEIS). The same is true for the term "background" as it is used to refer to groundwater monitoring. *Compare* Staff Intervention Response at 22 ("Criterion 5B(5) thus sets a primary standard of background concentration"), *with* FSEIS 9A, at B-22 (Criterion 5B(5)(a) "Commission approved background [in this SEIS, 'post-licensing, pre-operational'] concentrations"). *But see* NRC Staff's Initial Statement of Position (Aug. 25, 2014) at 16-17 (Applicant's prelicensing, site-characterization "baseline" water quality information used to describe existing ISR site groundwater conditions while post-licensing, preoperational background water quality information is gathered to generate "background" data before wellfield operations begin) [hereinafter Staff Initial Position Statement]. Nonetheless, given that the term "baseline" is used in Criterion 7 and the term "background" is used in Criterion 5B(5)(a), we have tried to use those descriptors when discussing circumstances involving those criteria. We have not, however, attempted to recharacterize the terms when they were used by the parties in their pleadings and testimony.

## **B. Contention Admission, Migration, and Summary Disposition**

2.8 On October 27, 2011, Joint Intervenors filed an intervention petition seeking to challenge SEI's Ross Project application and, in particular, certain aspects of its environmental report (ER). SEI and the Staff opposed the hearing request on the grounds that Joint Intervenors had failed to establish their standing to intervene and had not submitted an admissible contention. In a February 12, 2012 ruling, the Licensing Board concluded that Joint Intervenors both had standing and had submitted four admissible contentions: EC 1, EC 2, and EC 3, as well as EC 4/5A, which asserted that the ER failed to assess adequately the cumulative impacts of the proposed action and the purportedly planned Lance District expansion project, of which the Ross Project is one part. *See* LBP-12-3, 75 NRC 164, 210, *aff'd in part and review declined*, CLI-12-12, 75 NRC 603 (2012). The Commission subsequently affirmed the Board's standing ruling, but declined to accept review of SEI's challenges to the Board's admission of EC 1 and EC 2 because, as is required in 10 C.F.R. § 2.311(d)(1), SEI had failed to perfect its appeal by challenging the validity of the Board's admissibility rulings regarding EC 3 and EC 4/5A as well. *See* CLI-12-12, 75 NRC at 614.

2.9 With the Staff's March 2013 issuance of its Ross facility-related draft supplement to the agency's generic environmental impact statement on ISR projects (DSEIS), *see* Ex. SEI006A (FSME, NRC, [EIS] for the Ross ISR Project in Crook County, Wyoming; Supplement to the Generic [EIS] for In-Situ Leach Uranium Milling Facilities, Draft Report for Comment, NUREG-1910 (Supp. 5 Mar. 2013)) [hereinafter DSEIS 6A], Joint Intervenors filed a motion seeking to (1) "resubmit" their four pending environmental contentions in light of the Staff's DSEIS; and (2) admit an additional NEPA-related contention, EC 6, challenging the scope of the Staff's DSEIS as improperly segmenting the major federal project by not taking into account all planned activities in the larger Lance District. In a July 26, 2013 determination, the Board concluded that (1) new contention EC 6 was not admissible as having failed to meet both the contention admissibility standards of 10 C.F.R. § 2.309(f)(1) and the "good cause" provision of section 2.309(c)(1); (2) EC 4/5A was not eligible to "migrate" to a contention contesting the DSEIS and so, without a new/amended contention, would remain a challenge to the SEI ER; and (3) EC 1, EC 2, and EC 3 were qualified to migrate as challenges to the DSEIS. *See* LBP-13-10, 78 NRC 117, 151 (2013), *reconsideration and motion to admit amended EC 4/5A denied*, Licensing Board Memorandum and Order (Denying Motion for Reconsideration of LBP-13-10 Ruling Regarding Environmental Contention 4/5A or, Alternatively, to Admit Amended Contention) (Aug. 23, 2013) (unpublished).

2.10 The February 2014 issuance of the Staff's Ross facility-related FSEIS brought another request by Joint Intervenors to "migrate" their existing DSEIS- or ER-based contentions as challenges to the FSEIS, or to admit new/amended

contentions relative to those issue statements, as well as a request to admit another new contention, EC 7, challenging the scope of the Staff's FSEIS as improperly segmenting the major federal project by not taking into account all planned activities in the larger Lance District.<sup>3</sup> The Board again found that migration was appropriate for EC 1 and EC 3 and that EC 2 could move forward as an amended contention contesting the FSEIS, but that EC 4/5A could neither migrate nor be amended as challenging the FSEIS and that EC 7 was not admissible as a new contention. *See* Licensing Board Memorandum and Order (Ruling on Motion to Migrate/Amend Existing Contentions and Admit New Contentions Regarding Final Supplement to Generic Environmental Impact Statement) (May 23, 2014) at 19 (unpublished) [hereinafter FSEIS Order].

2.11 Under the proceeding's general schedule, the parties then had an opportunity to move for summary disposition regarding any of the four admitted contentions. *See* Licensing Board Memorandum and Order (Granting Requests to Revise Dispositive Motion Briefing Schedule; Revised General Schedule) (June 2, 2014) attach. A, at 2 (unpublished). By motions dated June 13, 2014, SEI and the Staff sought summary disposition of EC 4/5A while Joint Intervenor requested that summary disposition be entered in their favor regarding EC 1. In a July 25 ruling, the Board granted the SEI/Staff motions relative to EC 4/5A, but in a separate August 12 determination, the Board concluded that there were material facts in dispute regarding EC 1 so as to preclude the grant of summary disposition. *See* Licensing Board Memorandum and Order (Ruling on Summary Disposition Motion Regarding Environmental Contention 4/5A) (July 25, 2014) at 14-15 (unpublished); Licensing Board Memorandum and Order (Ruling on Summary Disposition Motion Regarding Environmental Contention 1) (Aug. 12, 2014) at 22-23 (unpublished).

### **C. Evidentiary Hearing on EC 1, EC 2, and EC 3**

2.12 Thereafter, in preparation for the 10 C.F.R. Part 2, Subpart L simplified evidentiary hearing on EC 1, EC 2, and EC 3, SEI, the Staff, and Joint Intervenor filed initial and rebuttal position statements and prefiled direct and rebuttal testimony and supporting exhibits on August 25 and September 12,

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<sup>3</sup>On April 25, 2014, the Staff notified the Board that, in addition to issuing the record of decision associated with its FSEIS, in accord with 10 C.F.R. § 2.1202(a), the SEI license had been issued, effective immediately. *See* Letter from Christopher C. Hair, NRC Staff Counsel, to Licensing Board (Apr. 25, 2014) at 1-2 & n.1; *see also* Ex. NRC009 (Andrew Persinko, FSME, NRC, [NRC] Record of Decision for the Ross Uranium [ISR] Project in Crook County, Wyoming (Apr. 24, 2014); Ex. SEI015 (NRC Materials License SUA-1601 (Apr. 24, 2014)) [hereinafter SEI License]. Although section 2.1213(a) afforded Joint Intervenor the opportunity to seek a stay of this Staff action, no such request was filed.

2014, respectively.<sup>4</sup> Relative to this prefiled evidentiary material, however, in a September 10 issuance the Board identified several items that needed clarification and found that one prefiled exhibit provided by Joint Intervenor in support of EC 2, JTI005,<sup>5</sup> would not be admissible because it consisted of a listing of four Internet universal resource locator (URL) citations that represented a web-based “storymap” application and the underlying database information.<sup>6</sup> To address the Board’s concerns, Joint Intervenor subsequently submitted revised versions of this prefiled exhibit, to which SEI responded with a motion in limine that the Board advised would be considered at an appropriate time during the evidentiary hearing.<sup>7</sup>

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<sup>4</sup> [SEI’s] Initial Statement of Position (Aug. 25, 2014) [hereinafter SEI Initial Position Statement]; [SEI] Notice of Errata for Initial Statement of Position (Sept. 5, 2014); Staff Initial Position Statement; [Joint Intervenor’s] Statement of Position Supporting [EC] 1, 2 and 3 (Aug. 25, 2014) [hereinafter Joint Intervenor Initial Position Statement]; SEI’s Rebuttal Statement of Position (Sept. 12, 2014) [hereinafter SEI Rebuttal Position Statement]; NRC Staff’s Rebuttal Statement of Position (Sept. 12, 2014); NRC Staff’s Rebuttal Statement of Position[-Revised] (Sept. 18, 2014); [Joint Intervenor’s] Response Statement in Support of [EC] 1, 2 and 3 (Sept. 12, 2014); [Joint Intervenor’s] Response Statement in Support of [EC] 1, 2 and 3-Revised (Sept. 16, 2014) [hereinafter Joint Intervenor Rebuttal Position Statement].

<sup>5</sup> As entered into the record and incorporated into the agency’s ADAMS-associated electronic hearing docket, the official exhibit number for each evidentiary item in this proceeding reflects a three-letter party identifier (i.e., SEI, NRC, JTI); followed by three numeric characters to reflect its number; an additional letter (e.g., A, B, etc.) that, if used, indicates it is one part of a multipart exhibit; another alpha character (i.e., -R) to indicate whether the exhibit was revised after its original submission as a prefiled exhibit (e.g., admitted exhibit JTI005-R would be a revised version of prefiled exhibit JTI005); followed by a two-character numeric identifier (i.e., 00) that identifies the exhibit as being used in a contested case (as opposed to a mandatory/uncontested proceeding (i.e., MA)); followed by the designation BD01, which indicates that this Licensing Board (i.e., BD01) was involved in its identification and/or admission. Accordingly, the official designation for this prefiled exhibit, as ultimately admitted, is JTI005A-R2-00-BD01, which reflects the fact, as is explained below, *see infra* note 53, that the prefiled version of this exhibit was refiled as a multipart exhibit, the “A” portion of which was twice amended by the time of its admission. For ease of reading, however, we will refer to all exhibits admitted in this proceeding without the final six characters that make up their official designation.

<sup>6</sup> The Board advised Joint Intervenor that to have the material from these websites incorporated into the record, Joint Intervenor needed to provide portable document format (.pdf) formatted screen shots of the appropriate pages from these sites. *See* Licensing Board Memorandum and Order (Clarifying Evidentiary Materials) (Sept. 10, 2014) at 1-3 (unpublished).

<sup>7</sup> In response to the Board’s September 10, 2014 order, on September 16 Joint Intervenor filed two new prefiled exhibits, JTI005A-R and JTI005B-R, providing storymaps generated via the use of the application websites and the database information underlying those storymaps, along with a motion asking for additional clarification regarding the Board’s directives concerning prefiled exhibit JTI005. This included a request that, notwithstanding Joint Intervenor’s efforts to submit .pdf screenshots of relevant portions of the information from the application websites, because of the interactive

(Continued)



2.13 Pursuant to the proceeding's general schedule, *see* Licensing Board Memorandum and Order (Ruling on Motion to Amend General Schedule; Revised General Schedule) (Aug. 7, 2014), App. A, at 2 (unpublished) [hereinafter General Schedule Order], on September 30–October 1, 2014, the Board held an evidentiary hearing regarding contentions EC 1, EC 2, and EC 3 in Gillette, Wyoming.<sup>8</sup> *See* Tr. at 260-794. After providing the parties with an opportunity to submit proposed joint transcript corrections, on October 28, 2014, the Board issued an order adopting transcript corrections and closing the evidentiary record. *See* Licensing Board Memorandum and Order (Adopting Transcript Corrections and Closing Evidentiary Record) (Oct. 28, 2014) at 1-2 (unpublished) [hereinafter Transcript Corrections Order].<sup>9</sup>

2.14 In accord with 10 C.F.R. § 2.1209 and this proceeding's general schedule, *see* General Schedule Order, App. A, at 2, on November 3, 2014, the parties

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nature of the application websites created by Joint Intervenors' expert witness supporting EC 2, the Board should, as it would with a chart or graph prepared by an expert witness, admit as exhibits the entirety of the storymap applications and the database of information upon which they are based. In a September 19 order, the Board declined to provide the requested relief. The Board instead stated again that the nonstatic nature of the websites, as illustrated by Joint Intervenors' acknowledgment that its EC 2 witness could modify the information input utilized to generate the storymaps, precluded the Board, in the absence of a stand-alone compact disc/digital video disc (CD/DVD) that would allow the Board or the parties to run a "locked down" version of the applications, from simply allowing the websites and the storymaps they could generate from being considered as evidentiary material. *See* Licensing Board Memorandum and Order (Responding to Motion for Clarification) (Sept. 19, 2014) at 1-5 (unpublished). The Board did indicate, however, that during the evidentiary hearing, if in response to a Board question it became necessary for Joint Intervenors' EC 2 witness to generate an additional storymap from the website applications, so long as the manner in which the storymap was generated was shown to the parties (which the display technology being employed by the Board for the hearing would permit) and the resulting storymap was rendered into a .pdf document and provided to the other parties and the Board as a marked exhibit, the Board would consider admitting the material into the evidentiary record. *See id.* at 5-6.

SEI responded with a September 23 in limine motion, which the Staff supported, asking that the Board preclude in toto the use of Joint Intervenors' storymap exhibits. In a September 24 issuance, the Board set a schedule for Staff and Joint Intervenor motion responses and indicated that the Board would entertain arguments during the evidentiary hearing regarding the admissibility of any storymap-related exhibits. *See* Licensing Board Memorandum and Order (Additional Prehearing Items) (Sept. 24, 2014) at 4 (unpublished); *see also infra* note 53.

<sup>8</sup> In addition, the Board conducted a 10 C.F.R. § 2.315(a) limited appearance session in Sundance, Wyoming, on September 28, 2014, *see* Tr. at 1-49 (Sept. 28, 2014), and Judges Bollwerk and White participated in site visits to the SEI Ross Project and the Uranerz Energy Corp. Nichols Ranch ISR facilities on September 29 and October 2, respectively.

<sup>9</sup> In citing to the evidentiary hearing transcript in this decision, we are referencing the transcript as modified by the transcript corrections adopted by the Board. *See* Transcript Corrections Order, App. A.

filed their proposed findings of fact and conclusions of law, and the parties' reply findings of fact and conclusions of law followed on November 17, 2014.<sup>10</sup>

### III. APPLICABLE LEGAL STANDARDS

3.1 The contentions at issue here — EC 1, EC 2, and EC 3 — arise under the National Environmental Policy Act of 1969 and the NRC regulations implementing the agency's responsibilities pursuant to the Act. *See* 42 U.S.C. § 4321 et seq.; 10 C.F.R. Part 51. Together, this statute and the corresponding agency regulations govern an applicant's and the Staff's roles in considering the environmental effects of a proposed agency ISR licensing action under 10 C.F.R. Part 40. Additionally, the Council on Environmental Quality (CEQ) has implemented regulations that provide guidance on agency compliance with NEPA, *see* 40 C.F.R. Part 1500, that, while not binding on the NRC when the agency has not expressly adopted them, are entitled to considerable deference. *See Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 725, 743 (3d Cir. 1989).

#### A. NEPA Requirements

3.2 NEPA requires federal agencies to take a "hard look" at the environmental impacts of a proposed action, as well as reasonable alternatives to that action. *See Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87-88 (1998). This "hard look" is intended to "'foster both informed agency decision-making and informed public participation'" so as to ensure that the agency does not act upon "'incomplete information, only to regret its decision after it is too late to correct.'" *Id.* at 88 (quoting *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989)). This "hard look" is, however, subject to a "rule of reason" in that consideration of environmental impacts need not address "all theoretical possibilities," but rather only those that have

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<sup>10</sup> *See* [SEI's] Proposed Findings of Fact and Conclusions of Law (Nov. 3, 2014) [hereinafter SEI Findings]; [SEI] Notice of Errata for Proposed Findings of Fact and Conclusions of Law (Nov. 12, 2014); NRC Staff's Proposed Findings of Fact and Conclusions of Law (Nov. 3, 2014) [hereinafter Staff Findings]; NRC Staff's Corrected Notice of Erratum to Proposed Findings of Fact and Conclusions of Law (Nov. 20, 2014); [Joint Intervenor's] Proposed Findings of Fact and Conclusions of Law for [EC] 1, 2, and 3 (Nov. 3, 2014) [hereinafter Joint Intervenor's Findings]; [SEI's] Reply to NRC Staff's and Joint Intervenor's Proposed Findings of Fact and Conclusions of Law (Nov. 17, 2014) [hereinafter SEI Reply Findings]; NRC Staff's Reply Proposed Findings of Fact and Conclusions of Law (Nov. 17, 2014) [hereinafter Staff Reply Findings]; [Joint Intervenor's] Responses to NRC Staff's and SEI's Proposed Reply Findings of Fact and Conclusions of Law for [EC] 1, 2, and 3 (Nov. 17, 2014) [hereinafter Joint Intervenor's Reply Findings].

some “reasonable possibility” of occurring. *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-156, 6 AEC 831, 836 (1973).

3.3 With regard to such reasonably foreseeable impacts, “NEPA . . . does not call for certainty or precision, but an *estimate* of anticipated (not unduly speculative) impacts.” *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-20, 62 NRC 523, 536 (2005). As a consequence, agencies are given broad discretion “to keep their inquiries within appropriate and manageable boundaries.” *Claiborne*, CLI-98-3, 47 NRC at 103. Therefore, in preparing an EIS, which “is not intended to be ‘a research document,’” *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-22, 72 NRC 202, 208 (2010) (quoting *Town of Winthrop v. Federal Aviation Administration*, 535 F.3d 1, 13 (1st Cir. 2008)), NEPA does not call upon the Staff to make an “‘examination of every conceivable aspect of federally licensed projects,’” *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 349 (2002) (quoting *Claiborne*, CLI-98-3, 47 NRC at 102-03). Nor is there a “NEPA requirement to use the best scientific methodology, and NEPA [‘]” “should be construed in the light of reason if it is not to demand” [‘]” “virtually infinite study and resources.” *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 315 (2010) (quoting *Natural Resources Defense Council, Inc. v. Hodel*, 865 F.2d 288, 294 (D.C. Cir. 1988) (quoting *Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972))) (footnotes omitted).

3.4 Finally, “in the context of an NRC adjudicatory proceeding, even if an [EIS] prepared by the Staff is found to be inadequate in certain respects, the Board’s findings, as well as the adjudicatory record, ‘become, in effect, part of the [final EIS].’ Thus, the Board’s ultimate NEPA judgments can be made on the basis of the entire adjudicatory record in addition to the Staff’s [final EIS].” See *Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613, 632 (2009) (quoting *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 53 (2001), and citing *Louisiana Energy Services, L.P.* (National Enrichment Facility), LBP-05-13, 61 NRC 385, 404 (2005), *aff’d*, CLI-06-22, 64 NRC 37 (2006), *petition for review denied sub nom. Nuclear Information & Resource Service v. NRC*, 509 F.3d 562 (D.C. Cir. 2007)), *petition for review denied*, CLI-10-5, 71 NRC 90 (2010).

## **B. 10 C.F.R. Part 51 Requirements Associated with Groundwater Information**

3.5 Under the NRC’s Part 51 regulations governing the agency’s implementation of NEPA, an applicant for a license to possess and use source and AEA § 11e(2) byproduct material for the purpose of in situ uranium recovery must submit an ER with its application. See 10 C.F.R. §§ 40.31(f), 51.60(b);

*see also* Office of Nuclear Regulatory Research (RES), NRC Regulatory Guide 3.46 (Task FP 818-4), Standard Format and Content of License Applications, Including Environmental Reports, for In Situ Uranium Solution Mining at vi (June 1982) (ADAMS Accession No. ML003739441) [hereinafter Reg. Guide 3.46].<sup>11</sup> More specifically, the ER must “contain a description of the proposed action, a statement of its purposes, [and] a description of the environment affected,” 10 C.F.R. § 51.45(b), and it must discuss:

- (1) The impact[s] of the proposed action on the environment . . . in proportion to their significance;
- (2) Any adverse environmental effects which cannot be avoided should the proposal be implemented;
- (3) Alternatives to the proposed action . . . ;
- (4) The relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity; and
- (5) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

*Id.* § 51.45(b)(1)-(5). Relative to groundwater, the applicant’s ER is to provide information that will inform the Staff’s NEPA analysis of, among other things, environmental effects of the proposed action, and alternatives to the proposed action, including alternatives available to reduce or avoid adverse environmental effects. *See* Reg. Guide 3.46, at 3.46-7, 3.46-9, 3.46-17 to -20, 3.46-28.

3.6 The agency’s NEPA regulations also require that the Staff prepare an EIS in connection with a license to possess and use source and AEA § 11e(2) byproduct material for the purpose of in situ uranium recovery. *See* 10 C.F.R. § 51.20(b)(8); *see also* FSEIS 9A, at iii. In the case of ISR projects, in May 2009, the agency issued NUREG-1910, a generic EIS for ISR uranium recovery facilities that assesses potential ISR facility construction/operation/decommissioning impacts in four specific western United States regions, including the Nebraska-South Dakota-Wyoming region in which the Ross Project is located, and so provides a starting point for the agency’s NEPA analyses for site-specific license applications for new ISR facilities. *See* FSEIS 9A, at iii. For the initial licensing of each individual ISR facility, however, the Staff will first prepare a DSEIS, *see* 10 C.F.R. § 51.70, *see also* Ex. NRC007, at 1-29 (1 FSME, NRC, and Land Quality Division, Wyoming Department of Environmental Quality (WDEQ), NUREG-1910, Generic Environmental Impact Statement (GEIS) for In-Situ Leach Uranium Milling Facilities (May 2009)) [hereinafter GEIS], which addresses, among other topics, “the matters specified in [section] 51.45,” 10

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<sup>11</sup> The Licensing Board takes official notice of this NRC regulatory document in accord with 10 C.F.R. § 2.337(f).

C.F.R. § 51.71(a). Although a DSEIS may rely in part on the ER, the regulations require the Staff to “independently evaluate and be responsible for the reliability of all information used in the [DSEIS].” *Id.* § 51.70(b). The DSEIS is then distributed for public comment and, based on the comments received, a review of information provided by the applicant, and supplemental independent information and analysis, the Staff prepares and issues an FSEIS. *See id.* §§ 51.73, 51.91; *see also* GEIS at 1-29 to -30.

3.7 Relative to an individual ISR facility, when the Staff formulates its DSEIS and FSEIS conclusions regarding the environmental impacts of a proposed action or alternative actions, the Staff uses as guidance a standard scheme to categorize or quantify the impacts. *See, e.g.*, 10 C.F.R. Part 51, App. B, tbl. B-1 n.3. This standard was created using the approach outlined in CEQ regulations indicating that agencies should consider both the context and intensity of impacts. *See* Ex. NRC013, at 4-14 (Office of Nuclear Material Safety and Safeguards (NMSS), NRC, NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs (Aug. 2003)) (citing 1 RES, NRC, NUREG-1437, [GEIS] for License Renewal of Nuclear Plants at 1-4 to -5 (May 1996) (citing 40 C.F.R. § 1508.27)) [hereinafter NUREG-1748]. This standard employs three levels of impacts — SMALL, MODERATE, and LARGE — that are defined as follows:

SMALL — Environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource.

MODERATE — Environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.

LARGE — Environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

*See* FSEIS 9A, at xx-xxi.<sup>12</sup>

### **C. Burden of Proof in NEPA Context**

3.8 As the proponent of the agency action at issue, an applicant generally has the burden of proof in a licensing proceeding. *See* 10 C.F.R. § 2.325. The statutory obligation of complying with NEPA, however, rests with the NRC. *See, e.g., Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983). Consequently, when NEPA contentions are involved, the burden shifts to the Staff. *See Progress Energy Florida, Inc.* (Levy County Nuclear

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<sup>12</sup> In describing and analyzing Staff environmental impact findings in this decision, we follow the agency’s regulatory protocol of denoting these terms in CAPITAL letters.

Power Plant, Units 1 and 2), CLI-10-2, 71 NRC 27, 34 (2010); *see also Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), CLI-07-17, 65 NRC 392, 395 (2007) (stating “NRC hearings on NEPA issues focus entirely on the adequacy of the Staff’s work”). Nonetheless, because “the Staff, as a practical matter, relies heavily upon the Applicant’s ER in preparing the EIS, should the Applicant become a proponent of a particular challenged position set forth in the EIS, the Applicant, as such a proponent, also has the burden on that matter.” *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), LBP-96-25, 44 NRC 331, 339 (1996) (citing *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-471, 7 NRC 477, 489 n.8 (1978)), *rev’d on other grounds*, CLI-97-15, 46 NRC 294 (1997). And relative to factual matters, to carry that burden, the Staff and/or the applicant must establish that its position is supported by a preponderance of the evidence. *See Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-763, 19 NRC 571, 577 & n.22 (citing cases), *rev. declined*, CLI-84-14, 20 NRC 285 (1984).

## IV. FINDINGS AND CONCLUSIONS

### A. Contention EC 1

4.1 As set forth by the Board in its May 2014 order recognizing the migration of EC 1 as an FSEIS-related contention, that issue statement provides:

[EC] 1: The FSEIS fails to adequately characterize baseline (i.e., original or pre-mining) groundwater quality.

CONTENTION: The FSEIS fails to comply with 10 C.F.R. §§ 51.90-94, 10 C.F.R. Part 40, Appendix A, and NEPA because it lacks an adequate description of the present baseline (i.e., original or pre-mining) groundwater quality and fails to demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies. The FSEIS’s departure from NRC guidance serves as additional evidence of these regulatory violations. NRC, NUREG-1569, Standard Review Plan [(SRP)] for In Situ Leach Uranium Extraction License Applications, §§ 2.7.1, 2.7.3, 2.7.4 (2003).

FSEIS Order, App. A, at 1.

#### 1. Witnesses and Evidence Presented

4.2 SEI, the Staff, and Joint Intervenors presented a total of eight witnesses in connection with EC 1 during the September 30–October 1 evidentiary hearing in support of their respective positions on the adequacy of the FSEIS as it addresses the baseline groundwater quality at the Ross ISR Project site. Those witnesses

presented written direct and rebuttal testimony, with supporting exhibits, and gave oral testimony at the evidentiary hearing.<sup>13</sup>

*a. SEI*

4.3 SEI presented four witnesses in support of its position on EC 1 at the evidentiary hearing: Ralph Knode, Hal Demuth, Errol Lawrence, and Ben Schiffer. *See* Tr. at 298-369, 437-76.

4.4 Ralph Knode, SEI Chief Executive Officer (CEO), holds a Bachelor of Arts degree in geology from Amherst College. He has previously held ISR mine construction or operations positions with Uranium One, Inc., Joint Venture Inkai, Power Resources, Inc., Crow Butte Resources, Inc. (CBR), and Uranerz Exploration and Mining. At SEI, Mr. Knode oversees all licensing actions as well as the design, engineering, and construction of the wellfields and the ore recovery facilities; financial planning and budgetary matters; land and mineral acquisition; the development and implementation of health and safety programs; and interaction with landowners and other stakeholders. *See* Knode Initial Testimony at 3-4; Ex. SEI002, at 1-3 (Ralph Knode Curriculum Vitae (CV)).

4.5 Ben Schiffer holds a Bachelor of Arts degree in geology from Whitman College and is a licensed professional geologist in the State of Wyoming. Currently, as a senior geologist and project manager at WWC Engineering, he is the coordinator for the team responsible for SEI's ISR permit application with responsibility for all permitting activities, including well installation and instrumentation, aquifer testing, groundwater modeling and geologic characterization. Also, he has served as a geologist/hydrogeologist at EDE Consultants, a geologist at Cogema Mining, Inc., and a field technician with KECK Geologic Consortium. *See* Schiffer Initial Testimony at 4; Ex. SEI006, at 1 (Ben Schiffer CV).

4.6 Hal Demuth graduated from the University of Tulsa with a Bachelor of Science degree in petroleum engineering and from the University of Idaho with

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<sup>13</sup> *See* Tr. at 260-476; Ex. SEI001, at 4-9 (Initial Written Testimony of Ralph Knode) [hereinafter Knode Initial Testimony]; Ex. SEI047, at 3-5 (Rebuttal Testimony of Ralph Knode) [hereinafter Knode Rebuttal Testimony]; Ex. SEI005, at 4-22 (Initial Written Testimony of Ben Schiffer) [hereinafter Schiffer Initial Testimony]; Ex. SEI045, at 3-17 (Rebuttal Testimony of Ben Schiffer) [hereinafter Schiffer Rebuttal Testimony]; Ex. SEI0026, at 8-13 (Initial Written Testimony of Hal Demuth and Errol Lawrence) [hereinafter Demuth/Lawrence Initial Testimony]; Ex. SEI046, at 3-6 (Rebuttal Testimony of Hal Demuth and Errol Lawrence) [hereinafter Demuth/Lawrence Rebuttal Testimony]; Ex. NRC001, at 3-27 (NRC Staff's Initial Testimony) [hereinafter Staff Initial Testimony]; Ex. NRC044-R2, at 3-16 (NRC Staff's Rebuttal Testimony) [hereinafter Staff Rebuttal Testimony]; Ex. JTI001-R, at 6-40 (Pre-Filed Direct Testimony of Dr. Richard Abitz Supporting Joint Intervenors' Contentions 1 and 3) [hereinafter Abitz Initial Testimony]; Ex. JTI051-R, at 2-16 (Pre-Filed Rebuttal Testimony of Dr. Richard Abitz Supporting Joint Intervenors' Contentions 1 and 3) [hereinafter Abitz Rebuttal Testimony].

a Master of Science degree in hydrogeology. He is a senior engineer/hydrologist and principal of Petrotek Engineering Corp. At the Ross Project, he has overseen preparation of the permit application for the deep disposal wells as well as provided peer review of the hydrogeologic sections of the license application. Mr. Demuth was employed previously as a senior engineer/hydrologist at Harlan & Associates, Inc.; as a research assistant at the University of Idaho; and as a drilling/reservoir engineer at Tenneco Exploration & Production, Inc. *See* Demuth/Lawrence Initial Testimony at 3-4; Ex. SEI027, at 1 (Hal Demuth CV).

4.7 Errol Lawrence, who has a Bachelor of Science degree in geology from Northern Arizona University and a Master of Science degree in engineering geology from the Colorado School of Mines, is a senior hydrogeologist/permitting specialist employed by Petrotek Engineering Corp. Mr. Lawrence has been employed at HydroSolutions as a hydrogeologic consultant; by Geraghty & Miller, Inc., as a project scientist; by the United States Geological Survey as a geologist; by Pogo Producing Company as an exploration geologist; and by Dresser Atlas as a wireline engineer. A registered professional geologist in Wyoming and Texas, Mr. Lawrence participated in the detailed review of the groundwater model for the Ross Project. *See* Demuth/Lawrence Initial Testimony at 3-4; Ex. SEI028, at 1 (Errol Lawrence CV).

*b. NRC Staff*

4.8 At the hearing, evidence regarding Staff's position relative to EC 1 was presented by three witnesses: Johari Moore, John Saxton, and Dr. Kathryn Johnson. *See* Tr. at 371-99, 437-76.

4.9 Johari Moore has a Bachelor of Science degree in physics from Florida A&M University and a Master of Science degree in nuclear engineering and radiological sciences from the University of Michigan. Ms. Moore was the lead environmental review project manager for the Ross Project in FSME's Division of Waste Management and Environmental Protection, Environmental Review Branch. *See* Staff Initial Testimony at 1; Ex. NRC002, at 1 (Johari Aziza Moore Statement of Professional Qualifications (SPQ)).

4.10 John Saxton, who holds a Bachelor of Science degree in geological engineering from the Colorado School of Mines and a Master of Science degree in geology from the University of New Mexico and is a licensed environmental professional in Connecticut, is a hydrogeologist with the FSME Uranium Recovery Licensing Branch, State and Materials and Environmental Management Programs. He was the project manager and technical reviewer in the area of hydrogeology for Staff's safety review of the Ross Project license application. *See* Staff Initial Testimony at 1-2; Ex. NRC003, at 1-2 (John L. Saxton SPQ).

4.11 Dr. Kathryn Johnson was awarded a Bachelor of Science degree in chemistry and mathematics from Black Hills State, a Master of Science degree



in chemistry from Iowa State University, and a Ph.D. in geology from the South Dakota School of Mines and Technology. A geochemist employed by Attenuation Environmental Company (AEC) and the owner/principal of Johnson Environmental Concepts (JEC), Dr. Johnson served as the subject matter expert regarding water quality and as the principal editor of all sections on geology, soils, and hydrology for the Ross Project DSEIS and FSEIS. *See* Staff Initial Testimony at 2; Ex. NRC004, at 1-2 (Kathryn O. Johnson CV).

*c. Joint Intervenors*

4.12 Dr. Richard Abitz testified on behalf of Joint Intervenors at the hearing regarding EC 1. *See* Tr. at 404-36, 437-76.

4.13 Dr. Richard Abitz holds a Bachelor of Arts degree in geology from Humboldt State University and Master of Science and Ph.D. degrees in geology from the University of New Mexico. As the principal geochemist and owner of Geochemical Consulting Services, LLC, Dr. Abitz provides analysis of chemical and radiological data, modeling of soil and water systems, and risk assessments relative to projects involving hazardous and radiological materials. Dr. Abitz previously has been retained by Native American tribes and environmental organizations to provide consultation and expert testimony associated with the Church Rock, Crown Point, and Crow Butte ISR facilities, among others. *See* Abitz Initial Testimony at 1; Ex. JTI002, at 1 (Richard J. Abitz SPQ).

*d. Finding Regarding Witness Qualifications*

4.14 Based on the foregoing, and the respective background and experience of the proffered witnesses, the Board finds that each of these individuals is qualified to testify relative to the subject of the adequacy of the FSEIS discussion on the baseline groundwater quality at the Ross Project site.

**2. Description of Baseline Groundwater Quality Monitoring Program at Ross Site**

4.15 In accord with 10 C.F.R. § 51.45(b) and the associated Staff SRP guidance in NUREG-1569 regarding site hydrology, an applicant for a uranium ISR license is required to provide data from a groundwater monitoring program that are sufficient to establish a prelicensing site characterization baseline for assessing the potential effects of facility operations on local groundwater quality. *See* Ex. SEI007, at 2-20 to -26 (NMSS, NRC, [SRP] for In Situ Leach Uranium Extraction License Applications, NUREG-1569 (June 2003)) [hereinafter NUREG-1569]. In this instance, to help provide that baseline, SEI established a prelicensing

groundwater monitoring program that consists of six monitoring well clusters located across the Ross Project area. *See* FSEIS 9A, at 3-37; Ex. SEI016A, at 3-101 (1 SEI, Ross ISR Project USNRC License Application, Crook County, Wyoming, Environmental Report (Dec. 2010)) [hereinafter ER 16A]. The six well clusters each consisted of at least four wells, with each well completed in a separate, consistent stratigraphic horizon (i.e., rock layer) intended to provide a portion of the data necessary for hydrogeologic characterization of the proposed Ross Project area. The monitored horizons/zones consisted of (beginning with the deepest) (1) the first water-bearing sandstone layer underlying the uranium ore-bearing sands, operationally termed the deep monitoring or DM unit; (2) the uranium ore-bearing sandstone, operationally termed the ore zone or OZ unit, which is separated from the DM unit by a 10- to 50-foot-thick shale layer; (3) the first water-bearing sandstone layer overlying the OZ, operationally termed the shallow monitoring or SM unit, which is separated from the OZ by a 20- to 80-foot-thick confining shale horizon; and (4) the surficial aquifer, operationally termed the SA unit, which is separated from the SM by a sequence of thin sands, shales, and silts. *See* FSEIS 9A, at 3-31 to -37; ER 16A, at 3-101. The data generated by this monitoring program, along with data from existing water supply wells and from wells used during the Nubeth research and development (R&D) operation on the Ross Project site,<sup>14</sup> were the basis for the SEI baseline site characterization effort. *See* FSEIS 9A, at 3-38.

### ***3. Scope of Regulatory Program Governing Groundwater Quality Monitoring for Purpose of Complying with NEPA***

4.16 Criterion 7 of 10 C.F.R. Part 40, Appendix A, requires that an applicant establish a precicensing monitoring program that is used to provide “complete baseline data” on the ISR site and its environs.<sup>15</sup> For the Ross Project, as

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<sup>14</sup> Having received permission from the WDEQ and the NRC in 1976 and 1978, respectively, Nubeth constructed and operated an R&D operation located within what is now the Ross Project area. The operation consisted of a single “five-spot” well pattern, consisting of four injection wells and one recovery well, and a small facility with an IX column/elution/precipitation circuit capable of producing yellowcake slurry. “Buffer” wells, designed to keep the lixiviant within the well pattern, were meant to form a hydraulic control barrier. Nubeth operated between August 1978 and April 1979, recovering small amounts of uranium stored in solution, but was shut down prematurely because of injection rate limitations that caused a buildup of fine material and organic matter in the wellfield. After recovery testing, restoration activities regarding the “five-spot” were completed in February 1983, with Nubeth receiving WDEQ restoration approval in April 1983 and with the WDEQ and NRC decommissioning approval processes completed by 1986. *See* FSEIS 9A, at 2-11.

<sup>15</sup> Although the Part 40, Appendix A criteria were developed for conventional uranium milling facilities, they have since been applied in limited fashion to ISR facilities. *See Hydro Resources, Inc.* (Continued)

described in Board Finding 4.15, above, these are the data from the six monitoring well clusters, in conjunction with the existing water supply well and historic Nubeth well data. In addition, to establish the existing hazardous constituent concentrations in the OZ aquifer, which can be used subsequently to set 10 C.F.R. Part 40, Appendix A, Criterion 5B(5) CABs for aquifer restoration performance assessment and Criterion 7A UCLs for excursion detection, in condition 11.3 to the SEI license the Staff has specified the criteria governing a post-licensing preoperational well monitoring and analysis program to establish background water quality data for the OZ, DM, and SM aquifers. *See* FSEIS 9A, at 6-9 to -10. This would include data from wells placed into the OZ and perimeter monitoring wells around each wellfield per SEI license condition (LC) 11.3, and could include data from the wells used to collect the prelicensing site-characterization data. *See id.* at 6-10; *see also* SEI License at 12-13.

4.17 At the crux of this contention is the issue whether, to comply with NEPA's requirement to make an adequate prelicensing assessment of environmental impacts, more extensive monitoring of the type (albeit perhaps different from or beyond that) found in the post-licensing, preoperational system specified in LC 11.3 is required as a part of the SEI Appendix A, Criterion 7 prelicensing site characterization monitoring program to provide "complete baseline data."<sup>16</sup>

4.18 In responding to this issue, the Staff contends that the baseline groundwater information that an applicant is required to provide prelicensing to comply with Criterion 7 is not the information that a licensee is required to provide after licensing, but before wellfield operation, to help establish UCLs for excursion monitoring and the Criterion 5B(5) CABs for restoration performance assessment.

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(2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 8-9 (1999) ("While, as a general matter, Part 40 applies to [ISR] mining, some of the specific requirements in Part 40, such as many of those found in Appendix A, address hazards posed only by conventional uranium milling operations, and do not carry over to [ISR] mining.") (footnote omitted). The issues in this proceeding arguably make a strong case for a redraft of that appendix to address specifically ISR mining facilities, which involve a very different process. *See infra* note 21 (recent Staff draft SRP addresses separately uranium milling and heap leach facilities).

<sup>16</sup> The Staff described the SEI prelicense baseline data collection in section 6.3 of the FSEIS as follows:

Pre-licensing, site-characterization monitoring of surface water and ground water was completed by the Applicant in 2009, 2010, and 2011. The Applicant also provided supplemental environmental-monitoring data in 2012. The acquired data were then used to characterize the Ross Project area according to the requirements in 10 CFR Part 40, Appendix A, Criterion 7.

FSEIS 9A, at 6-9 (citations omitted). The Staff also explained that it followed guidance in section 2.7 of the NUREG-1569 standard review plan, Staff Regulatory Guide 4.14, and WDEQ guidelines. *See* Staff Initial Testimony at 8 (Johnson, Moore, Saxton); Staff Rebuttal Testimony at 3-6 (Saxton). The data from the monitoring well network and the other supply wells are provided in FSEIS appendix C, characterized in FSEIS § 3.5.3.3, and compared to the WDEQ's and EPA's water-quality standards for constituents in table 3.8 of the FSEIS. *See* Staff Initial Testimony at 7 (Johnson, Moore, Saxton).

See Staff Initial Position Statement at 16-17. In addition to citing section 2.7 of its NUREG-1569 standard review plan guidance and Regulatory Guide 4.14 as support for this proposition, *see id.* at 13, the Staff placed significant reliance on the Commission's decision in *Hydro Resources, Inc.*, *see id.* at 18-19, in which the Commission stated:

Waiting until after licensing (although before mining operations begin) to establish definitively the groundwater quality baselines and upper control limits is . . . "consistent with industry practice and NRC methodology," given the sequential development of *in situ* leach well fields. The site-specific data to confirm proper baseline quality values, and confirm whether existing rock units provide adequate confinement cannot be collected until an *in situ* leach well field has been installed . . . .

*Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), CLI-06-1, 63 NRC 1, 6 (2006) (footnote omitted). Also of import, the Staff asserts, is that by its terms Appendix A, Criterion 7A, which mandates that (1) a "licensee shall establish a detection monitoring program needed for the Commission to set the site-specific groundwater protection standards in paragraph 5B(1) of this appendix"; and (2) the detection monitoring program "must be in place when specified by the Commission in . . . license conditions," directly connects the Criterion 5B(5) monitoring program to the license condition-based program required by Criterion 7A. *See* Staff Findings at 18-19. Further, SEI argued that the so-called 10 C.F.R. § 40.32(e) "construction rule" bars an ISR license applicant from installing a complete wellfield and associated monitor well networks, such as that required under SEI's LC 11.3, until after a license is issued. *See* SEI Initial Position Statement at 17. Ultimately, however, both the Staff and SEI agree that under Criterion 5B(5), "Commission-approved background" cannot be established until after an ISR license has been issued, and thus the Staff did not err in making its NEPA impacts assessment based on the prelicensing baseline water quality information provided by SEI. *See* Staff Findings at 16; SEI Reply Findings at 4-5.

4.19 In light of the Commission's *Hydro Resources* decision and the language of Appendix A, Criterion 7A, we are unable to discern a legal basis for concluding that the Appendix A, Criterion 7 prelicensing monitoring program for the purpose of establishing existing characterization values for certain site groundwater constituents must be coextensive with the Criterion 7A preoperational monitoring, license condition-based program intended to provide the information needed for setting Appendix A, Criterion 5B groundwater protection

standards and UCLs.<sup>17</sup> At the same time, nothing in Appendix A, Criteria 5B, 7, or 7A precludes an inquiry, based on a well-pled contention, into whether the particular measures used in an applicant's precicensing program were adequate to provide the necessary information to characterize properly the environmental impacts of employing an ISR mining process in the aquifers below a proposed site. As a consequence, we turn to Joint Intervenor's specific concerns about the precicensing monitoring program employed by SEI and used by the Staff in preparing the FSEIS to determine whether the Staff's NEPA impact analysis is deficient because inadequate sampling protocols (and the resulting inadequate information) were used and/or additional monitoring information was required.

#### **4. *Joint Intervenor's Specific Technical Concerns about SEI's Preconstruction Monitoring Program***

4.20 Joint Intervenor posed a number of technical issues that they asserted are implicated by their EC 1 claim regarding the adequacy of the FSEIS discussion of baseline water quality. *See* Joint Intervenor Findings at 21-34. Citing sampling methods recommended in the 2009 United States Environmental Protection Agency (EPA) Unified Guidance for establishing baseline at sites subject to the Resource Conservation & Recovery Act (RCRA), 42 U.S.C. § 6901 et seq., or the Comprehensive Environmental Compensation and Liabilities Act (CERCLA), *id.* §§ 9601, 9675, Joint Intervenor's witness Dr. Abitz maintained that a proper sampling plan should include (1) collecting a minimum of eight to ten samples per well from sampling wells randomly sited throughout the study area; (2) utilizing proper methods for well drilling and sample collection and analysis; (3) employing sampling wells located up the hydraulic gradient from the OZ; and (4) using proper scientific and statistical methods to establish baseline values. *See* Abitz Initial Testimony at 6-8 (citing Ex. JTI006 (Office of Resource Conservation and Recovery, EPA, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, EPA 530/R-09-007 (Mar. 2009)) [hereinafter EPA Unified Guidance]). According to Dr. Abitz, SEI and the Staff failed to employ these methods, leaving the FSEIS discussion and analysis significantly wanting.

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<sup>17</sup> We find less convincing SEI's argument that the 10 C.F.R. § 40.32(e) "construction rule" requires this result. As we have previously noted, Part 40's definition provision indicates that "construction" does not include "[s]ite exploration, including . . . preconstruction monitoring to establish background information related to . . . the environmental impacts of construction or operation, or the protection of environmental values." *See* LBP-12-3, 75 NRC at 193-94; *see also* 10 C.F.R. § 40.4 (definition of "Construction"). To the degree the agency requires certain monitoring procedures to provide the information needed for its NEPA impacts analysis, we find nothing in this definition that would preclude the installation of wells or the use of monitoring protocols as needed to provide those data.

*a. Inadequacies in Monitoring Well Deployment*

4.21 One of Joint Intervenor's concerns was the way in which SEI implemented its groundwater monitoring program, both in terms of the number of wells and their location. *See* Joint Intervenor Findings at 21-22; *see also id.* at 33-34 (asserting more accurate quantification of baseline data is possible using standard statistical practices such as random grid sampling, statistically significant number of sampling locations, and proper statistical tests in accord with EPA Unified Guidance and Department of Energy procedures for characterizing stream and groundwater baseline water quality). In his initial testimony, citing the EPA Unified Guidance, Dr. Abitz asserted that SEI's program was too limited in that SEI and the Staff failed to show that the program used "standard statistical practices for the environmental industry." Abitz Initial Testimony at 23. And when coupled with the suggestion that the agency's NEPA process would benefit from such "a scientifically and statistically sound sampling regime," *id.* at 14, i.e., to adopt what are potentially "best practices," and so thereby avoid what they characterize as reliance on "a statistically invalid, biased set of non-representative groundwater samples," *id.* at 21, Joint Intervenor's plea to have the applicant and Staff employ various revised testing and analysis protocols is not without some attraction.

4.22 As the Commission has made apparent, however, NEPA does not require the adoption of best practices, particularly in the face of a potentially significant resource commitment, *see Pilgrim*, CLI-10-11, 71 NRC at 315, a concern that EPA has acknowledged applies to groundwater monitoring, *see* EPA Unified Guidance at 5-2 ("Due to the cost of management, mobilization, field labor, and especially laboratory analysis, groundwater monitoring can be an expensive endeavor."). Nor does it appear that the EPA RCRA/CERCLA guidelines, which the Staff and SEI assert are directed at the need for background water quality data for groundwater monitoring and detection rather than NEPA environmental site characterization, *see* Staff Findings at 25, SEI Findings at 29-30, have been adopted wholesale for regulatory assessment purposes by other federal or state agencies. *See* Schiffer Rebuttal Testimony at 11-13 (comparing Bureau of Land Management coal lease application NEPA baseline groundwater characterizations to Ross Project and noting SEI monitoring program was in compliance with WDEQ requirements and guidelines). Further, the six monitoring clusters and the twenty-nine existing water supply wells located within or adjacent to the Ross Project boundary that were used by SEI and the Staff, along with the historic Nubeth R&D site information, to characterize the Appendix A, Criterion 7 baseline for the Ross Project site generated some 362 groundwater samples

(with over 16,000 chemical and radiological parameters).<sup>18</sup> *See* Schiffer Initial Testimony at 8-9; *see also* Staff Initial Testimony at 6-8 (Johnson, Moore, Saxton). Accordingly, in the absence of some evidence of actual bias (or an attempt to induce a biased result) associated with SEI's well siting or sampling activities,<sup>19</sup> *see infra* Board Finding 4.107, we find no basis on the evidentiary record before us for declaring those sampling protocols to be so facially deficient as to require that they be redone in accord with Joint Intervenor's preferred methodology.<sup>20</sup>

4.23 Also with regard to well placement, citing the Staff's NUREG-1569 and Regulatory Guide 4.14 guidance, Dr. Abitz indicated that Joint Intervenor's concern was about the purported need for the Staff to obtain and consider data

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<sup>18</sup>In this regard, we note that table 3.6 in the FSEIS states that the complete data set for the monitoring well samples reflected in the table is presented in Appendix C. *See* FSEIS 9A, at 3-40. The forty-one pages of data in Appendix C from the six monitoring well clusters and several water supply wells include information on groundwater collected from the four aquifers (SA, SM, OZ, and DM) in 2010 and 2011. *See* Ex. SEI009B, at C-1 to -43 (FSME, NRC, [EIS] for the Ross ISR Project in Crook County, Wyoming; Supplement to the Generic [EIS] for In-Situ Leach Uranium Milling Facilities, Final Report, NUREG-1910 (Supp. 5 Feb. 2014)) [hereinafter FSEIS 9B]. The collection of eight samples from most of the wells over that period, *see id.*, generally seems consistent with the EPA Unified Guidance on the number of well samples referenced by Joint Intervenor.

<sup>19</sup>Relative to random grid sampling, in addition to the problem of whether such a protocol would be consistent with the baseline groundwater quality evaluation purpose of obtaining representative samples from the uranium ore bodies, *see* Tr. at 465 (Saxton), there also are indications here that the number and location of cluster wells was based on factors such as WDEQ guidelines (including at least one production zone well per square mile), having consistent/continuous water-bearing intervals above and below mineralization, satisfactory confining layer thickness, proximity to existing drilling data, sufficient spatial distribution for development of potentiometric data, and landowner considerations. *See* ER 16A, at 3-101; *see also* Schiffer Rebuttal Testimony at 15. These factors effectively counter any suggestion of an overt intent on the part of SEI to bias well location in an effort to make future reclamation program parameters less onerous.

<sup>20</sup>Dr. Abitz also declared that the number of monitoring wells and samples used by SEI were insufficient to conclude with statistical confidence that the water quality in the OZ does not meet the EPA drinking water maximum concentration limits (MCLs) for uranium and radium-226. *See* Abitz Initial Testimony at 17. Given that the EPA determination only requires that the aquifer not currently serve as a source of drinking water and that the aquifer must contain a commercially producible mineral resource, *see* Ex. SEI034, at 2 (Letter from Derrih R. Watchman-Moore, Region 8, EPA, to Kevin Frederick, Water Quality Div., WDEQ (May 15, 2013)) [hereinafter EPA Exemption Letter], this assertion has no relevance in the context of the agency's licensing of the Ross Project, *see* Tr. at 465 (Saxton) and so is irrelevant to our resolution of this contention. Moreover, the SEI application, in accordance with NUREG-1569, and the FSEIS each do have a comparison of the water quality measurements from the six cluster wells and the existing private water supply wells vis à vis the EPA MCLs, as well as the EPA secondary standards, and the WDEQ class of use standards, that show some of the cluster well samples and private well samples exceed the EPA MCLs for various parameters such as uranium, radium-226, and gross alpha. *See* ER 16A, at 3-184 to -195; FSEIS 9A, at 3-42, 3-44; *see also* Schiffer Rebuttal Testimony at 10, 16-17; Staff Initial Testimony at 26-27 (Johnson, Moore, Saxton).

from an upgradient well (i.e., a well located on the upstream side of the regional or local groundwater flow). *See* Abitz Initial Testimony at 7-8 (citing NUREG-1569, at 2-32; Ex. SEI008, at 4.14-2 (Office of Standards Development, NRC, Radiological Effluent and Environmental Monitoring at Uranium Mills, Regulatory Guide 4.14 (rev. 1 Apr. 1980))). While acknowledging that NUREG-1569 and Regulatory Guide 4.14, as well as EPA's RCRA-implementing regulation 40 C.F.R. § 264.97(a)(1)(i) do contain language indicating that water samples taken from one well located hydrologically upgradient are part of the sampling protocol, the Staff nonetheless asserted that these provisions do not require such a sample from an ISR facility, as opposed to a uranium milling operation. *See* Staff Findings at 28-29.

4.24 Staff witnesses noted initially that Regulatory Guide 4.14, which implements NUREG-1569 acceptance criterion 2.93, *see* NUREG-1569, at 2-32 ("Monitoring programs to establish background radiological characteristics, including sampling frequency, sampling methods, and sampling location and density are established in accordance with pre-operational monitoring guidance provided in Regulatory Guide 4.14, Revision 1, Section 1.1 (NRC, 1980)."), addresses radiological effluent and environmental monitoring at uranium mills. *See* Staff Rebuttal Testimony at 9 (Johnson, Saxton). According to Staff witnesses, although some elements of the guidance, such as well sampling and radiological constituent analysis, can be appropriately applied to ISR facilities, the concept of an upgradient well cannot. *See* Staff Initial Testimony at 15 (Johnson, Moore, Saxton). Staff witnesses asserted this is because a uranium mill, the original focus of Regulatory Guide 4.14, does not include two key features of an ISR facility. Upgradient water quality, the Staff maintained, is not necessarily representative of ISR production zone background water quality because of the way uranium roll-fronts form, i.e., the groundwater upgradient of the ore body contains oxygen and is geochemically distinct from the groundwater in the same horizon through the production zone, which is generally oxygen-deficient. *See id.* Also, Staff witnesses declared, natural hydraulic gradients are not disturbed by the mining process associated with a uranium mill in the way that they are disrupted by the recovery well process used during ISR operation and aquifer restoration. In fact, Staff witnesses asserted, as described in FSEIS §§ 2.1.1.2 and 4.5.1.2, wellfield groundwater inflow, which is a natural flow gradient disruption, is required at an ISR facility to reduce the likelihood of out-of-the-wellfield excursions. Therefore, Staff witnesses concluded, because an upgradient well is not required to establish baseline values at the Ross Project site, the FSEIS does not describe such a well. *See* Staff Rebuttal Testimony at 9 (Johnson, Saxton).

4.25 Additionally, according to Staff witnesses, even assuming 40 C.F.R. § 264.97(a)(1)(i) has any applicability in a non-RCRA context, that section does not require a determination of background groundwater quality to include sampling of wells that are hydraulically upgradient of the waste management



area if non-upgradient well sampling will provide an indication of background groundwater quality that is representative, or more representative, than that provided by upgradient wells. But, Staff witnesses maintained, for the same reasons outlined in Board Finding 4.24, above, upgradient wells are not always necessary and so are not required under this regulation for an ISR project. *See* Staff Initial Testimony at 15 (Johnson, Moore, Saxton).

4.26 Although it seems apparent that the agency guidance language in Regulatory Guide 4.14 is misleading and needs to be revised,<sup>21</sup> we agree with the Staff that, given the circumstances regarding an ISR facility, an upgradient well is not required for an Appendix A, Criterion 7 site characterization monitoring program for an ISR facility.<sup>22</sup> That being said, we note also that SEI apparently did include an upgradient well (34-7 OZ) among its sampling locations, *see* Schiffer Rebuttal Testimony at 8 (citing Ex. SEI019 (Ross Ore Zone Potentiometric Surface and Regional Monitor Well Location Map)), and that any concerns about upgradient excursions will be addressed by the system of operational monitoring wells, which will dot the perimeter of the Ross Project wellfields pursuant to condition 11.3(B) of SEI's license. *See* SEI License at 11; *see also* Tr. at 327 (Demuth).

*b. Aquifer Sampling Intervals*

4.27 In connection with their challenge to the adequacy of the FSEIS water quality data, Joint Intervenors expressed concern about the aquifer sampling intervals used by SEI for its monitor wells. *See* Joint Intervenors Findings at 22-23. In this regard, Joint Intervenors' witness Dr. Abitz asserted that baseline values have been (and will be) biased toward greater concentrations of

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<sup>21</sup> We note also that recently the Staff issued for public comment a draft version of NUREG-2126, a standard review plan for conventional uranium mills and heap leach facilities. *See* [SRP] for Conventional Uranium Mills and Heap Leach Facilities, 79 Fed. Reg. 75,597 (Dec. 18, 2014) (announcing opportunity for comment on draft NUREG-2126). Unlike NUREG-1569, however, draft NUREG-2126 explicitly requires an upgradient monitoring well during site characterization rather than through an unexplicated cross-reference to Regulatory Guide 4.14. *Compare* NUREG-1569, at 2-32, *with* NMSS, NRC, [SRP] for Conventional Uranium Mill and Heap Leach Facilities, NUREG-2126, at 2-34 (Draft Report for Comment Nov. 2014) (ADAMS Accession No. ML14325A634). By the same token, in the absence of a revised Regulatory Guide 4.14, some explicit recognition in NUREG-1569 of the nonapplicability of the upgradient monitoring well for ISR site characterization purposes seems appropriate.

<sup>22</sup> Given the current language of the Staff's NUREG-1569 ISR SRP guidance, although we might well be justified in requiring that, consistent with that guidance, SEI create and utilize such an upgradient monitoring well prior to beginning its operation of the Ross Project, we decline to do so because, in light of the uranium milling-based purpose of the requirement, that action would have no practical impact. *Cf.* 10 C.F.R. § 2.335(b) (providing for waiver of rule or regulation upon a showing that applying provision at issue "would not serve the purposes for which the rule or regulation was adopted").

contaminants because water samples were (and will be) collected from intervals that are “screened only through the part of the [OZ] water horizon that is in contact with the ore zone, rather than the entire column of water in the OZ sand interval.”<sup>23</sup> Abitz Initial Testimony at 21. More specifically, Dr. Abitz declared that screen lengths for the six monitor wells in the OZ aquifer were only one-quarter to one-half the thickness of the OZ sand and were centered on the OZ, where water was most likely to have been contaminated by exploration drilling.<sup>24</sup> *See id.* at 21-22. Asserting that the Staff’s NUREG-1569 guidance recognizes that “fully screened intervals are more accurate in their representation of the water quality,” Dr. Abitz maintained that the SEI data used for the FSEIS analysis were biased given the water samples collected by SEI were not representative of the entire thickness of the OZ aquifer.<sup>25</sup> *Id.* at 22 (citing NUREG-1569, at 5-43).

4.28 In their initial written testimony, Staff witnesses declared that wells used to establish the precicensing baseline were “screened over the entire ore-zone aquifer.” Staff Initial Testimony at 18 (Johnson, Moore, Saxton). So too, SEI witness Schiffer maintained that no bias has been introduced with respect to the baseline groundwater quality in the mineralized zone because the six precense cluster wells in the OZ aquifer were screened in intervals three to twelve times larger than the average mineralized zone thickness and thus represented water quality from a larger interval than the future production and injection wells that will be screened discretely in the mineralized zones. *See* Schiffer Rebuttal Testimony at 14-15 (citing SEI014A, at 2-200 to -201 (tbl. 2.7-20) (1 SEI, Ross ISR Project USNRC License Application, Crook County, Wyoming, Technical Report (TR) (Dec. 2010)) [hereinafter TR 14A]). In fact, according to SEI witness Schiffer, this screening across intervals larger than the average mineralized zone thickness likely had the effect of diluting some of the constituents, such as uranium and radium-226, as compared to samples from future wells used to establish CAB. *See id.* at 14.

4.29 And with regard to post-licensing monitoring, SEI witness Schiffer maintained that the perimeter monitoring wells that are used to sample water from the OZ aquifer for excursion monitoring and that will also be used to

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<sup>23</sup> In this context, “well screening” denotes the use, at the intake portion of a well, of a porous filter that allows groundwater to be sampled from a targeted aquifer or a specific horizon within an aquifer. *See* ER 16A, at 1-54 to -56 (figs. 1.2-8 to -10); *see also id.* at 3-213 to -218 (figs. 3.4-15 to -20).

<sup>24</sup> According to Dr. Abitz, this screening protocol had “the effect of biasing the groundwater sample to high values for uranium, radium-226 and other uranium progeny and associated ore metals (e.g., arsenic, molybdenum, vanadium, etc[.]) due to the disturbance and oxidation of the ore during well construction and development.” Abitz Initial Testimony at 22.

<sup>25</sup> Although Dr. Abitz’s testimony references NUREG-1748, the Staff’s general environmental guidance for licensing actions, *see* Abitz Initial Testimony at 22 (citing NUREG-1748, at 5-43), as SEI witness Schiffer noted, *see* Schiffer Rebuttal Testimony at 14-15, it is apparent that what he is referring to is NUREG-1569, the Staff’s ISR facility SRP.

provide sampling data to establish UCLs for excursion monitoring will likewise be screened through the entire thickness of the ore-bearing part of the OZ aquifer.<sup>26</sup> *See* Schiffer Rebuttal Testimony at 15 (citing Ex. SEI014C, at 5-82 (2 SEI, Ross ISR Project USNRC License Application, Crook County, Wyoming, [TR] (rev. Apr. 2012)) [hereinafter TR 14C]). And by way of contrast, SEI witness Schiffer declared that the monitoring wells in the wellfield sampling water from the OZ aquifer that will be used to establish the Appendix A, Criterion 5B(5)(a) constituent CABs will be narrowly screened to sample water from, and establish CABs for, only a specific ore horizon, i.e., because the OZ contains several vertically stacked ore horizons, a specific well will only sample water from one ore horizon in the stack. *See* Tr. at 473-74 (discussing TR 14C, at 5-107 (Dec. 2010) (fig. 5.7-10)).

4.30 In considering Joint Intervenor's challenge to the well-screening intervals used for site characterization, we note initially that the table in SEI's TR referenced by SEI witness Schiffer as indicative of SEI's well screening coverage has a column labeled "Screened/Aquifer Thickness" that shows values ranging from between 30 and 110 feet for the wells in each of the six clusters that sampled the OZ aquifer. *See* TR 14A, at 2-200 to -201 (tbl. 2.7-20);<sup>27</sup> *see also* ER 16A, at 3-156 to -157 (tbl. 3.4-20). In contrast, the total thickness of the OZ aquifer given in the FSEIS is between 90 and 180 feet. *See* FSEIS 9A, at 3-34. Thus, the information in these tables, along with the screening intervals for monitoring cluster wells as shown in the gamma log figures in the applicant's TR also referenced by SEI witness Schiffer, *see* Schiffer Rebuttal Testimony at 14 (citing TR 14A, at 2-257 to -262); *see also* ER 16A, at 3-213 to -218, appear to support Joint Intervenor's assertion that these wells were screened only through the part of the aquifer containing the stacked ore horizons.

4.31 That being said, we nonetheless find that there is no deficiency associated with the SEI well-screening protocols employed for prelicensing site characterization that merits requiring any additional sampling efforts. Initially, we note that the NUREG-1569 guidance relied upon by Joint Intervenor as supporting fully screened wells is, on its face, applicable to the yet-to-be-implemented

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<sup>26</sup> Although Staff witness Saxton initially stated that the perimeter monitoring wells will be screened only on the specific ore horizons, similar to the monitoring wells in the production field, he later clarified that for the Ross Project the perimeter monitoring wells will be "fully screened," Tr. at 382, 398-99, by which the Board understands that the screened interval extends continuously through the entire stack of ore horizons, although not necessarily through the entire OZ aquifer.

<sup>27</sup> Although the wells labeled OW1B in table 2.7-20 had narrower screen intervals, these wells, which were designed to mimic production wells and were used as part of the aquifer characterization pumping test, nonetheless were not among the six monitoring well clusters and no water samples from them are listed in FSEIS Appendix C. *See* TR 14C, at 5-82 (rev. Apr. 2012)); ER 16A, at 3-157 (tbl. 3.4-20); FSEIS 9B, App. C. Consequently, those wells are not relevant to this screening interval discussion.

perimeter monitoring wells rather than the precicensing site characterization wells at issue here. *See* NUREG-1569, at 5-42 to -43 (as part of section 5.7.8.3 acceptance criteria associated with ensuring that groundwater and surface water excursions are timely detected, indicating that “[f]or most situations the Staff favors fully screened monitor wells” because “[f]ully screened monitor wells would assure that excursions will eventually be detected”). Moreover, it is apparent that the screening protocol used by SEI for site characterization sampling was appropriate to that task. As SEI witness Schiffer indicated, the six well clusters were located both within and next to mineralized zones, so that some of these wells sampled groundwater from nonmineralized parts of the OZ aquifer.<sup>28</sup> *See* Schiffer Rebuttal Testimony at 14. As Staff witnesses also indicated, wells that penetrated the OZ had screened intervals long enough to collect groundwater from the nonmineralized layers between ore horizons as well as from ore-rich zones.<sup>29</sup> *See* Staff Initial Testimony at 18 (citing ER 16A, at 3-156 to -157 (tbl. 3.4-20), 3-213 to -218 (figs. 3.4-15 to -20), and FSEIS 9A, at 3-38) (Johnson, Moore, Saxton). By contrast, the protocols that will be implemented for the OZ wells to establish a CAB will have much narrower screening intervals given that they will be located within individual ore bodies that are only about 9 feet thick on average.<sup>30</sup> Likewise, the perimeter monitoring wells will, consistent with the Staff’s NUREG-1569 guidance, be fully screened to sample the entire thickness of the OZ aquifer to maximize the timely detection of lixiviant excursions.<sup>31</sup> *See*

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<sup>28</sup> The term “nonmineralized” used here is not meant to suggest that there were no ore minerals in the sampled zones, but rather that the zones did not contain enough ore minerals to be economically viable.

<sup>29</sup> SEI witness Schiffer did note that due to the nature of the sampling completions used in the cluster wells, Strata does not propose to use those wells for compliance purposes to develop a CAB, so that water samples from these wells will not be used to calculate target restoration values. *See* Schiffer Rebuttal Testimony at 14.

<sup>30</sup> SEI and Staff witnesses justify using this narrow screening interval technique on OZ wells intended initially to collect CAB-setting samples on the basis that (1) because wells used to collect CAB water samples will later be used for mining, the screen interval is optimized for mining, *see* Tr. at 343 (Knode); (2) only the narrow interval containing ore will be impacted by mining, so it is appropriate to use water samples from that interval to set restoration standards, *see* Tr. at 355 (Knode), 385 (Saxton); (3) it is not practical to install a well with a large screen interval for sampling baseline water, then refit it with a narrow screen interval appropriate for mining, then return it to a large screen interval for post-mining restoration, *see* Tr. at 356 (Knode); and (4) well construction with long screen intervals inside the production wellfield would allow mining fluids and contaminated groundwater to flow between different ore horizons as well as contaminate groundwater between ore horizons, *see* Tr. at 361 (Knode).

<sup>31</sup> Although Staff witness Saxton noted that there is a “difference of opinion” regarding whether a fully screened or partially screened perimeter monitoring well is better able to detect an excursion, he stated that for the Ross Project, the perimeter monitoring wells will be fully screened. Tr. at 397-98.

Schiffer Rebuttal Testimony at 14-15. We thus resolve this screening interval matter in favor of the Staff and SEI.

*c. Averaging Sampling Results*

4.32 Joint Intervenors also challenged the way in which sampling results were presented and analyzed in the FSEIS. *See* Joint Intervenors Findings at 23-24. Joint Intervenors' witness Dr. Abitz stated in his initial testimony that FSEIS tables 3.6 and 3.7 improperly averaged the sampling data collected, grouping together the six cluster wells to report an average and range for each water horizon without describing a proper statistical method for evaluating the individual wells prior to grouping them and calculating an average or range for the aquifer horizon. *See* Abitz Initial Testimony at 2-23 (citing FSEIS 9A, at 3-40 to -41 (tbls. 3.6 and 3.7)). According to Dr. Abitz, "simple averaging or reporting a range of the values from all wells does not establish baseline unless it can be shown with proper statistical methods that (i) the samples from the individual wells follow a normal or log-normal distribution, and (ii) an analysis of the data variance of each well demonstrates that the wells can be combined into a single population for statistical calculations." Abitz Initial Testimony at 23. And regarding the latter point, Dr. Abitz maintains that, in fact, the six cluster wells do not fall into a single population with respect to uranium and radium-226. *See id.*

4.33 In response, SEI declared that its application, and the FSEIS, are fully consistent with NUREG-1569's acceptance criterion 2.7.3(4) guidance that states the application should list "[t]he average water quality for each aquifer zone and the range of each indicator in the zone." SEI Reply Findings at 28 (quoting NUREG-1569, at 2-26). Further, according to SEI, SEI and Staff testimony establish that all recommendations in NUREG-1569, section 2.7, regarding items such as the listing of the average and range of constituent concentrations in each aquifer zone have been satisfied. *See id.* Finally, SEI notes that Appendix C to the FSEIS presents the actual groundwater quality sampling results from the six cluster wells and the existing water supply wells. *See id.* at 29; *see also* FSEIS 9B, at C-1 to -43.

4.34 As was noted earlier, *see supra* note 18, Appendix C to the FSEIS sets forth forty-one pages of well sampling data from the six well clusters and water supply wells, which are summarized in table 3.6, while table 3.7 summarizes historical sampling data from the Nubeth R&D project, which the FSEIS indicates was taken from a 1978 Nubeth water quality program quarterly report to the NRC, *see* FSEIS 9A, at 3-41 (citing Letter from Albert F. Stoick, Nubeth, Nuclear Dynamics, to L. C. Rouse, Division of Fuel Cycle and Material Safety, NRC, encl. (Aug. 31, 1978) (ADAMS Accession No. ML12135A358)). With regard to these tables, the crux of Dr. Abitz's complaint is that "there is no mention of the proper statistical methods for evaluating individual wells prior to grouping

them and calculating an average or range for the aquifer horizon.” Abitz Initial Testimony at 22-23. Although Dr. Abitz cited undifferentiated portions of the EPA Unified Guidance in support of this statement, *see id.* at 23 (citing EPA Unified Guidance “Parts II, III and IV; and references therein”), as far as we are aware there is no NEPA or NRC requirement that the agency, rather than averaging the sampling data as was done by the Staff, adopt the more rigorous statistical methodology Dr. Abitz asserts is needed. Moreover, to the degree that Joint Intervenors are concerned about the way in which the Staff used the raw data from Appendix C and the Nubeth report in preparing tables 3.6 and 3.7, the source information for those tables was available for analysis and critique if they believed the Staff’s presentation of the data was materially flawed.<sup>32</sup> Consequently, we find in favor of the Staff and SEI on this matter as well.

*d. Data Bias from SEI Drilling Techniques*

4.35 Sampling data bias purportedly arising from the well drilling techniques employed by SEI was another of Joint Intervenors’ concerns. *See* Joint Intervenors Findings at 24-29. Based on thermodynamic calculations, Joint Intervenors’ witness Dr. Abitz determined that the concentration of dissolved uranium in groundwater contacting the minerals pyrite and urananite, and having the iron, carbonate, and sulfate contents as reported in FSEIS Appendix C, would be “so low that it cannot be detected with present laboratory methods.” Abitz Initial Testimony at 18-19. It thus followed, according to Dr. Abitz, that the uranium values given in FSEIS tables 3.6 and 3.7 were biased by the introduction of oxygen prior to collection of the groundwater samples. *See id.* at 19. In this regard, according to Dr. Abitz, notwithstanding an FSEIS declaration that uranium concentration data from 2009 and 2010 are consistent with data from 2011, he asserts that data given in FSEIS Appendix C show that uranium values from 2011 have decreased since 2010, while radium-226 remains at 2010 levels, which is consistent with the OZ aquifer returning to reducing conditions following disturbance when sampling wells are installed and developed.<sup>33</sup> *See id.* at 24-25. Nor is this trend a coincidental event, Dr. Abitz maintained, being fully

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<sup>32</sup>In making this statement, we are aware that tables 3.6 and 3.7 in their current, more detailed form were first provided in the FSEIS. Nonetheless, the source information that was the basis for those tables was previously specified in the March 2013 DSEIS in support of that document’s more abbreviated tables 3.6 and 3.7, *see* DSEIS 6A, at 3-40 to -41, and so was available for Joint Intervenors’ consideration.

<sup>33</sup>Dr. Abitz explained that once the ore body is oxidized during well installation, the radium-226 released from the uranium ore will not drop out of solution because it is insensitive to redox changes, so a slow decrease in uranium without a decrease in radium-226 would indicate a return to reducing conditions after contaminants had been released by well construction. *See* Abitz Initial Testimony at 27.

consistent with what occurred at a Goliad, Texas ISR site in which decreasing uranium, but not radium-226, sample values could be attributed to ore zone oxidation caused by improper well installation and development techniques. *See id.* at 26-28. So too, Dr. Abitz asserted, the Ross Project sample-contaminating oxidation was a result of SEI's rotary-drill techniques utilizing conventional drilling fluids, which Dr. Abitz suggested are likely to contain dissolved oxygen, *see* Tr. at 423, and the air lifting process, which employs compressed atmospheric air to bring water samples to the surface, *see* Abitz Initial Testimony at 11, 19. Referencing United States Geological Survey (USGS) guidelines on the selection and installation of wells for groundwater quality surveys, Dr. Abitz maintained that an appropriate drilling method would be to use air-rotary drilling with recirculated nitrogen gas, in lieu of air, and a foam surfactant containing oxygen-eliminating organic constituents. *See id.* at 18 (citing Ex. JTI011, at 57 (Wayne W. Lapham et al., USGS, Dep't of the Interior, Guidelines and Standard Procedures for Studies of Ground-Water Quality: Selection and Installation of Wells, and Supporting Documentation, Water-Resources Investigations Report 96-4233 (1997)) [hereinafter USGS Report]).

4.36 In response, the Staff claimed that the technical basis for Dr. Abitz's concern is misplaced. Staff witnesses questioned the assumption underlying Dr. Abitz's calculations of initial uranium concentrations in the undisturbed aquifer, i.e., that a perfect thermodynamic equilibrium exists between the groundwater and the minerals in the aquifer, asserting that thermodynamic equilibrium is never achieved in aquifers due to water recharge and flow. *See* Staff Rebuttal Testimony at 15 (citing Ex. NRC046 (Werner Stumm & James J. Morgan, Aquatic Chemistry § 2.17 (3d ed. 1996))) (Johnson, Saxton). In addition, Staff witnesses testified that, contrary to the premise underlying Dr. Abitz's calculations, the kinetics of pyrite oxidation are slow to the degree that pyrite is commonly found in the presence of oxygenated water. Further, in support of this position, citing a recent study at the Smith Ranch-Highland ISR facility in which wells sampled using methods designed to exclude atmospheric oxygen yielded water from the ore zone containing 0.11 milligrams per liter (mg/L) uranium, Staff witnesses maintained that because this concentration was at the high end of the range of uranium values measured in the Ross Project monitoring wells, the uranium concentrations measured by SEI in the OZ monitoring wells clearly are within the range of reasonable uranium concentrations possible under unperturbed conditions. *See id.* at 15-16 (Johnson, Saxton); Tr. at 391 (citing NRC047, at 22 (Jim Stone et al., [ISR] Uranium Mining Restoration Challenges (Apr. 9, 2014) (slide presentation))) (Johnson).

4.37 Also in response to Dr. Abitz's claims, Staff witness Dr. Johnson stated that the initial water samples from some of the Ross Project wells showing elevated concentrations of contaminants were not used to calculate baseline values. *See* Tr. at 388. Additionally, Dr. Johnson pointed to other sampling data showing

the presence of ammonia, which she claimed only exists under non-oxidizing conditions, thus indicating that oxidation was not an issue. *See* Tr. at 388-89. Further, although acknowledging that the range of maximum and minimum uranium concentration values over the SEI sampling period was essentially the same, Dr. Johnson also noted that some wells had a slight concentration decrease, while others, including the well that had the highest uranium concentration, showed an increase instead of the decline over the sampling period that would be expected if it had been compromised by oxidation per Dr. Abitz's claim. All of these data, according to Dr. Johnson, indicated there was no demonstrated systematic bias due to SEI's use of conventional methods of well installation or sampling. *See* Tr. at 389.

4.38 For their part, SEI witnesses emphasized that SEI drilling methods would not introduce oxygen. SEI witness Knode described the air lifting technique cited by Dr. Abitz, which involves lowering a pipe below the static water level in the well, usually 50 to 100 feet, then forcing a burst of air from an air compressor down the pipe. This quickly lifts a 50- to 100-foot water column out of the well casing, creating a vacuum into which freshwater from the bottom of the well rushes through the screened interval and removes any residual drilling fluid and fines in the screened interval. Although this may be done repeatedly over several hours until the water coming out of the well is clean and representative of the native water in the screened interval, SEI witness Knode asserted that it could not cause oxidation in the OZ aquifer since air would only be injected some 200 feet above the screened interval. *See* Knode Initial Testimony at 5, 7-8.

4.39 With regard to Dr. Abitz's related concern about oxidation via drilling fluids, SEI witness Knode testified that the drilling fluids in the type of mud rotary drilling system used by SEI are specifically designed to form a thin, impermeable layer, referred to in the drilling industry as filter cake, on the walls of the borehole. According to SEI witness Knode, the filter cake is intended to impede the movement of drilling fluids into the surrounding aquifer. He also testified that drilling fluids can be tailored to specific conditions, which is very effective in minimizing or eliminating the movement of drilling fluid into the aquifer to be monitored or mined. *See id.* at 5. Further, SEI witness Knode declared, during mud rotary drilling, only drilling fluid is introduced into the borehole and, while it is possible that there could be a small amount of air entrained within the drilling fluid, the filter cake would effectively limit how much air would enter the aquifer. Additionally, SEI witness Knode asserted that the pressure of the aquifer, i.e., the level of the water in the well above the top of the aquifer, would also serve to limit the introduction of air. *See id.* at 6.

4.40 Finally, asked whether air-rotary drilling with recirculated nitrogen gas and a foam surfactant containing oxygen-eliminating organic constituents would be a viable alternative to the mud rotary drilling employed by SEI, SEI witness Demuth declared that "I have never heard of a well being proposed to be installed



with nitrogen or even discussed in any fashion for an ISR operation in the United States or anywhere within the world.” Tr. at 366.

4.41 Based on the evidentiary record before us, the Board is unable to agree with Joint Intervenors’ methodology for calculating the uranium concentration in the undisturbed OZ aquifer,<sup>34</sup> or their resulting conclusion, based on this methodology, that the measurable well sampling values in the FSEIS must be the consequence of significant oxidation contamination. Further, although the Board considers it likely that very small amounts of oxygen are introduced into a target aquifer by mud rotary drilling and the associated use of air lifting, and that this may cause spikes in dissolved uranium, nonetheless, given that (1) the borehole-coating design of drilling fluids, in conjunction with aquifer pressure, should largely prevent the movement of these fluids into the aquifer; and (2) air lifting involves introducing air into a well casing far above the screened interval of the OZ aquifer, any oxidation effect resulting from the use of the standard mud rotary drilling method described by SEI, *see* Knode Initial Testimony at 4-5, is likely to be both very local and very quickly dissipated by dilution or precipitation of uranium as the water moves back into a reducing environment (as even Dr. Abitz indicates is likely for a “mild disturbance,” Tr. at 466).

4.42 In addition, regarding the need for agency consideration of the proposed alternative to drilling techniques of air-rotary drilling utilizing recirculated nitrogen gas and a foam surfactant containing oxygen-eliminating organic constituents, we observe that under the NEPA directive to provide a detailed statement of reasonable alternatives to a proposed action, *see* 42 U.S.C. § 4332(2)(C)(iii), an alternatives discussion need not include “every possible alternative, but every *reasonable* alternative.” *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-91-2, 33 NRC 61, 71 (1991) (quoting *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985) (emphasis added)). Further, reasonable alternatives do not include alternatives that are “impractical[;] . . . that present unique problems; or that cause extraordinary costs.” *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-03-30, 58 NRC 454, 479 (2003) (citing *Airport Neighbors Alliance v. United States*, 90 F.3d 426, 432 (10th Cir. 1996); *Communities, Inc. v. Busey*, 956 F.2d 619, 627 (6th Cir. 1992)). Nor is there a need to consider alternatives that are technologically unproven. *See Kelley v. Selin*, 42 F.3d 1501, 1521 (6th Cir. 1995); *Morton*, 458 F.2d at 837 (approving exclusion from alternatives discussion of alternative energy sources that “will be dependent on [future] environmental safeguards and [technological] developments”); *Busey*, 956 F.2d at 627 (upholding rejection of alternatives that “presented severe engineering requirements” or were “imprudent

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<sup>34</sup> In this regard, we agree with the Staff’s observations that thermodynamic equilibrium is unlikely to be achieved in the OZ aquifer. *See supra* Board Finding 4.36. In this context, Dr. Abitz’s use of equations that assume perfect equilibrium seems unrealistic.

for reasons including their high cost, safety hazards, [and] operational difficulties”).

4.43 Against this legal backdrop, we note that the 1997 USGS report cited by Dr. Abitz in support of the proposed alternative drilling method states only that “aeration of anoxic ground water can induce local changes in ground-water chemistry,” without mentioning the use of nitrogen as a possible drilling fluid. USGS Report at 57. Also, the evidentiary record contains no examples demonstrating (or otherwise supporting) the use of Dr. Abitz’s suggested method. As a consequence, the Board concludes that, in this context, the alternative drilling method proposed by Dr. Abitz is, at least at this juncture, so untested and experimental that it is not a “reasonable alternative” requiring further consideration under NEPA.

*e. Data Bias from Additional Wellfield Development*

4.44 In addition to their concerns about the data bias impacts of SEI’s pre-licensing drilling activities, the Joint Intervenors questioned as well whether SEI’s post-licensing drilling activities will have a negative impact on data collection to establish a post-licensing “true baseline” for excursion control and future remediation. Joint Intervenors Findings at 29-32. As evidence supporting this concern, Dr. Abitz described the circumstances surrounding the Kingsville Dome ISR operation in south Texas, asserting that an improper baseline was established at the Kingsville Dome site for three production areas over a 14-year period (1983 to 1998). *See* Abitz Initial Testimony at 29.

4.45 According to Dr. Abitz, in August 1983, the initial baseline ranges for uranium and radium-226 were established after the installation of ore zone production wells in the first Kingsville Dome production area. *See id.* at 30. After additional wellfields were built out, the Texas Water Commission (TWC) (now the Texas Commission on Environmental Quality (TCEQ)) in November 1987 allowed the operator to revise that baseline for the first production area by increasing uranium and radium-226 to maximum values that were approximately ten times higher than the initial 1983 baseline. Thereafter, Dr. Abitz stated, in February 1990, after mining the first production area for approximately 6.5 years, the TWC allowed the operator to establish baseline values at a second adjacent, but downgradient, production area. This TWC action, according to Dr. Abitz, permitted the operator to elevate the uranium baseline value to a maximum value that was 100 times higher than the maximum uranium value used to calculate the production area one initial baseline. Then, in June 1998 the TWC allowed the operator to establish a baseline for the third production area. Dr. Abitz asserted that this sequence of events clearly shows the deterioration of the baseline values with time when an operator is allowed to develop the baseline for each unit as the wellfields are built out. And as a practical matter, according to Dr. Abitz, this higher baseline allows much higher levels of uranium to pass through the

monitor well ring without being reported as an excursion, as is an evident result at Kingsville Dome because of the significant increase in reported uranium levels in 1998 and 2007 at wells just outside and downgradient from the Kingsville Dome facility's monitoring well ring. *See* Abitz Initial Testimony at 31.

4.46 In light of the Kingsville Dome situation, Dr. Abitz declared that the Ross facility FSEIS is deficient for failing to (1) explain how the planned Ross Project post-licensing baseline water quality measurements will not become contaminated by the presampling combined effects of drilling, casing, well development, and testing of hundreds to thousands of injection and recovery wells; and (2) describe the mechanical and chemical effects associated with previous and ongoing exploratory drilling to delineate the boundaries of the other four economically recoverable uranium resources in the Lance District that encompasses the Ross Project. Additionally, Dr. Abitz maintained that the FSEIS is inadequate because it does not address how, in the course of constructing, operating, and restoring numerous individual wellfields in sequence over many years, SEI's license terms will avoid operational wellfields degrading the post-licensing, preoperational water quality baselines in subsequent adjacent monitoring wells that target the same aquifers. *See id.* at 28-29. Further, while Dr. Abitz at the hearing conceded that sampling groundwater for post-licensing preoperational background prior to construction of the entire wellfield is "good," he also reemphasized that the local environment around newly drilled boreholes will be the site of greatest disturbance and that water collected from that site will be most strongly affected by oxidation. *See* Tr. at 420. Dr. Abitz indicated, however, that it would be difficult to estimate how far from a drill hole this oxidation effect might extend. *See* Tr. at 421.

4.47 In response to Dr. Abitz's claims regarding wellfield development impacts, the Staff asserted his concern is outside the scope of this proceeding because it fails to allege a deficiency in the FSEIS. According to the Staff, what Joint Intervenors are contesting is the agency's regulatory scheme that provides for the post-licensing collection of water quality data to establish Appendix A, Criterion 5B(5) constituent CABs. Consequently, the Staff declared, Dr. Abitz's claims are in actuality an improper challenge to the agency's regulations. *See* Staff Reply Findings at 11-12 & n.42 (citing 10 C.F.R. § 2.335(a)).

4.48 SEI countered by observing that Dr. Abitz's concern about phased wellfield development resulting in degraded water quality in undeveloped wellfields does not account for the requirement in SEI LC 10.7 that a net inward hydraulic gradient be constantly maintained in each operating wellfield or that LC 11.5 requires SEI to perform routine excursion monitoring in each operating wellfield to verify that mining solutions do not migrate away from that wellfield. SEI Reply Findings at 23 (citing SEI License at 8, 13-14). SEI also sought to discount Dr. Abitz's Kingsville Dome example by referencing a 2008 decision regarding the licensing of the Goliad, Texas ISR facility in which the TCEQ executive

director stated that he was unaware of a documented case of offsite groundwater contamination within the past 30 years in south Texas. *See id.* Further, while SEI witness Knode confirmed that for each wellfield the perimeter monitoring ring wells and the monitoring wells in the production field will all be constructed prior to drilling the main suite of injection and recovery wells in a wellfield, *see* Tr. at 320-21, he also indicated that in his experience, the drilling of numerous monitoring wells and production wells in a wellfield has not caused a noticeable increase in uranium concentration, an observation that was confirmed by SEI witness Demuth based on his consulting work for other domestic ISR facilities, *see* Tr. 321-22 (Demuth), 344-45 (Knode, Demuth).

4.49 In questioning the impact of additional wellfield development on water quality, to the degree that Joint Intervenor is challenging the post-licensing preoperational water quality testing protocol contemplated by Criterion 5B(5), that would be an improper challenge to the regulation. This Joint Intervenor challenge, however, seems not so much directed at that water quality testing mechanism, as at the fact that the agency's licensing and regulatory process permits phased wellfield development. With this phased development, while monitoring well placement and sampling is completed before production well installation and operation, because well water quality testing for each wellfield is deferred until such time as the licensee decides to initiate wellfield operation, Joint Intervenor is nonetheless concerned that each well drilled for monitoring or production in a particular wellfield will have an impact on subsequent water quality measurements in undeveloped wellfields as they are brought online, resulting in higher constituent CABs for those wellfields.

4.50 We find this claim unpersuasive for several reasons. First, as we concluded in our ruling regarding the impact of SEI drilling techniques on well sampling, *see supra* Board Findings 4.41-4.43, we find no basis for Joint Intervenor's concern that such drilling will, in and of itself, create sampling bias. Additionally, to the degree Joint Intervenor's argument, although characterized as about "SEI's well drilling methods," Joint Intervenor Findings at 29, is actually footed in a concern about cross-contamination between operating wellfields and undeveloped wellfields, the inward hydraulic gradient and the perimeter monitoring well network that SEI is required to establish and operate throughout a wellfield's operating life provide the requisite assurance that such contamination will not occur to a degree that it needs to be assessed in the FSEIS.<sup>35</sup> Therefore,

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<sup>35</sup> We recognize that, given his assertion that heterogeneity in hydraulic conductivity is a fluvial deposit characteristic, Dr. Abitz disagrees with the efficacy of maintaining an inward hydrologic gradient absent a Staff showing that the hydraulic conductivity throughout the aquifer is uniform in all directions, and that he likewise rejects the reliability of excursion monitoring because of what he asserts are the invalid statistical methods used to derive the excursion UCLs and the failure to

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based on the preponderance of the evidence before the Board,<sup>36</sup> this matter is also resolved in favor of the Staff and SEI.

*f. Data Bias from Nubeth Well Samples*

4.51 Another of Joint Intervenor's claims regarding sampling bias concerned the FSEIS description of Ross Project baseline conditions as that analysis incorporated the results of the previous ISR R&D operations conducted in the late 1970s by Nubeth within the area of the Ross Project. *See* Joint Intervenor's Findings at 32-33 (citing FSEIS 9A, at 3-38). According to testimony by Joint Intervenor's witness Dr. Abitz, in 1976 Nubeth initiated a study involving lixiviant injection/extraction into and out of a single well, which was before the first baseline samples were collected in April 1978. The impact some 2 years later of this 1976 R&D test in the area defined by these baseline monitoring wells is evident, according to Dr. Abitz. Dr. Abitz asserted that some Nubeth wells clearly captured aquifer water samples indicating the lixiviant injection oxidized the OZ, given those samples have high radium-226 values in excess of 10 mg/L, while other wells had radium-226 values less than 3 picocuries per liter, but uranium values as high as wells in the oxidized OZ.<sup>37</sup> *See* Abitz Initial Testimony at 33 (citing FSEIS 9A, at 3-41 (tbl. 3.7)). Based on this information, Dr. Abitz concluded that because the OZ was injected with lixiviant before baseline water quality samples

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include uranium as an excursion control parameter that will allow uranium to migrate beyond the monitor-well ring and contaminate the surrounding aquifer prior to build-out of the next wellfield. *See* Abitz Rebuttal Testimony at 13. The Board does not agree with Dr. Abitz's criticisms, however, the former being essentially an assertion that the ISR process is not a viable method for mining uranium, while the latter is based on premises questioning the viability of excursion control monitoring that we do not accept. *See infra* Board Findings 4.147-4.149.

<sup>36</sup> We also find the Kingsville Dome information provided by Joint Intervenor unpersuasive as a basis of support for this water sampling bias challenge. To the degree Joint Intervenor's concern is that the Staff will permit periodic water quality "rebaselining" for an operating wellfield (as Joint Intervenor suggest was permitted relative to the first Kingsfield Dome production area), there is no evidence in the record supporting such an assertion. So too, the conflicting information provided by Joint Intervenor and SEI regarding offsite excursions in south Texas ISR facilities fails to provide sufficient support for a finding that the FSEIS is deficient in some material respect so as to require further supplementation.

<sup>37</sup> Dr. Abitz's interpretation of this relationship postulated that samples with high radium-226 and uranium are from parts of the aquifer that were oxidized by the lixiviant injected in 1976. In contrast, samples with low radium-226 values, but still evidencing high uranium values, are from parts of the aquifer that, while not being oxidized, were contaminated by excursions of uranium-rich lixiviant. Further, according to Dr. Abitz, the latter samples have low radium-226 values because radium-226 is less mobile than uranium. Therefore, Dr. Abitz concluded, all the baseline samples at Nubeth were contaminated by uranium released during the initial 1976 test. *See* Abitz Initial Testimony at 33-34; *see also* Tr. at 451.

were collected, a preindustrial baseline does not exist for the Nubeth pilot-scale study, which leaves the FSEIS without a significant component needed as part of the FSEIS site characterization baseline analysis. *See id.* at 34.

4.52 Regarding the specifics of Dr. Abitz's Nubeth-related claims, Staff witnesses asserted that 1976 preindustrial groundwater quality data collected prior to Nubeth's single well test and the 1978 samples collected prior to Nubeth's five-spot R&D test were, based on a Staff determination they were collected according to industry standards, (1) compiled in FSEIS table 3.7; and (2) as the only available estimates of preindustrial water quality, used in FSEIS § 3.5.3.3 to assess differences in water quality from the late 1970s to 2010-11. *See* Staff Initial Testimony at 19-20 (Johnson, Moore, Saxton) (referencing FSEIS 9A, at 3-41). Further, according to Staff witnesses, because the purpose of the FSEIS is to characterize the existing groundwater quality conditions in and adjacent to the Ross Project site and to assess the potential impacts to groundwater quality that may occur as the result of ISR operations, if groundwater quality data reported in the FSEIS table 3.6 are biased to high values as a result of impacts from the former Nubeth operation, these "high values," which represent the existing groundwater conditions at the site, are what is important, as opposed to the impacts of past uranium mining activities on water quality. *See id.* at 20; *see also* Tr. at 452-53 (Moore). Staff witnesses further asserted that, contrary to Dr. Abitz's characterizations, there is no consistent relationship between levels of uranium and radium-226 in the groundwater and, moreover, the high levels of radium in the Ross Project groundwater existed before any mining took place on the site. *See* Tr. at 449-50 (Johnson).

4.53 Regarding the Nubeth data, SEI witness Schiffer stated that the Nubeth site's total area was approximately 7 acres, or less than one-half of 1 percent of the total Ross license area, and that none of the SEI monitoring well clusters fell within the Nubeth site footprint. SEI witness Schiffer also stated that around 1982, Nubeth relinquished ownership of the site's production and project water supply wells to an oil company, which thereafter used the water for enhanced oil recovery using water-flood techniques. Further, according to SEI witness Schiffer, Wyoming Oil and Gas Conservation Commission records show that the two Nubeth wells, along with another oil company well close to the Nubeth site, all of which have been in continuous use since that time, created a cone of depression that encompasses the Nubeth R&D site. The cone of depression, SEI witness Schiffer declared, is essentially a groundwater sink that draws water from the surrounding aquifer into these wells. *See* Schiffer Initial Testimony at 18-19.

SEI witness Moores, in his EC 3-related testimony regarding the Nubeth facility,<sup>38</sup> further declared that between 1979 and 2010, nearly 1.2 billion gallons of water were removed from the aquifer via these wells and then reinjected into underlying aquifers to support enhanced oil recovery, an action that SEI witness Schiffer suggested would have removed any potential contaminants that might have biased precensing water quality characterization for the Ross site. Moreover, both SEI witnesses Schiffer and Moores agreed that, as a consequence of this groundwater pumping activity, it was virtually impossible that any groundwater had left the immediate vicinity of the Nubeth site to affect Ross site water quality characterization, with SEI witness Moores adding that the large volume of water removed from the aquifer for the past 30 years made it unrealistic to assume that any of the original groundwater from the Nubeth site still existed within the aquifer. *See* Schiffer Initial Testimony at 19; Ex. SEI042, at 11 (Initial Written Testimony of Ray Moores) [hereinafter Moores Initial Testimony].

4.54 While Joint Intervenor’s concerns about the impact of the Nubeth R&D project on Ross site water quality undoubtedly are a reflection of their position that “baseline” water quality should describe “an aquifer that has not been disturbed by human actions,” Joint Intervenor Findings at 13, we conclude that, in this context,<sup>39</sup> the proper role of the NEPA assessment was to characterize the current state of water quality at the Ross site, with whatever Nubeth-related warts that might entail. The Staff concluded in that regard that the current water quality of the OZ aquifer is the same as it was during Nubeth’s preoperational sampling. *See* FSEIS 9A, at 5-29 (“The data presented in Tables 3.6 and 3.7 in SEIS Section 3.5.3 suggest that the current water quality in the ore zone and the SM aquifers are the same as each were at the time of Nubeth’s pre-operational sampling.”). In our estimation, the preponderance of the evidence in the record, including the 1976 and 1978 data used in creating FSEIS table 3.7,<sup>40</sup> and SEI witnesses’ testimony regarding the post-project use of the Nubeth R&D wells, both supports this Staff conclusion and resolves this Joint Intervenor challenge in favor of the Staff and SEI.

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<sup>38</sup> Because the focus of his testimony concerned EC 3, we describe Mr. Moores’ qualifications below in section IV.C.1.a, which we likewise conclude allow us to consider this aspect of his testimony in connection with EC 1.

<sup>39</sup> Staff witnesses also noted that in addition to using Nubeth operation historical data as part of Staff’s characterization of the existing conditions at the Ross Project site, the Staff accounted for the impacts of the Nubeth site in the context of the FSEIS § 5.7.2 cumulative impacts analysis, *see* Staff Initial Testimony at 20-21 (Johnson, Moore, Saxton), an analysis the validity of which, the Staff asserted, is not within the scope of EC 1, *see* Staff Findings at 30.

<sup>40</sup> In this regard, we do not accept Dr. Abitz’s assertions that the uranium and radium-226 values in the 1978 data preclude those data’s use by the Staff in assessing an appropriate precensing baseline for the Ross Project.

## **5. Board Conclusions Regarding EC 1**

4.55 The Board concludes that Joint Intervenors have failed to establish the validity of their various challenges, based on alleged noncompliance with 10 C.F.R. §§ 51.90-94, 10 C.F.R. Part 40, Appendix A, and NEPA, to the adequacy of the FSEIS description of the baseline water quality at the Ross ISR site. In this regard, we find initially that the applicant's 10 C.F.R. Part 40, Appendix A, Criterion 7 monitoring program for establishing the existing site characterization baseline values for certain site groundwater constituents prior to the issuance of a Part 40 license for ISR facility construction and operation need not, for the purpose of complying with NEPA and the agency's Part 51 implementing regulations, be conducted so as to also provide the background information needed to set Appendix A, Criterion 5B groundwater protection standards.

4.56 With respect to Joint Intervenors' specific arguments regarding the purported negative impacts on the FSEIS of the supposed technical inadequacies associated with SEI's monitoring well deployment program (including well numbers and location), SEI's aquifer sampling intervals, the Staff's use of sampling results averaging, the sample data bias resulting from SEI's use of standard drilling techniques, the sample data bias resulting from SEI's sequential development of additional wellfields, and the sample data bias associated with using well samples from the Nubeth R&D site, based on a preponderance of the evidence in the record before us, we resolve each of these matters in favor of the Staff and SEI.

## **B. Contention EC 2**

4.57 The Board's order regarding the migration of EC 2 as an FSEIS-related contention set forth that issue statement as follows:

[EC] 2: The FSEIS fails to analyze the environmental impacts that will occur if the applicant cannot restore groundwater to primary or secondary limits.

CONTENTION: The FSEIS fails to meet the requirements of 10 C.F.R. §§ 51.90-94 and NEPA because it fails to evaluate the virtual certainty that the applicant will be unable to restore groundwater to primary or secondary limits in that the FSEIS does not provide and evaluate information regarding the reasonable range of hazardous constituent concentration values that are likely to be applicable if the applicant is required to implement an [alternate concentration limit (ACL)] in accordance with 10 C.F.R. Part 40, App. A, Criterion 5B(5)(c).

FSEIS Order, App. A, at 1.



### ***1. Witnesses and Evidence Presented***

4.58 SEI, the Staff, and Joint Intervenors presented eight witnesses at the evidentiary hearing to testify on EC 2 and the adequacy of the FSEIS analysis of environmental impacts should SEI be unable to restore groundwater to primary or secondary limits under 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)(a)-(b), and thus would be required to implement an ACL under Criterion 5B(5)(c). In addition to providing oral testimony, each witness also presented prefiled written direct and/or rebuttal testimony with supporting exhibits.<sup>41</sup>

#### ***a. SEI***

4.59 At the evidentiary hearing, SEI presented four witnesses concerning EC 2: (1) SEI CEO Ralph Knode; (2) Ben Schiffer, WWC Engineering senior geologist and project manager; (3) Hal Demuth, a senior engineer/hydrologist and principal of Petrotek Engineering Corp.; and (4) Errol Lawrence, a Petrotek Engineering Corp. senior hydrologist. *See* Tr. at 516-29, 612-48.

4.60 The qualifications of these SEI witnesses were discussed previously by the Board in connection with its ruling on EC 1. *See supra* section IV.A.1.a.

#### ***b. NRC Staff***

4.61 Three witnesses testified at the evidentiary hearing regarding the Staff's position on EC 2: (1) Johari Moore, the NRC Ross Project lead environmental review project manager; (2) John Saxton, an NRC Ross Project safety review project manager and hydrogeologist; and (3) Dr. Kathryn Johnson, an AEC/JEC geochemist. *See* Tr. at 535-62, 612-48.

4.62 The qualifications of the Staff's witnesses were discussed previously by the Board above in connection with its ruling on EC 1. *See supra* section IV.A.1.b.

#### ***c. Joint Intervenors***

4.63 One witness, Dr. Lance Larson, an NRDC science fellow since January

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<sup>41</sup> *See* Tr. at 516-648; Knode Initial Testimony at 9-11; Schiffer Initial Testimony at 22-29; Schiffer Rebuttal Testimony at 17-19; Demuth/Lawrence Initial Testimony at 13-18; Demuth/Lawrence Rebuttal Testimony at 6; Staff Initial Testimony at 27-42; Staff Rebuttal Testimony at 16-24; Ex. JTI003-R, at 5-48 (Pre-Filed Testimony of Dr. Lance Larson on Contentions 2 and 3) [hereinafter Larson Initial Testimony]; Ex. JTI052-R, at 2-13 (Pre-Filed Rebuttal Testimony of Dr. Lance Larson on Contentions 2 and 3) [hereinafter Larson Rebuttal Testimony].

2014, provided testimony at the hearing regarding Joint Intervenor's position with respect to EC 2. *See* Tr. at 587-648.

4.64 Dr. Larson received a Bachelor of Engineering degree in environmental engineering from California Polytechnic State University, a Master of Science degree in civil and environmental engineering from the South Dakota School of Mines and Technology, and a dual doctorate in environmental engineering and biogeochemistry from Pennsylvania State University. *See* Larson Initial Testimony at 2; Ex. JTI004, at 1 (Lance Nichols Larson CV). In support of Joint Intervenor's claims concerning EC 2, Dr. Larson prepared "storymaps," or visual representations of NRC ISR post-mining groundwater restoration data paired with post-licensing, preoperational data, all geospatially mapped. *See* Larson Initial Testimony at 22-48. Storymaps, as well as the underlying NRC data, regarding the Smith Ranch ISR uranium mining site units A and B and the Willow Creek Christensen Ranch satellite facility ISR uranium mining site units 2-6 were prepared and admitted into evidence. *See* Tr. at 741-42; Ex. JTI005A-R2 (ISR Storymap Source Spreadsheet Data) [hereinafter Source Data]; Ex. JTI005B-R2 (ISR Storymaps Application) [hereinafter Storymaps].

*d. Finding Regarding Witness Qualifications*

4.65 Based on the foregoing, and the respective background and experience of the proffered individuals, the Board finds that each of these SEI, Staff and Joint Intervenor witnesses is qualified to testify relative to the adequacy of the FSEIS analysis of environmental impacts should an ACL be necessary for groundwater restoration.

**2. Legal Background for Contention 2**

*a. NRC Regulations on ISR Groundwater Restoration*

4.66 The requirements for groundwater restoration standards for ISR mining operations are set forth in 10 C.F.R. Part 40, Appendix A, Criterion 5B(5):

At the point of compliance, the concentration of a hazardous constituent must not exceed —

- (a) The Commission approved background concentration of that constituent in the ground water;
- (b) The respective value given in the table in paragraph 5C if the constituent is listed in the table and if the background level of the constituent is below the value listed; or
- (c) An alternate concentration limit established by the Commission.

Thus, three standards are accepted by the Commission as the bases for approval of

an ISR operator's groundwater restoration. The first option, which is frequently referred to as "primary groundwater restoration standards," returns the constituent to background levels. *See* 10 C.F.R. Part 40, App. A, Criterion 5B(5)(a); *see also* NUREG-1569, at B-1 to -2. Additionally, there is restoration to what is known as "secondary groundwater restoration standards." Initially, this would be restoration of constituent levels to the drinking water limits enumerated in Appendix A, Table 5C. *See* 10 C.F.R. Part 40, App. A, Criterion 5B(5)(b); *see also* NUREG-1569, at B-2; Staff Initial Testimony at 10-11 (Johnson, Moore, Saxton). Thereafter, and a particular focus of EC 2, would be restoration to an ACL, which is permitted only when restoration to a primary or the secondary Table 5C standard is not "practically achievable." 10 C.F.R. Part 40, App. A, Criterion 5B(5)(c), (6); *see also* NUREG-1569, at B-2.<sup>42</sup>

4.67 To have an ACL approved, a licensee must demonstrate that the hazardous constituent value is "as low as reasonably achievable, after considering practicable corrective actions, and that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded."<sup>43</sup> 10 C.F.R. Part 40, App. A, Criterion 5B(6). Moreover, nineteen different factors must be considered in making the "present and potential hazard" finding requisite to Commission approval of an ACL. *See id.* Criteria 5B(6)(a)(i)-(ix), (b)(i)-(x).

4.68 Should an ISR licensee seek to meet its groundwater restoration obligations through an ACL, the licensee must request a license amendment. *See* Staff Initial Testimony at 30 (Johnson, Moore, Saxton); *see also* Tr. at 393 (Saxton); Demuth/Lawrence Initial Testimony at 18; Demuth/Lawrence Rebuttal Testimony at 6. In the context of agency consideration of that amendment request, the ACL, with its specific constituent limits, undergoes a NEPA review. *See De-*

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<sup>42</sup> The Board notes that in referring to "secondary" standards, what Joint Intervenors are referencing is the secondary Table 5C standards. *See* Petition to Intervene and Request for Hearing by [Joint Intervenors] (Oct. 27, 2011) at 16-17; Larson Initial Testimony at 21.

The Board notes also that a dispute exists among the parties over whether this sequential requirement also extends into the primary and the secondary Table 5C standards. Specifically, the disagreement is whether a licensee must first attempt restoration to primary groundwater restoration standards before restoring groundwater constituents to secondary Table 5C standards or, instead, whether restoration may be achieved directly through satisfaction of the secondary standards. SEI and the Staff assert that there is no obligation to first attempt restoration to primary standards. *See* Staff Reply Findings at 14; SEI Reply Findings at 8. Joint Intervenors disagree. *See* Joint Intervenors Findings at 40-41. The Board declines to express an opinion on the matter, which is outside of the scope of the issues presented by EC 2.

<sup>43</sup> The agency has issued guidance on how the Staff is to assess compliance with the "as low as reasonably achievable" (ALARA) standard. *See* Ex. NRC021, at 4-34 to -36 (NMSS, NRC, [SRP] for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978, NUREG-1620 (rev. 1 June 2003)).

muth/Lawrence Initial Testimony at 18; Demuth/Lawrence Rebuttal Testimony at 6.

*b. Relevant Requirements for FSEIS*

4.69 In EC 2, Joint Intervenors alleged that the FSEIS violates the agency's NEPA regulations in 10 C.F.R. §§ 51.90-51.94.<sup>44</sup> Section 51.90 imposes the legal requirements applicable to a draft EIS, as specified in sections 51.70(b) and 51.71, onto a final EIS. Of particular relevance is section 51.71(d), which states that “[t]he analysis for all draft [EISs (and final EISs by virtue of § 51.90)] will, to the fullest extent practicable, quantify the various factors considered. To the extent that there are important qualitative considerations or factors that cannot be quantified, those considerations or factors will be discussed in qualitative terms.” 10 C.F.R. § 51.71(d). Thus, where environmental impacts are practically quantifiable, section 51.71(d) imposes a duty on the agency to discuss them in those terms in the FSEIS.

4.70 Furthermore, section 51.71(d) states that while license requirements and other environmental quality standards are to be considered in assessing environmental impacts, they do not negate the Staff's responsibility to consider all environmental effects. *See id.* (“Consideration will be given to compliance with environmental quality standards and requirements that have been imposed by Federal, State, regional, and local agencies . . . . The environmental impact of the proposed action will be considered in the analysis with respect to matters covered by environmental quality standards and requirements irrespective of whether a certification or license from the appropriate authority has been obtained.”) (footnote omitted); *see also id.* n.3 (“Compliance with the environmental quality standards and requirements of the Federal Water Pollution Control Act (imposed by EPA or designated permitting states) is not a substitute for, and does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality, and to consider alternatives to the proposed action that are available for reducing adverse effects.”).

**3. FSEIS Discussion Relative to EC 2**

4.71 FSEIS § 4.5.1.3 (Ross Project Aquifer Restoration) discusses the Ross Project groundwater restoration matters that are relevant to EC 2. In this discussion

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<sup>44</sup> Section 51.91 discusses the additional content required in a final EIS compared to a draft EIS. Section 51.92 outlines when a supplement to a final EIS is required and what it must contain. Section 51.93 imposes distribution requirements for a final EIS (and a supplement to a final EIS), and section 51.94 mandates that a final EIS (or supplement to a final EIS) be considered in the agency's decisionmaking.

of restoration, the FSEIS analyzed the environmental impacts of groundwater restoration to shallow aquifers, the OZ and surrounding aquifers, and deep aquifers.<sup>45</sup> See FSEIS 9A, at 4-44 to -48. The FSEIS in this regard also noted that “[w]ater quality is measured at the point of compliance that coincides with the established boundary of the exempted aquifer” and that SEI estimated that restoration of each wellfield at the Ross Project would take 8 months. *Id.* at 2-34, 2-35.

4.72 On the particular subject of ISR restoration impacts, to serve as reference points, the FSEIS included a one-page discussion of the three post-1980s-approved aquifer restorations — Crow Butte wellfield 1, Smith Ranch-Highland wellfield A, and Irigaray mine units 1-9 — and their respective impacts on water quality within the exempted aquifer. And with regard to each of these three sites, this historical review outlined the proportion of constituents restored to either post-licensing, preoperational concentrations, or to the existing Wyoming domestic (Class I), agricultural (Class II), or livestock (Class III) use standards, and/or EPA’s drinking water MCLs. Moreover, in the case of the Crow Butte and Irigaray sites, the Staff included a discussion of the magnitude by which certain constituents increased from post-licensing, preoperational concentrations to post-restoration concentrations.<sup>46</sup> See *id.* at 4-46; see also Staff Initial Testimony at 34 (Johnson, Moore, Saxton).

4.73 The FSEIS review of Crow Butte wellfield indicated that twenty-three of thirty-four water quality parameters were returned to post-licensing, preoperational concentrations and two were returned to the Wyoming domestic use standards/EPA drinking water MCLs, and one was returned to the Wyoming agricultural use standards. See Ex. NRC010, at 3-4 (FSME, NRC, NUREG-1910, Supp. 5 (Apr. 23, 2014) (tbl. Errata)) [hereinafter Errata 1]. Concentrations of alkalinity, bicarbonate, calcium, potassium, magnesium, and molybdenum

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<sup>45</sup> The Ross Project’s aquifer-restoration methodology is described in FSEIS section 2.1.1.3. SEI proposes a combination and sequence of (1) groundwater transfer; (2) groundwater sweep; (3) reverse osmosis treatment with permeate injection; (4) groundwater recirculation; and (5) stabilization monitoring. See FSEIS 9A, at 2-35 to -37.

<sup>46</sup> Previously, the NRC would approve groundwater aquifer restoration for a hazardous constituent that was returned to its preoperational State-established class of use (i.e., drinking water use, livestock use, or agricultural use in Wyoming). See Tr. at 555 (Saxton); see also NUREG-1569, at 6-9. In 2009, the Staff issued a regulatory issue summary stating that the “NUREG-1569 discussion of groundwater restoration to ‘pre-operational class of use’ as being a secondary standard is not accurate, and is not an appropriate standard to use in evaluating license applications.” Ex. NRC038, at 3 (FSME, NRC, NRC Regulatory Issue Summary 2009-05, Uranium Recovery Policy Regarding: (1) The Process for Scheduling Licensing Reviews of Applications for New Uranium Recovery Facilities and (2) The Restoration of Groundwater at Licensed Uranium [ISR] Facilities (Apr. 29, 2009)). As such, although this state class of use standard was applicable to the three sites included in the FSEIS historical analysis, it is no longer utilized. In contrast, EPA drinking water MCLs continue to be an accepted groundwater restoration standard. See 10 C.F.R. Part 40, App. A, Criteria 5(B)(5)(b), 5C.

exceeded post-licensing, preoperational concentrations by 6% to 65%. No values were given concerning uranium concentrations. *See id.*

4.74 According to the FSEIS, restoration of the Smith Ranch-Highland facility's wellfield A returned thirty-one of thirty-five water quality parameters to post-licensing, preoperational concentrations or Wyoming's domestic use standards. There was no mention of the percent by which those constituents not returned to preoperational levels exceeded post-licensing, preoperational levels of uranium. *See* FSEIS 9A, at 4-46.

4.75 Finally, Irigaray mine units 1-9 were discussed in the FSEIS, for which twenty-seven of thirty-five parameters were returned to post-licensing, preoperational concentrations or Wyoming's domestic use standards. Calcium, magnesium, sodium, bicarbonate, and alkalinity, as well as the measure for conductivity, for which there were no Wyoming class of use standards or EPA MCLs, exceeded post-licensing, preoperational concentrations by 48% to 680%. The FSEIS also indicated that the NRC determined that the concentrations in excess of post-licensing, preoperational levels would not exceed EPA MCLs outside the aquifer-exemption boundary. No mention was made of the specific concentrations of uranium at the site before mining began and after aquifer restoration was approved. *See id.*

4.76 Information regarding uranium concentrations for these three sites did, however, come to light in the Staff's prefiled testimony. Staff witnesses stated that at these sites "the Commission approved restoration of uranium to values ranging from 4 to 71 times [(x)] post-licensing, preoperational background values." Staff Initial Testimony at 33 (Johnson, Moore, Saxton). More specifically, the Staff witnesses indicated that "the average concentration of uranium in the wellfield(s) for which the Commission issued restoration approval were as follows: (1) Crow Butte Well field 1: 1.73 mg/L, or 18[(x)] background levels; (2) Smith Ranch-Highland A-Well field: 3.53 mg/L, or 71[(x)] background levels; and (3) Irigaray Mine Units 1-9: 1.83 mg/L, or 4[(x)] background levels." *Id.* (internal citations omitted). The Staff witnesses indicated further that "based upon the available historical record of uranium concentrations at the close of active restoration, if an ACL is requested by Strata for the Ross Project, it is likely to range between 1.7 mg/L and 3.5 mg/L, or 4[(x)] to 71[(x)] the post-licensing, pre-operation background values for uranium . . . ." *Id.* This information the Staff considered to be the FSEIS ACL "bounding analysis." *See id.* at 34.

4.77 Ultimately the FSEIS concluded that impacts to groundwater in the OZ aquifer and surrounding aquifers for the Ross ISR project would be SMALL. *See id.* at 4-40 to -41, 4-48. The Staff based its determination in this regard on LC 10.6 of SEI's (then-draft) source and byproduct materials license, which requires SEI to restore the OZ aquifer in accordance with 10 C.F.R. Part 40, App. A, Criterion 5B(5), and the legal requirements implicit in an ACL, namely that it must be protective of public health and safety to be approved. *See id.* at B-16 to

-17; *see also id.* at 4-40 to -41; Staff Initial Testimony at 31, 35 (Johnson, Moore, Saxton); SEI License at 7-8.

#### **4. *Issues Raised in EC 2***

4.78 With EC 2, Joint Intervenor challenged two central aspects of the Ross Project FSEIS: (1) the sufficiency of the impacts analysis associated with groundwater restoration; and (2) the Staff's conclusion that the impacts on the OZ and surrounding aquifers associated with groundwater restoration would be SMALL. Concerning the sufficiency of the analysis, Joint Intervenor argued that the FSEIS is legally inadequate as it fails to provide and evaluate adequately the historical information regarding the reasonable range of hazardous constituent concentration values that provide the basis for the FSEIS "bounding analysis" showing what might happen if, in restoring Ross site groundwater, SEI is required to use an ACL pursuant to 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)(c), which Joint Intervenor asserted in EC 2 is a "virtual certainty." *See* Larson Initial Testimony at 8. Additionally, Joint Intervenor contended that the quantitative data for historical ISR groundwater aquifer restoration efforts suggest that, in the event an ACL is employed, the impacts to the OZ aquifer and surrounding aquifers would be LARGE. *See* Larson Initial Testimony at 8-16; *see also* Larson Rebuttal Testimony at 2, 9-10. We consider each of these arguments and their technical bases below.

##### ***a. Adequacy of the FSEIS Impacts Analysis and Review of Historical ISR Sites***

4.79 Joint Intervenor initially disputed the adequacy of the FSEIS review of historical ISR sites, i.e., the FSEIS bounding analysis. They alleged that the review is neither comprehensive nor representative of the groundwater impacts that follow the operational conclusion of ISR projects and, as such, holds little value for assessing a future ACL at the Ross Project. Each of Joint Intervenor's specific concerns, as well as the Staff and SEI responses, is reviewed below.

4.80 At the outset, Joint Intervenor asserted that the FSEIS analysis is flawed because it lacks a "risk or dose" calculation to support the conclusion that the elevated concentrations of radium-226 and uranium that have been approved at historic sites, and can be anticipated for a uranium ACL at the Ross Project, pose no threat to human health and the environment. *See* Joint Intervenor Findings at 49; *see also* Larson Initial Testimony at 11. The Staff argued that Joint Intervenor "have provided no evidence to show, however, how a risk or dose calculation to support the Commission's previous licensing decisions for the three sites discussed in the FSEIS is a necessary component of the bounding analysis

called for by the Board in admitting this contention.” Staff Reply Findings at 18 (emphasis omitted). Further, the Staff asserted that Joint Intervenor have not put forward any legal authority to suggest that NEPA requires the agency to validate a prior licensing determination in its environmental review of a different ISR site. *See id.* at 19. SEI similarly maintained that Joint Intervenor’s argument is without merit because, as part of the ACL-associated license amendment application review process, the Staff will conduct a present or potential hazard analysis and, by definition, no ACL may be approved unless the concentration will not pose a substantial present or potential hazard to human health or the environment. *See* SEI Reply Findings at 42. Additionally, according to SEI, the small potential risk to human health and safety is clear because (1) uranium recovery will take place only within an aquifer permanently exempted from protection as a drinking water supply, per EPA and WDEQ determinations that the OZ aquifer is not now, and will not in the future, become a drinking water source; and (2) as Joint Intervenor acknowledged, there are not current or anticipated drinking water wells in the licensing area. *See id.* at 42-43 (citing Tr. at 606 (Larson)).

4.81 While the Board agrees with Joint Intervenor that, based on the historical record, ACLs are a foreseeable consequence of ISR mining, and thus should be considered in the EIS, we do not agree that NEPA mandates a risk or dose calculation be performed concerning historical or potential ACLs. As we have noted previously, NEPA requires neither the use of the best scientific technology nor what would demand virtually infinite study and resources. *See supra* Board Finding 3.3. If the substance of the Staff’s FSEIS bounding analysis withstands scrutiny, which we consider in more detail below, consistent with this touchstone we see no basis for labeling the Staff’s overall approach in preparing that analysis to be legally flawed under NEPA, particularly given the prospect of another NEPA analysis before an ACL is actually implemented relative to what is otherwise a non-drinking water source.<sup>47</sup> *See Alaska v. Andrus*, 580 F.2d 465, 473-74 (D.C. Cir. 1978) (“One of the costs that must be weighed by decisionmakers is the cost

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<sup>47</sup> Although Joint Intervenor have suggested that EPA has not considered whether the water in the exempted aquifer is of sufficient quality to be used for future drinking water purposes, *see* Joint Intervenor Findings at 27, as a legal matter, in granting the aquifer exemption EPA made such a determination. Under 40 C.F.R. § 146.4(b)(1), in exempting the aquifer, EPA had to find that the aquifer “cannot now and will not in the future serve as a source of drinking water” because, among other potential factors, it “is mineral, hydrocarbon or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for a Class II or III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible.” In deciding to exempt the Ross Project aquifer, EPA stated that the aquifer “is mineral producing and can be demonstrated to contain minerals that, considering their quantity and location, are expected to be commercially producible (40 CFR §§ 146.4(b)(1).)” EPA Exemption Letter at 2. Thus, as granted by EPA, the aquifer exemption includes a determination that the aquifer cannot serve as a future source of drinking water.



of uncertainty — i.e., the costs of proceeding without more and better information. Where that cost has been considered, and where the responsible decisionmaker has decided that it is outweighed by the benefits of proceeding with the project without further delay, the courts may not substitute their judgment for that of the decisionmaker and insist that the project be delayed while more information is sought.”)

4.82 Joint Intervenors also argued that important details from the discussion of groundwater aquifer restoration at Crow Butte wellfield I, Smith Ranch-Highland wellfield A, and Irigaray mine units 1-9 are omitted such that the bounding analysis provides an inaccurate account of the scrutiny employed in approving an ACL and the success of groundwater restoration after ISR mining operations cease. *See* Joint Intervenors Findings at 50-55. We consider the circumstances relative to each of these sites below.

4.83 With respect to Crow Butte, Joint Intervenors asserted that the agency-approved ACL for uranium, 18× above post-licensing, preoperational concentrations, lacks a scientific or empirical basis for assessing restoration performance.<sup>48</sup> *See* Joint Intervenors Findings at 50-51; *see also* Larson Rebuttal Testimony at 5. Joint Intervenors’ witness Dr. Larson pointed to the Staff’s initial denial of aquifer restoration approval for Crow Butte, Larson Rebuttal Testimony at 4 (citing Ex. JTI053, at 99 (CBR, Mine Unit 1 Restoration Report (Jan. 10, 2000)) [hereinafter Crow Butte Report]), and then noted the Staff’s subsequent approval following additional samplings despite those samples’ roughly equivalent uranium concentration levels, *see id.* at 4-5 (citing Crow Butte Report at 125-26). Dr. Larson maintained that approval of concentration levels at 1.73 mg/L, or 18× background levels, was arbitrary, chosen out of expedience, and demonstrated that the agency’s determination that this was sufficient to protect human health and the environment was a condition-dependent, subjective statement that lacked a scientific or empirical basis. *See id.* at 5. Thus, instead of serving as a guidepost for what a future authorized ACL might be at the Ross site, Joint Intervenors contended that Crow Butte indicates the “Staff is likely to approve an ACL reflecting whatever contamination remains after SEI has worked on restoration

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<sup>48</sup> Albeit not the subject of any of Joint Intervenors’ proposed findings, Joint Intervenors’ witness Dr. Larson pointed out an error the Staff made in the FSEIS regarding Crow Butte’s restoration by reporting that post-restoration uranium concentrations increased by 18% when, in fact, they increased by 18.8× above the baseline concentration. *See* Larson Initial Testimony at 11-12. While the Staff fixed this error with an errata, *see* Errata 1, at 4, given that the Staff continued to conclude that impacts to groundwater would be SMALL despite the increase in magnitude (an increase of 18× versus 18%), *see id.* at 2, Dr. Larson argued that this is further proof of the Staff’s cursory review of the environmental impacts at the Ross Project. *See* Larson Initial Testimony at 12. While no doubt this is the type of error the Staff will strive not to repeat, the Board nonetheless finds the matter to be without substance, particularly given that the concentration level is well within the upper limits of the bounding analysis for uranium. *See infra* Board Finding 4.96.

efforts for a period that Staff deems sufficient . . . even if those levels are much higher than at Crow Butte or other sites.” Joint Intervenor Findings at 51.

4.84 The Staff disputed any allegation of arbitrary decisionmaking associated with its Crow Butte ACL review. Staff witness Dr. Johnson testified that the Staff did not initially approve restoration at Crow Butte unit 1 because it was uncertain whether concentration levels were stable and thus protective of human health and the environment. *See* Tr. at 615-16. After further monitoring determined that concentrations were indeed stable, the Staff approved the restoration. *See id.* at 616. Dr. Johnson further declared that the Staff’s ACL decisionmaking is scientific in that the Staff completes transport modeling to predict whether a constituent would travel beyond the boundary of the exempted aquifer before approving an aquifer restoration. *See id.* at 617. Finally, she declared that the approved concentration level of uranium at Crow Butte unit 1 was within the secondary standard in use at the time as imposed on the production zone under Crow Butte’s Nebraska state underground injection control permit, and thus the Staff assumed the concentration would also be protective outside the production area. *See* Tr. at 617-18.

4.85 SEI agreed with the Staff that it is incorrect to suggest that Staff’s approved Crow Butte ACLs lack a scientific or empirical basis given the systematic approach for Crow Butte groundwater restoration outlined in the FSEIS. *See* SEI Reply Findings at 36-37 (quoting Staff Initial Testimony at 37 (Johnson, Moore, Saxton)). Further, SEI witness Lawrence pointed out relative to the Ross Project that the nineteen required factors the Staff must review in making a substantial present or future hazard finding and the requirement that an ACL be ALARA were proof of the Staff’s rigorous analysis of proposed ACLs. *See* Demuth/Lawrence Initial Testimony at 16-18. Also of note, according to Mr. Lawrence, is the fact that any ACL application will trigger a NEPA evaluation under 10 C.F.R. Part 51. *See id.* at 18.

4.86 While it is not at all apparent that this licensing proceeding is the forum for relitigating the efficacy of prior Staff ACL determinations, nonetheless, based on the preponderance of the evidence, the Board concludes that the aquifer restoration approval at Crow Butte was not arbitrary. No testimony or other evidence before us substantiates Joint Intervenor’s assertion that the Staff failed to undertake a serious review of the Crow Butte wellfield 1 restoration request or effectively counters the Staff’s testimony that it did not approve the application initially because it could not be certain that the concentration levels were stable, and then later granted the request based on further monitoring and a subsequent determination that those levels had stabilized. We thus find no basis for discounting the Crow Butte data as a legitimate part of the Staff’s bounding analysis.

4.87 Joint Intervenor next argued that the FSEIS is inadequate given its discussion of Smith Ranch-Highland wellfield A, which they asserted lacks the

requisite detail to satisfy NEPA. *See* Joint Intervenor Findings at 51. Specifically, while the FSEIS states that thirty-one of thirty-five water-quality parameters at the Smith Ranch-Highland site were returned to baseline, Dr. Larson challenged the adequacy of this discussion because it did not disclose information on constituent concentrations not returned to baseline, most importantly concentrations of uranium and heavy metals. *See* Larson Initial Testimony at 14.

4.88 Staff witnesses maintained that the information provided in the FSEIS for this and the other two facilities — the proportion of constituents restored to post-licensing, preoperational concentrations, to the existing Wyoming domestic use standards, or to EPA’s drinking water MCLs — was sufficient. *See* Staff Initial Testimony at 32 (Johnson, Moore, Saxton). Moreover, in the Staff’s prefiled testimony, the approved ACL for uranium was provided: 3.53 mg/L, or 71× above post-licensing, preoperational background levels. *See id.* at 33 (Johnson, Moore, Saxton).

4.89 Given that ISR mining is intended to liberate uranium from a mineral deposit so that the uranium can then be extracted from groundwater, we would agree that including information about the post-restoration concentration levels of uranium is an important aspect of any ACL impacts analysis. Yet, despite Joint Intervenor’s assertions to the contrary, *see* Joint Intervenor Findings at 10 (“The defense of the FSEIS must be confined to materials before the agency at the time the FSEIS was issued.”), the Board does not find that the absence in the FSEIS of the information on uranium concentrations renders the NEPA process legally deficient. Rather, the post-restoration uranium concentration levels reported in the Staff’s prefiled testimony supplements the FSEIS so as to cure any defect in that regard. *See supra* Board Finding 3.4.<sup>49</sup>

4.90 Regarding Smith Ranch-Highland wellfield A, Joint Intervenor argued that the environmental impacts have been grossly underestimated by (1) disputing the reported 71× increase in uranium (to 3.53 mg/L), which is the purported high

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<sup>49</sup> Although Joint Intervenor suggests that the fact of license issuance calls into question this well-established precept, *see* Joint Intervenor Findings at 9-10, we see no basis for drawing such a distinction given that the agency’s NEPA record of decision remains open, and is subject to adjudicatory supplementation relative to matters associated with any pending admitted NEPA contention, at least until the hearing record is closed and the final agency adjudicatory decision is issued. Certainly, unlike the cases Joint Intervenor rely on, *see* Joint Intervenor Findings at 9-10 (citing cases), the Board’s ruling is merely an initial decision so that no final agency action has taken place thus far. Moreover, Joint Intervenor overlook another critical distinction mentioned in the cases they cite as support: the difference between a fact-finding administrative body, such as this Board, with the authority to develop an evidentiary record, *see* 10 C.F.R. § 2.332(d) (hearing on environmental issues must await issuance of final EIS), and reviewing adjudicatory and judicial bodies, generally with a more limited record-creating authority. *See Florida Power & Light Co. v. Lorion*, 470 U.S. 729, 743-44 (1985) (distinguishing a district court with “factfinding powers” from a reviewing court whose task is “to apply the appropriate [Administrative Procedure Act] standard of review, 5 U.S.C. § 706, to the agency decision based on the record the agency presents to the reviewing court.”).

end of the bounding analysis for the Ross Project, *see supra* Board Finding 4.76; and (2) asserting that the FSEIS fails to include the impacts associated with a 30× increase in arsenic, a 70× increase in selenium, and a 71× increase in uranium.<sup>50</sup> *See* Joint Intervenors Findings at 51; *see also* Larson Initial Testimony at 14; Larson Rebuttal Testimony at 5. In this regard, Joint Intervenors’ witness Dr. Larson pointed to the storymaps, *see supra* section IV.B.1.c, to further highlight samples he asserts revealed much higher concentration values.<sup>51</sup> Additionally, Joint Intervenors argued that presenting the range of uranium concentrations determined for individual samples, as opposed to the average of all samples from a wellfield, is necessary to provide a meaningful bounding analysis in that the FSEIS should account for the much higher contamination levels found in individual wells, which is not discussed when the data are presented as an average. *See* Joint Intervenors Findings at 51 (citing Larson Rebuttal Testimony at 5).

4.91 The Staff responded to this concern by challenging Dr. Larson’s analysis of post-restoration uranium concentrations at Smith Ranch-Highland. First, the Staff’s witnesses noted that Dr. Larson’s storymaps include information on Smith Ranch-Highland mine unit B that has not received restoration approval and thus is irrelevant in forecasting a future ACL. *See* Staff Rebuttal Testimony at 22 (Johnson, Moore, Saxton). Moreover, in another context, Staff witnesses explained that while Dr. Larson’s approach relies on a range of sampling results collected during the groundwater sweep and during the stability period, this is inappropriate because of the changing and improving nature of the quality of groundwater undergoing restoration, so that Dr. Larson’s sampling results do “not reflect the concentrations in the groundwater at the time restoration was approved.” Staff Rebuttal Testimony at 24 (Johnson, Moore, Saxton). Staff witnesses claimed that the Staff’s method, i.e., using data from the final group of water samples for comparison against baseline, is more accurate. *See id.*

4.92 Based on the preponderance of the evidence, the Board concludes that the Staff’s analysis of the post-restoration uranium concentrations at Smith Ranch-Highland wellfield A is adequate for the purposes of NEPA. Because the data from Smith Ranch-Highland unit B are essentially irrelevant in assessing the Ross ACL, given that unit does not have an approved ACL, uranium concentrations based on Dr. Larson’s sampling results associated with unit B are not indicative of

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<sup>50</sup> Joint Intervenors presented this information in terms of percent increases, i.e., 3000% increase in arsenic, a 7000% increase in selenium, and a 7060% increase in uranium, *see* Larson Initial Testimony at 14, but for consistency we refer to these in terms of the factor by which these concentrations increased, i.e., by 30×, 70×, and 71×, respectively.

<sup>51</sup> For example, well MP-4’s sampling ranged between 5.5-11.5 mg/L for uranium, a 183×-383× increase, or well MP-5 with post-restoration concentrations ranging between 5.9-11.00 mg/L, an increase of between 148×-275× from baseline. *See* Larson Rebuttal Testimony at 6.

what a future ACL at the Ross Project site might be. Additionally, the Board does not take issue with the Staff's presentation of uranium concentrations in the form of an average, nor do we find fault with the Staff calculating that average based solely upon the final concentration levels for uranium when aquifer restoration was approved, both of which appear to be consistent with standard practices.

4.93 Regarding the purported deficiency in the FSEIS bounding analysis discussion of Irigaray mine units 1-9, Joint Intervenor's concern is that the average baseline concentration of uranium (0.52 mg/L) is skewed because of premining R&D activities at mine unit 1, i.e., the injection of lixiviant that was not restored prior to the collection of baseline samples. *See* Joint Intervenor's Findings at 52-53; *see also* Larson Initial Testimony at 14-16; Larson Rebuttal Testimony at 11. Furthermore, Joint Intervenor's maintained that the Staff's averaging of the Irigaray mine units 1-9 baseline concentrations as a single "composite" average inaccurately raised the baseline level because of one higher value outlier. *See* Joint Intervenor's Findings at 53-55; *see also* Larson Initial Testimony at 15-17 (reporting baseline uranium concentrations in mg/L for mine units 1-9, respectively, of 3.042, 0.130, 0.023, 0.046, 0.020, 0.112, 0.119, 0.041, 0.066). As a result, Joint Intervenor's witness Dr. Larson asserted, the overall average uranium concentration at the site appears to have increased from only 0.52 to 1.83 mg/L, a 3.52× increase, i.e., the 4× increase Staff used as the lower figure in its bounding analysis. *See* Larson Initial Testimony at 17. Dr. Larson maintained, however, that this manipulates the data (as was alleged the Nubeth data) so as to "mask the reality of the groundwater impacts of the mining operations," Larson Initial Testimony at 15, and that if wellfields 2-8 were calculated on an individual basis, uranium concentration increased between 16× and 125× above baseline levels, exceeding both the upper and lower bounding limits proffered by the Staff (i.e., 4× to 71×), *see* Larson Rebuttal Testimony at 12.

4.94 With respect to mine unit 1 (of the nine Irigaray units at issue), the Staff's witnesses agreed with Joint Intervenor's that its baseline was likely impacted by prior operations.<sup>52</sup> *See* Staff Initial Testimony at 24 (Johnson, Moore, Saxton); *see also* Tr. at 641 (Saxton). Nonetheless, Staff witnesses attempted to refocus the debate over the significance of this factor, arguing that "[t]he Intervenor's

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<sup>52</sup> In responding to Joint Intervenor's allegations concerning EC 1, the Staff's witnesses stated the post-licensing, pre-operational baseline for several wells was established for the Irigaray wellfield in 1976-1977 after the pilot project had been conducted in 1975 with the area of [wellfield 1]. This timing, without any subsequent restoration report in the record, suggests that the baseline for Wellfield 1 was likely impacted by the prior pilot project operations.

Staff Initial Testimony at 23-24 (Johnson, Moore, Saxton) (citations omitted). The Staff's witnesses did not agree, however, that the impact to the baseline concentration at Irigaray mine unit 1 supports Joint Intervenor's assertion that the Ross Project's baseline is also biased from previous operations. *See id.* at 24 (Johnson, Moore, Saxton); *see also* Tr. at 641 (Saxton).

do not explain how the FSEIS's documentation of the Commission's restoration approval decision for Irigaray, whether or not the Commission's prior decision was based upon a flawed approach, amounts to a failure to comply with NEPA." Staff Initial Testimony at 41 (Johnson, Moore, Saxton); *see also* Tr. at 634-36 (Johnson) (stating that Joint Intervenors' argument concerning averaging is an attempt to redo aquifer restoration and thus irrelevant). Staff witnesses further asserted that to recalculate the initial average baseline concentrations for the mine units would be neither practicable nor useful, requiring the Staff to redo the agency's previous technical evaluation using a different baseline averaging assumption, an effort that, even assuming the necessary raw data were available, would involve an outlay of resources disproportionate to the value of the exercise, which is to record what actually occurred when alternate restoration values were approved at Irigaray. *See* Staff Initial Testimony at 41 (Johnson, Moore, Saxton); *see also* Tr. at 639-40 (Johnson). Further, noting WDEQ's approval of this methodology in calculating baselines and increases in concentrations, the Staff also observed that Joint Intervenors, while appearing to be asserting that either the Staff members performing the Ross Project review or those involved with the Irigaray units employed biased data, nonetheless have failed to support their allegations with any evidence suggesting that Staff had the requisite intent to manipulate the data. *See* Staff Reply Findings at 21-22.

4.95 In reviewing the methodology and calculations drawn from the FSEIS consideration of the Irigaray site, the Board agrees in some respects with Joint Intervenors' concerns. Dr. Larson is correct that including anomalous mine unit 1 in the average background uranium values for the entire Irigaray project unduly lowered the Staff's lower limit estimate for post-restoration uranium concentration relative to premining background in the production zone aquifer. Staff witnesses' admission that the Irigaray site's baseline was impacted by earlier unrestored mining activities, *see supra* Board Finding 4.94, in conjunction with the gross disparity in mine unit 1's baseline concentration as compared to the other eight units, leads the Board to conclude that excluding mine unit 1 from this calculation better serves the purpose of the bounding analysis in assessing what an ACL might look like at the Ross site.

4.96 Accordingly, using the table Dr. Larson provided in his initial testimony, *see* Larson Initial Testimony at 15, the average baseline uranium concentration for the eight wellfields (excluding wellfield number 1) is 0.0696 mg/L. Thus, using only the final sample, the average post-restoration uranium concentration for the other eight wellfields is 1.93 mg/L. *See* Source Data at 273-345.<sup>53</sup> And employing

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<sup>53</sup> This exhibit contains publicly available NRC data regarding ISR site baseline and restoration stability groundwater quality samples. The initial prefiled exhibit, JTI005, was deemed by the Board to be inadmissible for its inclusion of, and reliance on, Internet URL citations. *See* Board Finding

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these figures, the ratio of average post-restoration uranium to background uranium at Irigaray would be 28. This, in turn, indicates that the more likely range for the ratio of post-restoration to premining uranium concentrations in the production zone would be between 18× (i.e., the next lowest value, which is from the Crow Butte evaluation) and 71× (the highest value, which is from the Smith Ranch-Highland evaluation), rather than the 4× to 71× background the Staff indicated. While the Board, in making these findings, supplements the FSEIS bounding discussion and the associated uranium bounding analysis, this finding nonetheless does not materially affect the FSEIS impacts analysis as the upper range for likely uranium concentrations remains unchanged.

4.97 On the other hand, the Board does not agree with Joint Intervenor's assertion that because each mine unit at Irigaray should be evaluated separately, the upper limit of the bounding analysis should be increased from 71× to 125×.<sup>54</sup> Rather, as the Board indicated earlier with respect to Smith Ranch-Highland wellfield A, NEPA does not require that the range of increase from background to post-restoration uranium concentrations be established using the highest value for any individual well unit.<sup>55</sup>

4.98 Lastly, Joint Intervenor contends that the Staff's bounding analysis, and thus the FSEIS, is deficient because it purportedly fails to include quantitative data from other ISR sites, specifically Christensen Ranch mine units 2-6, Smith

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2.12. Subsequently, Joint Intervenor revised and refiled the prefiled exhibit as a multipart exhibit, i.e., JTI005A-R, which set forth the source data, and JTI005B-R, which provided the storymaps. *See id.* Both the source data and storymaps exhibits were admitted into evidence after being amended an additional time before admission, as reflected by their R2 designations, to remove a cover page that provided URL citations that the Board considered inappropriate to the degree the information accessible via those URLs might be considered evidentiary material. *See* Tr. at 574, 741-42; *see also supra* note 5.

<sup>54</sup> The Board also observes that it does not agree with Dr. Larson's calculations that the individual mine units suggest that the upper range of the bounding analysis should be expanded to a 125× increase in uranium concentrations. To arrive at the figure of 125×, Dr. Larson averaged the uranium concentrations in water sampled for four successive stability measurements whereas, as the Staff asserted and the Board agrees, *see supra* Board Finding 4.92, the final sample should only be used as it is the most representative of post-restoration water quality. These differing methodological approaches significantly impact the increase at mine unit 3, the unit that under Dr. Larson's calculations yields the greatest (i.e., a purported 125×) ratio for post-restoration water quality relative to background. When averaging only the last samples collected, the increase in uranium concentrations is 68.5×, just below the upper limit of the bounding analysis provided by Staff witnesses in their testimony (i.e., 71×). *See* Source Data at 279-80.

<sup>55</sup> The Board notes that this may appear to be in conflict with its ruling regarding Irigaray mine unit 1. Mine unit 1 is being excluded from the averaging due to its unique circumstances, under which even Staff witnesses noted that the baseline data were biased. *See supra* Board Finding 4.94. Because there is no reason to suspect that the other wellfield data were similarly biased, we find nothing inappropriate in calculating the magnitude of increase between background uranium levels and post-restoration levels among all the other well units.

Ranch-Highland unit B, and Nubeth. *See* Joint Intervenor Findings at 55-67. With respect to Christensen Ranch, Joint Intervenor's witness Dr. Larson presented evidence, in the form of pie charts, a histogram, and storymaps, illustrating what he asserted was severe contamination of the groundwater despite having employed the standard NRC groundwater restoration plan, which is also proposed for the Ross Project. *See* Larson Initial Testimony at 18-19, 39-41; *see also* Storymaps at 2-20. Dr. Larson also testified that the last stability round sampling event for the Christensen Ranch wellfields revealed an average groundwater uranium concentration of 3.83 mg/L, up from the average baseline of 0.044 mg/L, or an increase of roughly 87×. *See* Larson Initial Testimony at 19. Similar quantitative analysis was presented in the form of storymaps for Smith Ranch-Highland unit B. *See id.* at 43; *see also* Storymaps at 24-25, 30-31. Regarding the Nubeth ISR R&D project in the 1970s in a portion of the area where the Ross Project is now located, Joint Intervenor's witness Dr. Larson acknowledged that the FSEIS addressed Nubeth water quality data in tables 3.7 (Project A) and 5.4 (Project B), but maintained that both tables have issues and, in any event, Nubeth data should be included in the bounding analysis as illustrating how unlikely it is that the Ross Project can be restored to either primary or secondary groundwater standards. *See* Larson Initial Testimony at 9-10 (citing FSEIS 9A, at 3-41 (tbl. 3.7), 5-28 (tbl. 5.4)). Specifically, Dr. Larson asserted that FSEIS table 5.4 results for project B omitted four samples taken post-restoration that, when averaged with the values in the table, showed increases in uranium concentrations from baseline by 109% to 2640%, much greater than the values the Staff provided. *See id.* Dr. Larson also declared that the consideration of Nubeth project A in table 3.7 is inadequate because it provided pretest data that are not useful in evaluating what transpired with groundwater restoration after leaching occurred. *See id.* at 10.

4.99 The Staff disagrees with Joint Intervenor's claims regarding the need to add these data to the FSEIS bounding analysis discussion. Staff witnesses declared that the bounding analysis relies on the best sources of information available in that the three analyzed sites are the only commercial wellfields since the 1980s that have received agency approval for aquifer restoration. *See* Staff Initial Testimony at 34 (Johnson, Moore, Saxton). Furthermore, Staff witnesses maintained that water quality samples from Smith Ranch-Highland unit B and Christensen Ranch mine units 2-6 shed no light on potential future ACLs because the agency has not approved aquifer restoration for those sites.<sup>56</sup>

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<sup>56</sup> Regarding the Christensen Ranch satellite facility, the licensee has sought approval for restoration, but the agency has requested additional information and has identified corrective actions necessary to obtain agency approval. *See* Staff Initial Testimony at 34 (Johnson, Moore, Saxton); Staff Rebuttal Testimony at 20-21 (Johnson, Moore, Saxton). Staff witnesses asserted that this is evidence "that the NRC carefully reviews restoration reports submitted by licensees and does not approve restoration

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*See id.*; *see also* Staff Rebuttal Testimony at 20 (Johnson, Moore, Saxton). As for Nubeth, Staff witnesses declared that it was not an analogous site as it was a small R&D operation. Furthermore, they stated that historical records on Nubeth do not provide sufficient information to compare restoration to what would be conducted at the Ross site. *See* Staff Rebuttal Testimony at 23 (Johnson, Moore, Saxton). Finally, Staff witnesses disputed Joint Intervenors' allegation that the data in FSEIS table 5.4 were incomplete, noting that the difference in approach, as contested elsewhere, is Dr. Larson's suggested averaging of all of the measurements taken from samples collected during the groundwater sweep and during the stability period, as opposed to using the final concentration for comparison against baseline, as was done by the Staff. *See id.* at 24 (Johnson, Moore, Saxton).

4.100 The Board does not take issue with the Staff's decision to limit the bounding analysis to include only those sites whose aquifer restoration has been approved (unlike the Christensen Ranch and Smith Ranch-Highland unit B facilities), *see supra* Board Finding 4.92, or that are analogous to the Ross Project, which the Nubeth R&D project is not. In addition, the Board does not find the FSEIS discussion of Nubeth or the data in FSEIS tables 3.7 or 5.4 to be inadequate.<sup>57</sup>

4.101 In sum, the Board finds the FSEIS bounding analysis, as modified by the Board's opinion, including the Staff's determination to exclude from that analysis the Christensen Ranch, Smith Ranch-Highland unit B, and Nubeth facilities, to be satisfactory under the dictates of NEPA.<sup>58</sup>

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reports until the Staff can make the determination that concentrations of hazardous constituents in the groundwater will be protective of public health and the environment." Staff Rebuttal Testimony at 21 (Johnson, Moore, Saxton).

<sup>57</sup> In this regard, we note that even if we accept the 109% to 2640% (1.09× to 26.4×) uranium value increases proposed by Dr. Larson for the Nubeth project, *see* Larson Initial Testimony at 9, which he indicated the percent change for which were calculated as "(POST-RESTORATION/BASELINE) \* 100," *id.* at 10, these values are well below the maximum 71× increase presented in the FSEIS bounding analysis.

<sup>58</sup> Having found the Staff's FSEIS bounding analysis, as supplemented by this decision, to be adequate to fulfill the agency's NEPA responsibilities, the Board notes that the Staff apparently considers this analysis to be a "one and done" effort, i.e., the bounding analysis apparently was included in the Ross FSEIS only to address EC 2 as admitted by the Board and will not be replicated for any other ISR facility. *See* Tr. at 613-14 (Moore). SEI likewise continues to assert that the bounding analysis is unnecessary. *See* SEI Initial Position Statement at 42-48.

We cannot compel the Staff to replicate the bounding analysis it performed in this proceeding as part of its environmental review for any other ISL facility. *See Duke Energy Corp.* (Catawaba Nuclear Station, Units 1 and 2), CLI-04-6, 59 NRC 62, 74 (2004). Nonetheless, this seems a short-sighted approach that raises unnecessary questions about agency compliance with the dictates of NEPA to provide "a public explanation of the impacts of being unable to restore the mined aquifer to primary

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*b. Adequacy of FSEIS Impacts Determination*

4.102 In the context of EC 2, Joint Intervenors also take issue with the FSEIS conclusion that the impacts associated with groundwater restoration at the Ross Project will be SMALL.<sup>59</sup> See Joint Intervenors Findings at 43-48. The Board first reviews their arguments addressing the temporal nature of the impacts and then considers their concerns regarding the impact's severity.

4.103 Central to the dispute between Joint Intervenors and the Staff and SEI over the duration of the impacts to groundwater is natural attenuation. In this regard, Joint Intervenors' witness Dr. Larson referenced data from Smith Ranch-Highland mine unit A and the so-called Borch study, which is a recent study regarding the efficacy of remediation at that Smith Ranch-Highland unit A, to suggest that post-restoration uranium concentrations are either rising within the OZ aquifer or, to the degree they are stable, remain elevated. See Larson Rebuttal Testimony at 8-9 (citing Ex. NRC029, Attach. at 52 (tbl. 3-6) (Letter from Ken Garoutte, Cameco Resources, to Lowell Spackman, WDEQ (July 31, 2012) (Power Resources Inc., Highland Uranium Project, WDEQ Permit #603, Annual Report (Jul. 31, 2012))) [hereinafter Highland Project Annual Report]); see also Tr. 628-29 (Larson) (citing Ex. NRC037 (Thomas Borch et al., *Determination of contaminant levels and remediation efficacy in groundwater at a former [ISR] uranium mine*, 14 J. Env'tl. Monitoring 1814 (May 2012)) [hereinafter Borch Study]). Dr. Larson noted that the authors of the Borch study emphasize that declining uranium concentrations at one of the OZ monitoring wells in the Smith

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or secondary baseline and, instead, having to use an ACL." LBP-12-3, 75 NRC at 197. As the record before us illustrates, no ISR facility has ever requested that all OZ aquifer groundwater hazardous constituents be restored to 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)(a) CAB concentrations or Criterion 5B(5)(b) MCLs, as those are currently defined. See Tr. at 553 (Saxton). As a result, at this juncture, the agency's experience indicates that an ACL is a foreseeable consequence of ISR mining, the environmental impacts of which seemingly should be addressed at the earliest realistic opportunity using relevant historical information. And we can understand a Staff reluctance to add another analytical element to what already is an extensive environmental review effort for initial applications to establish and operate an ISR facility, particularly given the difficulties inherent to trying to incorporate data that were collected some time ago when at least one important regulatory benchmark was somewhat different. See *supra* note 46. Nonetheless, the bounding analysis information provided by the Staff, and particularly that regarding the baseline and post-restoration values of uranium and the range in which those values might increase (i.e., 18× to 71×), arguably provided the agency and the public with a useful insight into the circumstances that may attend an important aspect of the Ross Project's post-operational existence.

<sup>59</sup> In this regard, although Joint Intervenors reference an FSEIS finding that the impacts of the Ross ISR facility on groundwater quality will be "SMALL and temporary," Joint Intervenors Findings at 45 (citing FSEIS 9A, at 4-36), this FSEIS statement is made in the context of discussing impacts regarding Ross Project operations rather than restoration, which is the subject of EC 2. For restoration impacts relative to the OZ aquifer and the surrounding confining aquifers, the FSEIS indicates the impacts would be SMALL. See FSEIS 9A, at 4-48.

Ranch-Highland wellfield A are not necessarily due to natural attenuation, but could be attributed as well to more uranium leaving with groundwater than the influx of uranium. *See* Larson Rebuttal Testimony at 8. In contrast, the Staff pointed to the same study, but focused on two perimeter monitoring wells for Smith Ranch-Highland wellfield A that showed no change in uranium as evidence that “natural attenuation appears to be effective.” Tr. at 496-97, 625-28 (Johnson).

4.104 The evidence provided by Dr. Larson certainly raises questions about the extent to which, in the decade following post-mining remediation, natural geochemical processes are effective in causing uranium concentrations in groundwater within an OZ aquifer to decrease. Nor is the Board persuaded by Staff witness assertions that the low concentrations of uranium at the perimeter monitoring wells reported in the Borch study are evidence of successful natural attenuation. Given the natural groundwater flow rate in the study area was estimated at 5.6 feet per year, *see* Borch Study at 1816, it is unlikely that water in the OZ would have traveled the approximately 300 feet to the perimeter monitoring wells during the 13-year sampling period, *see id.* at 1817. Yet, the Board also finds support for natural attenuation in the Borch study results concerning an intermediate monitoring well, LTM-4, which is located approximately 50 feet downgradient from the wellfield. *See id.* Water samples from that location showed an increase in chlorine concentrations, but no statistically significant increase in uranium, which the report suggests “provides some evidence that water from the mine unit has indeed reached LTM 4, but other less soluble minerals are being naturally attenuated.” *Id.* at 1821. Thus, while the role of natural attenuation relative to the OZ itself may be unclear,<sup>60</sup> the Board concludes that the limited data available support the Staff’s conclusion that natural processes inhibit the migration of uranium and other contaminants out of the OZ aquifer following restoration and so support the Staff’s SMALL impacts finding, *see* FSEIS 9A, at 4-48.<sup>61</sup>

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<sup>60</sup> In this regard, it may require decades of monitoring to resolve with any certainty the question of natural attenuation’s effectiveness given the large distance between the production zone and the non-exempted aquifer, the boundary of which is the “point of compliance” at which water quality is measured, *see* FSEIS 9A, at 2-34, and the reasonably anticipated slow rate of groundwater migration.

<sup>61</sup> Relative to the Staff’s conclusions about the SMALL impact of ISR restoration on the OZ aquifer and the surrounding aquifers, *see* FSEIS 9A, at 4-48, we also note that whether a lack of natural attenuation would have an effect on that conclusion is not apparent, given that aquifer’s exempted status and the requirement that it be subjected to Criterion 5B(5) restoration. *See infra* Board Finding 4.107.

Also relating to temporal impacts, Joint Intervenors argued that, given the past history of ISR groundwater restorations, in referencing the SEI estimate of 8 months, *see* FSEIS 9A, at 2-35, the FSEIS seriously underestimates the time necessary to restore groundwater following the cessation of wellfield operation. *See* Larson Initial Testimony at 21. The Staff asserted that this is outside the

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4.105 Finally, Joint Intervenor's disputed the FSEIS conclusion that the impacts to groundwater of the Ross Project fit the definition of SMALL as set forth in the FSEIS, i.e., that "[t]he environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource considered." FSEIS 9A, at xx. Joint Intervenor's asserted that the record does not support this determination. They maintained that, in addition to the fact that no ISR site aquifer has ever been restored to baseline values, the quantitative data from Nubeth, Smith Ranch-Highland units A and B, and Christensen Ranch all support a determination that the impacts are "large and long term." Joint Intervenor's Findings at 69; *see* Larson Initial Testimony at 36; Larson Rebuttal Testimony at 2-3, 10; *see also* FSEIS 9A, at xxi ("LARGE" defined as the "[e]nvironmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource considered").

4.106 The Staff responded that Joint Intervenor's fail to acknowledge that the SMALL impacts determination follows from the GEIS. In this regard, Staff witness Moore asserted that there are no site-specific issues associated with the Ross Project and concluded there was no basis to depart from the GEIS conclusion that, even if an ACL is used as the post-restoration groundwater standard, impacts to groundwater would be SMALL. *See* Tr. at 548; *see also* Staff Reply Findings at 17 & n.50. Staff witnesses also declared that the data Joint Intervenor's rely on to suggest that the impacts would be "large and long term" are irrelevant, as those values involved sites without groundwater restoration approval or that are not analogous to the Ross Project or included post-restoration data that were unavailable at the time the Commission approved restoration. *See* Staff Rebuttal Testimony at 20-24 (Johnson, Moore, Saxton); *see also* Staff Initial Testimony at 38 (Johnson, Moore, Saxton). Finally, the Staff asserted that Joint Intervenor's have failed to explain how, in accord with the FSEIS definition of LARGE, the impacts from an ACL will be "clearly noticeable" and "sufficient to destabilize important attributes" of the groundwater, given the OZ aquifer is exempted as a United States drinking water (USDW) source. *See* Tr. at 548-49 (Moore); Staff Reply Findings at 25.

4.107 The Board concludes that the FSEIS determination that restoration-associated impacts to groundwater in the OZ aquifer and surrounding confining

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scope of EC 2 as admitted and limited by the Board. *See* Staff Initial Position Statement at 33-34. SEI, on the other hand, questioned the validity of Joint Intervenor's concern by pointing to advances in groundwater restoration technology that have reduced restoration time, *see* SEI Reply Findings at 38, and to LC 10.6, which explicitly mandates that restoration be completed within 8 months, *see* SEI Rebuttal Position Statement at 27-28. While Joint Intervenor's skepticism of the anticipated time frame is not untoward, given the length of time groundwater restoration activities have taken at other ISR mining sites, the Board nonetheless agrees with the Staff that this concern is outside the scope of EC 2 as admitted.

aquifers would be SMALL is supported by the preponderance of the evidence in the record. The Board agrees with the Staff that there has been no showing that the impacts from employing an ACL will be “clearly noticeable” and “sufficient to destabilize important attributes of groundwater.” This is particularly the case given that the OZ aquifer is permanently exempted as a drinking water source, *see supra* note 47, and there have been no reported instances of an excursion from an ISR facility negatively impacting drinking water, *see* Ex. SEI004A, at 2 (Memorandum from Charles L. Miller, FSME, to the Commission, Staff Assessment of Groundwater Impacts from Previously Licensed In-Situ Uranium Recovery Facilities (July 10, 2009)) (noting that there have been no excursions from ISR sites with “environmental impacts” and that the Staff is aware of no instances in which a water supply well has been degraded, discontinued, or relocated due to ISR activities). Furthermore, while the Board does not consider Joint Intervenor’s concern to be addressed solely by reliance on the LC 10.6 requirement that SEI restore the OZ aquifer in accordance with 10 C.F.R. Part 40, Appendix A, Criterion 5B(5), and the inherent legal requirements of an ACL, *see supra* Board Finding 4.77, it does find that these factors nonetheless support the FSEIS SMALL impacts conclusion. The same is true for the State of Wyoming’s standard mandating that there be no change in the class of use of the exempted aquifer. *See* Tr. at 543 (Saxton). Additionally, there is nothing in the record to suggest that SEI (or the Staff) will not act in good faith to ensure that SEI’s regulatory responsibilities, including its license conditions, are honored, and the Board cannot assume noncompliance. *See, e.g., GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 207 (2000) (citing cases); *see also infra* note 66. Finally, in reaching this conclusion, the Board is mindful that should an ACL be sought, a license amendment would be required, triggering another NEPA review, and a hearing opportunity, which will involve the analysis of more specific water quality data.<sup>62</sup> *See supra* Board Finding 4.68.

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<sup>62</sup> In making this ruling, the Board is also mindful of Joint Intervenor’s concern about the Staff’s statement that, “the Staff’s conclusion in the FSEIS regarding potential impacts to groundwater from the Ross project assumes that a Commission-approved ACL of any amount would have only a SMALL impact on groundwater at the site.” Joint Intervenor Findings at 45 (quoting Staff Initial Position Statement at 32-33 and referencing Tr. at 559-61 (Johnson)). According to Joint Intervenor, this reflects “a lack of analysis and a meaningful standard to gauge the environmental impacts of ISL recovery in the exempted aquifer within the [OZ]” and means that “impacts of an ACL within the mined and exempted aquifer could never be considered ‘large.’” Joint Intervenor Findings at 45, 46.

The Staff did seek to clarify somewhat its position in this regard, indicating that if an ACL is issued, it is based on a regulatory finding that there is not a substantial present or potential hazard to the public health or the environment and, therefore, in the absence of any Ross site-specific issues, consistent with the GEIS impacts finding regarding the potential future need for an ACL, any environmental impacts would not rise to the level of LARGE. *See* Staff Reply Findings at 16-17. Nonetheless, the

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## **5. Board Conclusions Regarding EC 2**

4.108 Based on the findings set forth above, a preponderance of the evidence demonstrates that the FSEIS, as supplemented by the uranium bounding analysis discussed in this decision, adequately identifies the potential environmental impacts of an ACL should an ACL be necessary for the Ross Project site. Furthermore, the preponderance of the evidence before the Board supports the FSEIS determination that the restoration-associated impacts on groundwater quality within the Ross Project site OZ aquifer and surrounding aquifers will be SMALL.

## **C. Contention EC 3**

4.109 As outlined by the Board in its order recognizing the migration of EC 3 as an FSEIS-related contention, this issue statement provides:

[EC] 3: The FSEIS fails to include adequate hydrological information to demonstrate SEI's ability to contain groundwater fluid migration.

CONTENTION: The FSEIS fails to assess [adequately] the likelihood and impacts of fluid migration to the adjacent groundwater, as required by 10 C.F.R. §§ 51.90-94 and NEPA, and as discussed in NUREG-1569 § 2.7, in that:

1. The FSEIS fails to analyze sufficiently the potential for and impacts associated with fluid migration associated with unplugged exploratory boreholes, including the adequacy of applicant's plans to mitigate possible borehole-related migration impacts by monitoring wellfields surrounding the boreholes and/or plugging the boreholes.
2. There was insufficient information for the NRC Staff to make an informed fluid migration impact assessment given that the applicant's six monitor-well clusters and the 24-hour pump tests at four of these clusters provided

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crux of the Staff's position on the impacts of an ACL, i.e., issuance of an ACL must be based on a finding that there is no substantial hazard to the public health or environment and, therefore, any environmental impacts must be SMALL, does, at least on its face, suggest a "resolution by definition" approach.

Ultimately, however, the validation of this Staff approach lies in the fact that the ACL process requires another, separate agency judgment about what is an appropriate concentration level for the various hazardous constituents that will remain post-operation in the production aquifer and that this agency assessment is subject to an adjudicatory challenge. An SEI request for an ACL can be contested, as to both its safety and environmental components, when that proposal is made, affording an opportunity for Joint Intervenors (or others) to question before the agency (and seek judicial review regarding any agency decision on) whether the limits proposed by SEI are protective of the public health and the environment (and so result in SMALL impacts).

insufficient hydrological information to demonstrate satisfactory groundwater control during planned high-yield industrial well operations.

FSEIS Order, App. A, at 1.

### ***1. Witnesses and Evidence Presented***

4.110 SEI, the Staff, and Joint Intervenors presented a dozen witnesses in connection with EC 3 during the September-October 2014 evidentiary hearing in support of their respective positions on whether the FSEIS discussion and analysis of hydrological information was sufficient to demonstrate SEI's ability to contain groundwater fluid migration. Each of these witnesses also presented written direct and/or rebuttal testimony, with supporting exhibits.<sup>63</sup>

#### ***a. SEI***

4.111 At the evidentiary hearing, SEI presented six witnesses regarding EC 3: (1) SEI CEO Ralph Knode; (2) Ben Schiffer, WWC Engineering senior geologist and project manager; (3) Hal Demuth, a senior engineer/hydrologist and principal of Petrotek Engineering Corp.; (4) Errol Lawrence, a senior hydrologist at Petrotek Engineering Corp.; (5) Michael Griffin, SEI's Vice President of Permitting, Regulatory, and Environmental Compliance; and (6) Ray Moores, a civil engineer/project manager with WWC Engineering. *See* Tr. at 671-703, 756-84.

4.112 Following training as a submarine electrical operator in the United States Navy's nuclear power program, Michael Griffin completed more than 3 years toward a Bachelor of Science degree at the Universities of Utah and South Carolina. Prior to joining SEI, he was a principal with Griffin Consulting, Inc., and worked in various positions in field operations, facility licensing and permitting, regulatory affairs, environmental protection, health physics and industrial safety programs, and radioactive and hazardous waste management with Uranium One, Inc., CBR, Resource Technologies Group, Inc., and Chem-Nuclear Systems, Inc. At the Ross Project, he oversees licensing and permitting activities and the

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<sup>63</sup> *See* Tr. at 671-784; Knode Initial Testimony at 11-13; Knode Rebuttal Testimony at 6-7; Schiffer Initial Testimony at 29-34; Schiffer Rebuttal Testimony at 19-22; Demuth/Lawrence Initial Testimony at 18-21; Demuth/Lawrence Rebuttal Testimony at 6-7; Ex. SEI039, at 4-6 (Initial Written Testimony of Mike Griffin) [hereinafter Griffin Initial Testimony]; Ex. SEI049, at 3-4 (Rebuttal Testimony of Mike Griffin) [hereinafter Griffin Rebuttal Testimony]; Moores Initial Testimony at 5-11; Ex. SEI048, at 3-6 (Rebuttal Testimony of Ray Moores) [hereinafter Moores Rebuttal Testimony]; Staff Initial Testimony at 42-78; Staff Rebuttal Testimony at 24-39; Abitz Initial Testimony at 40-55; Abitz Rebuttal Testimony at 16-17; Larson Initial Testimony at 49-68; Larson Rebuttal Testimony at 14-24.

development of environmental, health, and safety programs. *See* Griffin Initial Testimony at 3-4; Ex. SEI040, at 1-4 (Michael Griffin CV).

4.113 Ray Moores holds Master's and Bachelor of Science degrees in civil engineering from the University of Wyoming. A registered professional engineer in Wyoming and Colorado, his main role at the Ross Project has been to prepare the numerical groundwater model, including developing the conceptual groundwater model and developing, calibrating, and running operational simulations using the numerical groundwater model. Additionally, he provided technical support for the aquifer tests, assisted with preparation of the license application, and assisted with geotechnical drilling and analysis within the proposed CPP. *See* Moores Initial Testimony at 3; Ex. SEI043, at 1 (Ray Moores CV).

4.114 The qualifications of the other four SEI witnesses were discussed previously by the Board above in connection with its ruling on EC 1. *See supra* section IV.A.1.a.

*b. NRC Staff*

4.115 At the hearing, four witnesses provided testimony regarding the Staff's position concerning EC 3: (1) the NRC Ross Project lead environmental review project manager Johari Moore; (2) John Saxton, an NRC Ross Project safety review project manager and hydrogeologist; (3) AEC/JEC geochemist Dr. Kathryn Johnson; and (4) Dr. Anthony Burgess, an AEC principal hydrogeologist. *See* Tr. at 707-40, 756-84.

4.116 Dr. Anthony Burgess, who is a licensed professional engineer in Washington state, received his Doctoral and Bachelor of Science degrees in geology from the University of Durham, United Kingdom. He is currently president of Anthony Burgess Consulting, Inc. Dr. Burgess prepared the sections of the DSEIS and FSEIS that address groundwater issues. *See* Staff Initial Testimony at 2; Ex. NRC005, at 1, 2 (Burgess SPQ).

4.117 The qualifications of the other three Staff witnesses were discussed previously by the Board, above, in connection with its ruling on EC 1. *See supra* section IV.A.1.b.

*c. Joint Intervenors*

4.118 During the hearing, two witnesses provided evidence relative to Joint Intervenors' positions on this contention: (1) Dr. Richard Abitz, the principal geochemist and owner of Geochemical Consulting Services, LLC; and (2) NRDC science fellow Dr. Lance Larson. *See* Tr. at 748-84. The qualifications of each of these witnesses were previously discussed by the Board, above, in connection



with its rulings on EC 1 and EC 2, respectively. *See supra* sections IV.A.1.c and IV.B.1.c.

*d. Finding Regarding Witness Qualifications*

4.119 Based on the foregoing, and the respective background and experience of the proffered individuals, the Board finds that each of these SEI, Staff, and JTI witnesses is qualified to testify relative to the subject of the adequacy of the FSEIS's hydrological information regarding the containment of groundwater fluid migration.

**2. FSEIS Discussion Relative to Contention EC 3**

4.120 Fluid migration is the subject of FSEIS §§ 3.5.3.2 and 4.5.1.2. Section 3.5.3.2 provides a description of the local geologic stratigraphy and its relationship to the groundwater hydrology of the area of the Ross Project, as well as outlining the SEI precicensing monitoring programs to determine whether there is hydrologic communication, and the associated possibility of excursions, between the OZ layer and the other potentially impacted layers/aquifers across the Ross Project area. The precicensing monitoring programs included aquifer pumping tests performed on six well clusters (which SEI referred to as the regional baseline monitor wells). During six 24-hour tests and one 73-hour test, SEI pumped water from the OZ aquifer while monitoring the SA and SM aquifers (above the OZ) and the DM aquifer (below the OZ) to see whether the pumping had any effect on these aquifers indicative of hydrologic communication. *See* FSEIS 9A, at 3-37; Ex. SEI014G, Add. 2.7-F, at 5-6 (4 SEI, Ross ISR Project USNRC License Application, Crook County, Wyoming, [TR] (Apr. 2012)) [hereinafter Aquifer Test Report]. The FSEIS indicated that while no effects from the SEI OZ pumping were measured in any of the wells in the overlying SA or SM horizon, two of the six underlying DM wells declined slightly during the SEI pumping. The Staff considered this to be communication between the OZ and DM aquifers due to drill holes that were installed during previous resource-exploration efforts, but had not yet been located and properly abandoned (i.e., sealed) by SEI. According to the FSEIS, despite the communication, the integrity of the confining layer between the OZ and DM aquifers was established by the fact that the other four DM aquifer wells were not affected by the OZ pumping, including one well (Well 12-18), for which all the nearby exploration drill holes had been located and properly abandoned. *See* FSEIS 9A, at 3-37; *see also id.* at 4-42.

4.121 Further in this regard, the FSEIS indicates that condition 10.12 of the SEI license provides that to ensure the OZ aquifer remains hydraulically isolated, SEI must first “attempt” to locate and properly abandon all historical drill holes

located within each wellfield's perimeter monitoring well ring prior to conducting the hydrologic wellfield data package testing mandated to begin ISR operations. *See id.* at 4-42; *see also* SEI License at 9 (LC 10.12 stating SEI "[p]rior to conducting tests for a wellfield data package, will attempt to locate and abandon all historic drill holes located within the perimeter well ring for the Wellfield"). This license condition is intended to address the presence of some 1682 drill holes known to exist within the Ross site and a half-mile buffer zone outside the Ross permit area as a consequence of a 1970s pilot project undertaken by Nubeth to locate potential uranium ore bodies. *See* FSEIS 9A, at 3-13, 4-42; Tr. at 679 (Knode). Further, of those 1682 drill holes, 1483 are located within the Ross Project permit area, of which 1354 have been located (as of October 1, 2014) and 108 have been plugged (as of August 1, 2014), while approximately 1382 of the 1483 are located within the somewhat smaller area of the to-be-installed perimeter well-monitoring ring, with 1265 of those having been found by SEI. *See* Tr. at 679-80 (Knode).

4.122 FSEIS § 4.5.1.2 describes the environmental impacts to surface and groundwater of Ross Project operations and potential mitigation measures. Referencing GEIS § 4.2.4.2.2.2, *see* GEIS, at 4.2-22 to -25, the FSEIS indicates in connection with groundwater that horizontal excursions of degraded groundwater outside of the OZ could have a MODERATE to LARGE impact if a large volume of contaminated water leaves the OZ and moves downgradient into a consumption area. The FSEIS indicates further that while most excursions are horizontal and are recovered within months of detection, vertical excursions tend to be more difficult to recover and have remained in excursion status for as long as 8 years. The FSEIS also acknowledges that one of the causes of vertical excursions is improperly abandoned drill holes from earlier exploration activities and that condition 10.12 to the SEI license is intended to mitigate potential impacts from the existing drill holes on the Ross site. Additionally, the FSEIS notes that LC 11.3 requires that SEI install monitoring wells around each wellfield to monitor the OZ, SM, and DM aquifers, while LC 11.5 mandates that SEI must cease injecting lixiviant into the uranium production area surrounded by a perimeter monitoring ring if a vertical excursion is detected during operation. Thereafter, SEI can resume injection operations only when SEI demonstrates to the Staff's satisfaction that the vertical excursion cannot be attributed to leakage through any abandoned drill hole. Finally, assuming adequate monitoring-well excursion detection and SEI groundwater pumping to recover excursions, the FSEIS concludes that the potential impacts of Ross Project operations to groundwater quality in the confined SM and DM aquifers above and below the OZ will be SMALL. *See* FSEIS 9A, at 4-37, 4-38, 4-42, 4-43; *see also* SEI License at 9, 12-14.

### **3. *Joint Intervenor's Issues Regarding Groundwater Fluid Migration***

4.123 Relative to their fluid migration contention EC 3, Joint Intervenor's have identified what they assert are three flaws in the Staff's FSEIS analysis that must be corrected: (1) the FSEIS discounts the risk of fluid migration from unplugged and improperly abandoned boreholes; (2) the FSEIS did not properly assess the risk of fluid migration because the relied-upon pump tests were inadequate to demonstrate aquifer containment; and (3) the FSEIS impacts analysis concludes inaccurately that leachant excursions will be adequately detected. *See* Joint Intervenor's Findings at 72, 78, 79. We consider each of these concerns in turn.

#### **a. *Borehole Issue***

4.124 Declaring that the Staff has previously designated as appropriate for ISR mining only aquifers that it considered "confined," i.e., bounded by an overlying and underlying geologic unit of relatively low permeability, Dr. Larson provided several examples of unexplained vertical excursions at what he asserted were otherwise Staff-designated "confined" sites and stated that undetected, unsealed boreholes appear to be directly related to vertical excursions. *See* Larson Direct Testimony at 52-54. Joint Intervenor's likewise pointed to a 1986 Staff-sponsored study of excursions in Wyoming and Texas ISR mines that (1) indicates vertical excursions are "directly related to the intensity of" prior drilling activity that results in improperly plugged and abandoned exploration holes or poorly completed field wells; and (2) describes "standard practice" in addressing a vertical excursion as seeking to locate abandoned open boreholes (along with pressure testing completed wells in a search for defective or broken casings), but observes that the effectiveness of such a procedure depends on the ability to locate all the abandoned holes, which in the case of older holes is often difficult because of the lack of records, the scattering and covering of well cuttings by erosion and vegetation, and the collapse of exposed surface casings, if permanent casings were ever installed. Joint Intervenor's Findings at 75 (citing Ex. NRC020, at 30 (W. P. Staub et al., Oak Ridge National Laboratory, An Analysis of Excursions at Selected In Situ Uranium Mines in Wyoming and Texas, NUREG/CR-3967, ORNL/TM-9956 (July 1986))); *see also* Abitz Direct Testimony at 46.

4.125 Against this background, Joint Intervenor's criticized the Staff's finding that the long-term impacts of excursions will be SMALL. Joint Intervenor's asserted that the FSEIS did not assess adequately the risk of fluid migration from improperly plugged and abandoned boreholes because it assumed that the remaining 1500+ Nubeth boreholes will be located and then properly filled. Given the acknowledged difficulty of locating and filling such old holes, in conjunction with SEI's plan not to try to fill boreholes beyond the perimeter monitoring

ring for each wellfield, which may be established at any point within 400 feet of the production wells in a field, Joint Intervenors declare that contamination beyond those wellfield areas is even more likely to be unconfined as it may reach unplugged boreholes SEI does not intend to fill. *See* Joint Intervenors Findings at 77. Further, Joint Intervenors contend that LC 10.12, as a measure intended to mitigate the impact of any drill hole-related excursion, is inadequate because that condition requires SEI only to “attempt” to locate and fill the boreholes, an attempt that an SEI witness acknowledged might not be successful before ISR operations begin, *see* Tr. at 766 (Griffin), and that a Staff witness stated may only be the subject of an enforcement action if the Staff determines that SEI activities associated with not fulfilling the license condition were “willful,” Tr. at 764 (Saxton). Moreover, Joint Intervenors asserted, LC 10.12’s ineffectiveness as a mitigation measure, in conjunction with the acknowledged difficulty in locating old boreholes like those on the Ross site, established that the FSEIS is deficient because it failed to present a timetable and requirements for borehole location, plugging, and abandonment prior to any wellfield development. *See* Abitz Initial Testimony at 48.

4.126 While recognizing Joint Intervenors’ arguments regarding the LC 10.12 requirement that SEI “attempt” to locate and abandon all the approximately 1500 drill holes within the Ross permit area, the Staff asserted that this concern rests on a mistaken assumption, i.e., that the location and proper filling of these boreholes is critical to the FSEIS conclusion that the environmental impacts associated with fluid migration will be SMALL. Instead, the Staff declared, its FEIS impacts conclusion of SMALL “is based not on the finding and filling of boreholes, as [Joint] Intervenors claim, but on the detection and recovery of potential excursions.” Staff Reply Findings at 28; *see id.* at 29 (stating Staff’s ultimate conclusion long-term impacts to OZ aquifer outside the exempted area would be SMALL is based on Staff’s analysis of SEI’s ability to recover potential excursions, not assumption all boreholes would be located and filled). The Staff thus concluded that, as documented in FSEIS § 3.5.3.2, sufficient safeguards are in place to protect against excursions should SEI be unable to locate and abandon all the Nubeth drill holes within the perimeter well ring. *See* Staff Findings at 46.

4.127 The presence of some 1500 preexisting boreholes within the Ross permit area undoubtedly presents a daunting challenge both in assessing and mitigating the potential environmental impacts of the drill holes. As just noted, the Staff places its main reliance in this regard on SEI’s excursion detection and recovery efforts. Yet, in considering the evidence before us, we conclude the Staff has overly discounted the importance of the license condition requirement that SEI act to locate and properly abandon all historic drill holes within the wellfield perimeter well ring as a factor in finding that long-term fluid migration impacts will be SMALL. The excursion monitoring requirements of LC 11.5, which govern excursion detection and recovery and upon which the Staff places

so much emphasis as the basis for its FSEIS impact determination, is labeled in the SEI license as one of the “Standard Conditions,” *see* SEI License at 11, and likewise seems to be standard for other ISR licenses, *see* NRC, Materials License No. SUA-1600, Docket No. 40-09075, at 9, 10-11 (Apr. 8, 2014) (LC 11.5 for Powertech (USA) Inc. Dewey-Burdock Project among “Standard Conditions”) (ADAMS Accession No. ML14043A392); NRC, Materials License No. SUA-1597, Docket No. 040-9067, at 10, 12 (Amend. No. 3, Aug. 28, 2014) (same for LC 11.5 for Uranex Energy Corp. Nichols Ranch Project) (ADAMS Accession No. ML14212A457).<sup>64</sup> Nonetheless, there is a “nonstandard” provision in this standard condition, which is a specific reference to the problem of existing boreholes on the Ross site that LC 11.5 in the SEI license addresses as follows:

If a vertical excursion is detected during operations, then injection of lixiviant into the production area surrounding the monitoring well will cease until the licensee demonstrates to the satisfaction of NRC that the vertical excursion is not attributed to leakage through any abandoned drill hole.

SEI License at 14. While this requirement outlines the appropriate action that must be taken in the event a vertical exclusion is identified, as a measure intended to ensure that the facility can operate safely on a continuing basis, it also emphasizes the importance of “Facility Specific” LC 10.12 that requires SEI “[p]rior to conducting tests for a wellfield package . . . [t]o attempt to locate and abandon all historic drill holes located within the perimeter well for the Wellfield.” *Id.* at 9. Indeed, given the number of historic drill holes on the Ross site, *see supra* Board Finding 4.121, it is not apparent that, in the absence of the additional “locate-and-abandon” condition, to what degree the standard excursion detection and recovery condition would have been adequate to support the Staff’s FSEIS finding of SMALL long-term impacts outside the OZ exempted area. As a consequence, Joint Intervenors’ concern about the extent to which LC 10.12, as it directs SEI to “attempt” to detect and abandon properly the myriad drill holes on the Ross site, will be implemented in such a way as to support adequately the Staff’s SMALL impact finding is not without significance.

4.128 Looking then to the substance of that license condition and the activities it engenders, we note initially that pertinent to the issue whether SEI can be counted on to implement LC 10.12 appropriately is the established precept that, in the absence of some showing of substantial prior misdeeds, an applicant/licensee will be presumed to follow the agency’s regulatory requirements, including the directives in its license. *See Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-9, 53 NRC 232, 235 (2001) (stating that “the NRC

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<sup>64</sup> The Licensing Board takes official notice of these NRC-issued licenses in accord with 10 C.F.R. § 2.337(f).

does not presume that a licensee will violate agency regulations wherever the opportunity arises”) (citing *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 207 (2000) (declaring the intervenor “also fails to offer documentary support for its argument that [the licensee] is likely to violate our safety regulations. Absent such support, this agency has declined to assume that licensees will contravene our regulations.”)). Regardless of this assumption, however, SEI has a clear incentive here to put its best efforts into completing timely and fully the drill hole locate-and-abandon mission imposed by LC 10.12 to avoid the consequences of wellfield operations shutdown under LC 11.5 if SEI fails to identify and fill one or more boreholes.<sup>65</sup> As a consequence, we would anticipate that SEI’s “attempt” under LC 10.12 will almost certainly involve (1) finding a very substantial portion, if not all, of the remaining 117 unlocated drill holes within the area bounded by a wellfield’s perimeter monitoring well ring; and (2) properly abandoning all the identified drill holes within that perimeter. Moreover, additional measures are in place, including (1) the well abandonment records that SEI must complete and maintain for each borehole as it is located and plugged in compliance with LC 10.12, *see* Tr. at 736-39 (Saxton), 761 (Schiffer); *see also* TR 14C, at 3-20 to -21; and (2) the post-license, preproduction pump tests required by LC 10.13 that will help provide SEI and the Staff with the requisite assurance regarding the adequacy (and success) of SEI’s effort to comply with LC 10.12,<sup>66</sup> by indicating whether, for any reason, including undiscovered or

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<sup>65</sup> Although Joint Intervenors challenged the adequacy of LC 10.12 because there is no specified timetable for carrying out the locate-and-abandon task it imposes, *see* Joint Intervenors Findings at 77, 87, the schedule for completing this endeavor nonetheless seems clear, i.e., it must be done before SEI conducts the tests for a wellfield data package that SEI must finish prior to beginning facility operation, *see supra* Board Finding 4.121.

<sup>66</sup> In undertaking its role to assess whether an applicant/licensee adequately carries out a licensing directive, we likewise are to assume that the Staff will be fair and judge the matter of an applicant/licensee’s compliance on the merits. *See Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-89-4, 29 NRC 62, 73 (1989) (citing *United States v. Chemical Foundation, Inc.*, 272 U.S. 1, 14-15 (1926)), *aff’d on other grounds*, ALAB-918, 29 NRC 473 (1989), *remanded on other grounds sub nom. Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir.), *appeal dismissed as moot*, ALAB-946, 33 NRC 245 (1991). Yet, as is the case with SEI, the Staff has an additional incentive here, i.e., in the face of extensive prior drilling intrusions into the Ross site, to fully support its predicative finding of SMALL long-term impacts from fluid migration, the Staff necessarily must ensure that SEI’s LC-required “attempt” to locate and abandon all drill holes within the monitoring well ring embodies a level of effort that maximizes the potential for eliminating excursions, particularly vertical excursions that would reach into the SM or DM aquifers.

Relative to the Staff’s role, we also observe that we do not believe this condition and the Staff (and SEI) activities it contemplates violate the precept that post-hearing resolution of licensing issues must not be employed to obviate the basic findings prerequisite to a license. *See Hydro Res.*, CLI-06-1, 63 NRC at 4. Particularly in the NEPA context, the path SEI and the Staff must follow relative to LC 10.12 is sufficiently clear such that continuing to hold this hearing open while it is completed would be an unnecessary extension of the adjudicatory process. *See id.* at 5-6.

inadequately plugged boreholes, the OZ aquifer is hydrologically connected to aquifers above or below, *see* Tr. at 689-91 (Demuth).<sup>67</sup> We thus conclude that, in most respects, LC 10.12 provides substantial support for the FSEIS conclusion that, despite the nearly 1500 historic boreholes on the Ross Project site, the environmental impacts associated with fluid migration during facility operation will be SMALL.<sup>68</sup>

4.129 There is, however, one limited respect in which the evidentiary record before us indicates that LC 10.12 is not sufficient. Under its current terms, this condition applies only to drill holes within the “perimeter well ring for the Wellfield,” notwithstanding the fact that there are in the neighborhood of 101 boreholes located in the area between the monitoring well ring and the Ross Project boundary, eighty-nine of which have been located. *See* Tr. at 679-80 (Knode). SEI declares that the potential for fluid migration via boreholes outside the monitoring well ring is minimized by natural hydrologic conditions, along with (1) LC 11.5, which requires immediate horizontal excursion corrective actions; (2) LC 10.7, which requires SEI to maintain a net inward hydraulic gradient in each wellfield between initial lixiviant injection and the start of post-groundwater restoration stabilization monitoring; and (3) the significantly smaller density of boreholes outside the mineralized areas of the Ross site. *See* SEI Reply Findings at 45-46 (citing SEI License at 8, 13-15). We recognize that, for all these reasons, this beyond-the-wellfield monitoring ring area generally is an area with a lower

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<sup>67</sup> The lack of potential hydrological impact from the numerous historic boreholes on the Ross site are, according to SEI, supported by the fact that its completed borehole abandonment efforts have demonstrated that the drill holes are, to some extent, self-sealing over time and that the piezometric head in the SM aquifer is nearly 100 feet higher than the OZ aquifer, such that a significant amount of head will be induced into the OZ aquifer if there is an unplugged borehole, thereby limiting the potential for a vertical excursion into the SM aquifer. *See* SEI Reply Findings at 45 (citing Tr. at 708, 713 (Burgess), 757-58 (Schiffer)). Relative to the second point, the FSEIS does indicate that vertical gradients downwards from the SM to the OZ aquifers could have head differences of as little as 50 feet (or as much as 150 feet), *see* FSEIS 9A, at 3-35, and the testimony of Staff witness Saxton recognized that the injection and removal of fluids within the production zone creates local perturbations in the hydraulic head in the OZ aquifer such that if an undiscovered and unplugged borehole were close to an injection well, the artificially created head could potentially be great enough to reverse the vertical flow in the old borehole and allow lixiviant to contaminate the SM aquifer, *see* Tr. at 717-19 (Saxton). Nonetheless, in the unlikely event that a local anomaly generated by an injection would be great enough to overcome the 100-foot average difference needed to reverse the flow between the two aquifers or would occur under the specific circumstance in which the head difference was as small as 50 feet, we would agree with Staff witness Saxton that the monitoring program required under LC 11.5, *see* Tr. at 719 (Saxton), as well as the requirement for lixiviant injection shutdown if a vertical excursion is detected, provides adequate mitigation measures for this circumstance.

<sup>68</sup> And further reinforcing this conclusion, as the Staff and SEI note, is the ongoing monitoring of water levels in the aquifers overlying and underlying the OZ pursuant to LC 11.5 that will provide a continuing check that the aquifers within the wellfield are hydrologically isolated. *See* Tr. at 700-01 (Lawrence), 719-20 (Saxton).

risk for excursions as compared to the area within the wellfield monitoring ring. More specifically, we are aware that the evidentiary record suggests that most of the Nubeth boreholes bottomed in the OZ aquifer and therefore are not potential conduits for fluids moving from the OZ to the DM horizon. *See* Tr. at 713 (Burgess). Nonetheless, given that SEI and the Staff also attributed the aquifer pumping tests response in the DM aquifer to unplugged boreholes, *see* FSEIS 9A, at 3-37, some of the Nubeth drill holes apparently did penetrate into the DM aquifer, thus creating the possibility for the downward movement of fluids from the OZ into the DM aquifer.

4.130 To be sure, excursions outside the perimeter monitoring ring would require significant lateral movement within the OZ aquifer, which during mining and restoration is likely to be detected by the monitoring wells. On the other hand, based on the limited information before us, with the uncertainty about the lack of any rapid decline from the ACL-based concentrations of uranium and other contaminants within the production zones of the OZ aquifer, *see supra* Board Finding 4.104 & note 60, a decade after restoration any excursions affecting the DM as a consequence of unplugged boreholes beyond the perimeter monitoring well ring may well be difficult to detect and remediate, creating the possibility of long-term impacts from such unfilled boreholes that could be more than SMALL.

4.131 Accordingly, so that any unfilled boreholes are located and abandoned that go into the DM aquifer or below and are within the area that is (1) down-gradient of a wellfield and (2) between the perimeter monitoring well ring and the closer of (a) the Ross site boundary or (b) the boundary of the exempted OZ aquifer and the monitoring well ring, thereby ensuring that the Staff's assessment that the impacts of such boreholes will be SMALL is fully supported, we *revise* LC 10.12 to read as follows:<sup>69</sup>

10.12 Prior to conducting tests for a wellfield data package, the licensee will attempt to locate and abandon all historic drill holes within:

- A) The perimeter well ring for the Wellfield; and
- B) To the extent the historic drill holes extend into the first underlying aquifer, the area that is downgradient of the Wellfield and is between the perimeter well ring for the Wellfield and the closer of either

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<sup>69</sup> The Board recognizes that the protective measure we are imposing is not one that addresses a high-probability event. Nonetheless, because there are likely to be only about 100 boreholes potentially involved, *see* Tr. at 368-69 (Schiffer), this does not seem an inordinate requirement, particularly given it is intended to ensure the integrity of the exempted aquifer area as a buffer. Moreover, with only about 100 drill holes potentially at issue, of which apparently only 12 still need to be located, it could well be that SEI may find it more cost-effective simply to locate and fill all the beyond-the-perimeter monitoring ring area drill holes, consistent with its approach to addressing the boreholes within the perimeter monitoring well ring, regardless of their depth.



- i. The Ross Project license area boundaries shown in figure 1.4-2 of the approved license application; or
- ii. The outer boundary of the exempted aquifer as defined by the Class III UIC permit issued by the Wyoming Department of Environmental Quality.

The licensee will document such efforts to identify and properly abandon all drill holes in the wellfield data package.

*b. Prelicense Pump Test Issue*

4.132 In challenging the FSEIS analysis of Ross site hydrology, Joint Intervenors also questioned the adequacy of the battery of prelicensing pump tests performed by SEI to show the hydrologic integrity of the OZ aquifer with respect to the SM and DM aquifers on the Ross site and used by the Staff to analyze and reach its FSEIS conclusions about the potential impacts of the facility on local groundwater resources. *See* Joint Intervenors Findings at 78-79. In this regard, in his initial written testimony Joint Intervenors' witness Dr. Abitz asserted that "neither the number of wells tested for hydrological parameters nor the short duration of the pump tests run to date establish adequate hydrological information to demonstrate control of groundwater." Abitz Initial Testimony at 49. Dr. Abitz also declared that "groundwater communication between the SM and OZ horizons is evident in the 24-hour pump test data from well 12-18OZ and the water-quality results for sodium and sulfate." *Id.* Further, regarding pump test duration, in response to a Staff witness observation in his initial written testimony that the well 12-18OZ pump test referred to by Dr. Abitz was a 72-hour test, not a 24-hour test, *see* Staff Initial Testimony at 67 (Burgess), during the evidentiary hearing Dr. Abitz declared that, given the multiyear extraction process, pumping for 72 hours or even 1 week would not be sufficient to demonstrate a lack of connectivity between aquifers, *see* Tr. at 769.

4.133 As described in the initial written testimony of SEI witness Moores, during each aquifer pump test, the well installed within the OZ aquifer was pumped at a constant rate. Pressure transducers programmed to measure and record the water level in each well at 1-minute increments were installed within the pumped OZ well and any OZ observation wells, the SM overlying water-bearing interval well, and the DM underlying water-bearing interval well. After completion of the pumping portion of the test, transducer-recorded water level readings continued at 1-minute increments until pumped well water levels recovered to within at least 90% of the prepumping water level. Once sufficient time had passed for the water levels in the pumped wells to recover, the water-level data from the transducers was downloaded and graphs of drawdown and recovery versus time were developed. *See* Moores Initial Testimony at 5.

4.134 These drawdown and recovery versus time graphs are, Mr. Moores

testified, the key to understanding aquifer characteristics. Aquifer parameters such as transmissivity and storativity, *see infra* note 70, can be calculated by fitting the graphs measured during the aquifer test to graphs developed from an idealized model. For the Ross Project aquifer tests, both the drawdown and recovery curves, evaluated using applicable methods, were presented in the final aquifer test report that was part of the technical report submitted in support of SEI's license application. *See* Moores Initial Testimony at 5 (citing Aquifer Test Report at 1-254). Also, according to Mr. Moores, it was possible to measure the integrity of the confining layers above and below the OZ aquifer in the vicinity of the pumped well by evaluating responses, or lack thereof, recorded in the SM and DM wells. Further, referencing the aquifer test report, Mr. Moores declared that because the data collected during the aquifer tests were adequate to develop trendlines and curves that allowed the aquifer tests to be successfully analyzed using appropriate empirical methods, the aquifer tests were of sufficient duration to meet their intended purposes. *See id.* at 5-6.

4.135 Mr. Moores also indicated that the aquifer test transducers were very sensitive to even slight changes in pressure, as illustrated by the transducer in the 14-18 monitor well cluster in the DM well, which registered a change in head of 0.2 feet that was relatively minimal given the large drawdown in the OZ aquifer. According to Mr. Moores, based on his experience overseeing aquifer tests for coal mines and at other ISR operations, because the transducers are so sensitive, typically indicating aquifer communication very early in aquifer tests, it is possible to see trends that might indicate a leaking aquifer even over short pumping durations. Acknowledging that these trends become more pronounced the longer the aquifer test continues, Mr. Moores nonetheless maintained that any trend can usually be spotted within a few hours after the test begins. *See id.* at 6.

4.136 Relative to the number of testing wells, Mr. Moores stated that as part of the license application SEI developed a groundwater model with the twin goals of determining hydrologic parameters (transmissivity, hydraulic conductivity, and storativity)<sup>70</sup> within the OZ and discovering whether there was leakage between the OZ aquifer and the overlying and underlying SM and DM water-bearing units. Combined with input from the WDEQ, this caused SEI to propose pumping tests at each monitor well cluster to obtain more hydrologic data to input into its numerical groundwater model. Prior to conducting the tests, the number and locations of the proposed pumping tests were presented in SEI's baseline sampling and analysis plan and approved by WDEQ. *See* Moores Rebuttal Testimony at 3 (citing Ex. SEI020A, App. E, at 1 (SEI, Preliminary Baseline Sampling Plan for

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<sup>70</sup> Transmissivity is the flow rate of water through a vertical section of an aquifer, while hydraulic conductivity represents a measure of the capacity of a porous medium to transmit water and storativity is used to characterize the capacity of an aquifer to release groundwater from storage in response to a decline in water levels. *See* FSEIS 9A, at 3-34.

the Ross ISR Uranium Recovery Project, Crook County, Wyoming (rev. May 13, 2010))). Additionally, Mr. Moores testified that besides the seven pumping tests outlined above, results from two historical pumping tests conducted in 1977 and 1978, which had results similar to the results from the more recent tests, were summarized in the license application and used in the groundwater model to increase the spatial coverage of the measured data. *See id.* at 3-4; Moores Initial Testimony at 7. Finally, Mr. Moores stated that the seven pumping tests were not designed or intended to demonstrate confinement throughout the entire Ross licensed area and that additional wellfield-scale pumping tests will be conducted prior to ISR operations to demonstrate adequate confinement to conduct ISR operations safely within each wellfield. *See Moores Rebuttal Testimony* at 4.

4.137 For their part, Staff witnesses asserted that Joint Intervenor's concern about the adequacy of the SEI pump test data to demonstrate aquifer confinement is negated by the fact that "[t]he type of pumping test used, i.e., modified single well pumping tests, are specifically listed in acceptance criterion (3) in Section 2.7.3 of NUREG-1569," the Staff's ISR licensing SRP, and that "the pumping tests data were used as guidance for the numerical model of the Ross Project area that was calibrated to observed piezometric heads." Staff Initial Testimony at 63 (Burgess, Saxton) (citing NUREG-1569, at 2-23 to -24 (stating "[a]ny of a number of commonly used aquifer pumping tests may be used including single-well drawdown and recovery tests, drawdown versus time in a single observation well, and drawdown versus distance pumping tests using multiple observation wells")). This, the Staff asserted, shows that the SEI pumping tests were tailored to provide accurate Ross site hydrology information. *See Staff Reply Findings* at 30. Along the same lines, SEI provided a USGS paper on basic groundwater hydrology stating that an aquifer test "in most cases, includes pumping a well at a constant rate for a period ranging from several hours to several days and measuring the change in water level in observation wells located at different distances from the pumped well." Ex. SEI030, at 34 (Ralph C. Heath, USGS, Basic Ground-Water Hydrology, Water-Supply Paper 2220 (rev. 2004)).

4.138 After reviewing the evidentiary record associated with Dr. Abitz's concerns regarding the adequacy of SEI's pump test program, we find that the preponderance of the evidence, and in particular the information provided by Mr. Moores, *see supra* Board Findings 4.133-4.136, supports the conclusion that the SEI pump-testing protocols, including the number and location of the testing wells and the duration of the pumping tests, fall within the appropriate parameters for conducting such tests at this facility.

4.139 Regarding the additional, earlier referenced issue of whether the SEI pump tests demonstrated that groundwater communication exists between the SM and OZ aquifers on the Ross Project site, *see supra* Board Finding 4.132, as evidence of such a connection, Joint Intervenor's witness Dr. Abitz in his initial testimony provided a graph of sodium concentrations plotted against

sulfate concentrations for samples of groundwater collected from the OZ and SM aquifers. According to Dr. Abitz, samples collected at one of the wells screened within the OZ aquifer (14-18OZ) contained the greatest concentrations of sodium and sulfate of any of the water samples, as contrasted with wells in the SM aquifer (14-18SM, 12-18SM, 42-19SM, and 34-18SM), which show low sodium/sulfate concentrations, and thus provided an example of unmixed groundwater from the OZ. In contrast, according to Dr. Abitz, are the analyses of the samples from one of the wells screened to collect water from the OZ aquifer (12-18OZ) that plots sodium/sulfate concentrations within the range of the above-referenced samples from the SM aquifer, which he cites as strong evidence of mixing between the SM and OZ horizons.<sup>71</sup> See Abitz Initial Testimony at 50-51.

4.140 While Staff witnesses Burgess and Johnson recognized that the similarity of water analyses from the OZ aquifer well (12-18OZ) to waters sampled from the SM aquifer wells could, in fact, show the presence of unplugged boreholes in the vicinity of these wells, they go on to assert that “[i]t is more likely that the spread of the OZ data represents natural heterogeneity in the water chemistry, emphasized by the pumping test activities that were taking place during the period of sampling.” Staff Initial Testimony at 69.

4.141 Dr. Abitz’s claim that the sodium and sulfate rich water samples from well 14-18OZ are representative of all “unmixed” groundwater in the OZ aquifer is, in the Board’s estimation, little more than speculation. That being said, we also recognize that the roughly linear trend and overlap in compositions shown on his graph for various water samples from the SM and OZ aquifers are consistent with mixing. We do not find this convincing evidence of actual horizon mixing via excursions, however, concluding that the better explanation lies in the Staff witnesses’ assertion that the composition of groundwater in the OZ aquifer may vary considerably depending on the nature of the minerals with which the groundwater is in contact.<sup>72</sup>

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<sup>71</sup> In plotting his graphic representation, Dr. Abitz also asserted that samples from an industrial well (22x-19) were collected from a screened interval that included both the OZ and SM aquifers so that analyses of these samples likewise should provide good examples of what the compositions of mixed OZ and SM groundwaters should look like. See Abitz Initial Testimony at 50. This turns out not to be the case, however, because the portion of the SEI technical report referred to in his testimony states that this well was screened through the OZ and DM aquifers and did not sample groundwater from the SM aquifer. See Staff Initial Testimony at 68 (Burgess, Johnson) (citing TR 14A, at 2-169).

<sup>72</sup> In making this determination, we note that Dr. Abitz’s own graph suggests this may be the case. While the four sample plots for most of the OZ and SM wells are clustered in relative proximity, the sample plots for well 12-18OZ, the well plots that Dr. Abitz suggests shows strong evidence of horizon mixing, are the most widely scattered, two being within the low sodium/sulfate range with the other SM well plots and two being closer to the other OZ well plots in the higher sodium/sulfate range. See Abitz Initial Testimony at 50.

c. *Excursion Detection Issue*

4.142 Finally, as part of their challenge to the Staff's FSEIS hydrology impacts assessment, Joint Intervenors have questioned the efficacy of SEI's excursion monitoring program as a means of detecting excursions. See Joint Intervenors Findings at 79-84. One aspect of this concern is that uranium is not being utilized as a chemical indicator of excursions. See *id.* at 81-83. Dr. Abitz noted that the FSEIS declares the indicators to be used for detecting excursions at the Ross Project will be chloride, conductivity, and total alkalinity because "[t]hese constituents move through the aquifer faster than other water-quality parameters, and therefore levels above these would indicate excursions before radionuclides and other elements move outside the production (i.e., uranium-recovery) zone."<sup>73</sup> Abitz Initial Testimony at 41 (quoting FSEIS 9A, at 4-41 (emphasis omitted)). Citing published experimental studies entered as Joint Intervenors' exhibits,<sup>74</sup> Dr. Abitz maintained that this statement "is inaccurate and presents an oversimplification of the dominant geochemical mechanisms which dictate subsurface transport of soluble uranium (i.e., uranium in the plus-six oxidation state, or U(VI))."<sup>75</sup> *Id.* Instead, he concluded that "the aqueous uranium-carbonate species formed from lixiviant injection during [ISR] operations will be

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<sup>73</sup> The FSEIS indicates in this regard that

At most in situ uranium-recovery operations, for example, chloride is selected because it does not interact strongly with the minerals in the ore zone; it is easily measured; and chloride concentrations are significantly increased during ISR operations. Conductivity, which is correlated to total dissolved solids (TDS), is also considered a good excursion indicator because of the high concentrations of dissolved constituents in the lixiviant as compared to the surrounding aquifers. Total alkalinity (carbonate plus bicarbonate plus hydroxide) is used as an indicator in wellfields where sodium bicarbonate or carbon dioxide is used in the lixiviant.

FSEIS 9A, 2-31 (citations omitted).

<sup>74</sup> See Abitz Initial Testimony at 42 (citing Ex. JTI022, at 1 (Gary P. Curtis et al., *Simulation of reactive transport of uranium(VI) in groundwater with variable chemical conditions*, 42 Water Res. Research W04404 (2006)); Ex. JTI023, at 41 (ExxonMobil, Highland Uranium Mill Site, Final Closure Proposal, Casper, Wyoming (Aug. 3, 2010) (slide presentation)); Ex. JTI024, at 4435 (Ping Zhou & Baohua Gu, *Extraction of oxidized and reduced forms of uranium from contaminated soils: Effects of carbonate concentration and pH*, 39 Env't. Sci. Tech. 4435 (2005))).

<sup>75</sup> Dr. Abitz explained further that

[w]ithout the presence of carbonate anions, U(VI) as the uranyl ion ( $\text{UO}_2^{+2}$ ) is readily adsorbed to the surfaces of various iron oxides and clays. However, with the introduction of an oxidizing, carbonate-rich lixiviant to enhance U(VI) solubility and mobility in the aquifer, uranium adsorption to iron oxide surfaces decreases, as relatively non-reactive uranyl-carbonate complexes ( $\text{UO}_2(\text{CO}_3)_2^{-2}$  and  $\text{UO}_2(\text{CO}_3)_3^{-4}$ ) form in solution.

Abitz Initial Testimony at 41-42 (citations omitted).

highly mobile in the groundwater.”<sup>76</sup> *Id.* at 42. As a consequence, by not including uranium as a chemical indicator of excursions at perimeter monitoring wells, the FSEIS “fundamentally undermines the conclusions about the environmental impacts of the project on groundwater quality.” *Id.*

4.143 Discussions regarding this matter by the parties’ witnesses in both their written and oral testimony focused on the validity of SEI and Staff assertions that excursion indicators such as chloride, alkalinity, sulfate, and electrical conductivity will be detected at monitoring wells before any increase in uranium concentrations, owing principally to natural processes that remove uranium from the groundwater as it moves outward from the ore zone. In response to Dr. Abitz’s claim that the presence of lixiviant would enhance the solubility and mobility of U(VI), thereby invalidating Staff assumptions that uranium concentrations lag behind more “conservative” indicators such as chloride, Staff witness Johnson admitted that uranium is less susceptible to removal by adsorption when it is joined or complexed with carbonate, but argued that, owing to the change in chemical environment, these complexes can break down when groundwater moves out of the OZ. Dr. Johnson also maintained that because the published studies cited by Joint Intervenor are based on controlled experiments, the results may not be applicable to the more complex and variable environments encountered in natural aquifers. *See* Tr. at 722-24, 728-29.

4.144 The Staff’s argument in this regard is that the behavior of uranium during transport in groundwater is not yet well understood, so that its “conservative” nature is not established. Consequently, uranium is not as reliable for detecting excursions as the various aforementioned components of production fluids, a point that has also been made by several documents prepared for, or

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<sup>76</sup> As the basis for this conclusion, and a criticism of the FSEIS analysis (or lack of analysis) of excursion indicators, Dr. Abitz declared:

U(VI) subsurface modeling has reported that adsorption of uranium in the subsurface is highly complex and varies spatially and temporally. Outside of reporting water-quality parameters and the slight mention of uranium minerals and pyrite in the fluvial deposits, the FSEIS presents very little about the current subsurface geochemical zonation and, more importantly, is silent on the extent to which mining activities will destroy the reducing geochemical conditions in the exempted aquifer. For example, the FSEIS is silent on the total reductive capacity of the aquifer and fails to estimate the reductive capacity of the aquifer and compare it to the expected amount of oxygen that will be injected into the aquifer to destroy the reducing conditions. This is a fundamental oxygen-balance analysis that would indicate whether sufficient reducing capability remains in the exempted aquifer after restoration to remove U(VI) carbonate species from solution by reductive precipitation to insoluble U(IV). Without this analysis, there is no logical basis to omit uranium as an excursion indicator, as the levels of uranium in the lixiviant are generally three to four orders of magnitude greater than true baseline; and increases in chloride, alkalinity and TDS in the aquifer will be less than one or two orders of magnitude.

Abitz Initial Testimony at 42-43 (citations omitted).

issued by, the Staff.<sup>77</sup> That being said, Staff witness Johnson also recognized that the efficacy of possible excursion indicators depends on the geochemical environment of the aquifer system at issue. For instance, she maintained that in the case of the Ross Project, chloride, which is usually considered a conservative indicator, likely will be less effective as an indicator of vertical excursions into the DM aquifer than sulfate because of that underlying groundwater system's high chloride background. In other scenarios, alkalinity or sulfate might be affected by the geochemistry of an aquifer system. Nonetheless, according to Dr. Johnson, those three indicators, along with electric conductivity, are considered more conservative excursion indicators than uranium. *See* Tr. at 729-31; *see also* Tr. at 695-97, 702 (Schiffer).

4.145 On balance, the evidentiary record persuades us that, as compared to other possible indicators such as chloride, alkalinity, sulfate, and electrical conductivity, uranium is not as effective a tool for providing a timely alert regarding a lixiviant excursion from an ISR facility. Yet, this would not necessarily end the matter in the face of convincing evidence that, for any particular facility, the aquifer geochemistry would make uranium equal (or better) as a well monitoring testing indicator. Based on the preponderance of the evidence before the Board, however, we conclude that the case for using uranium as an excursion indicator for the Ross Project is not compelling, particularly given Joint Intervenor's failure to present any convincing site-specific evidence to counter the Staff and SEI showings that chloride and the other indicators proposed for use by SEI and accepted by the Staff would be effective excursion indicators at Ross.<sup>78</sup>

4.146 Also part of Joint Intervenor's challenge to the adequacy of the FSEIS discussion of excursion detection is their assertion that, given the numerous excursions that have occurred at ISR sites that show uranium does migrate beyond the monitoring well ring, the Staff's FSEIS conclusion that excursions can be detected and remedied, and thus the long-term impacts from excursions will be SMALL, is unsupported in the record. *See* Joint Intervenor's Findings at 79-81, 84

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<sup>77</sup> *See* Ex. NRC050, at 5 (W.J. Deutsch et al., Pac. NW. Lab., Methods of Minimizing Ground-Water Contamination from In Situ Leach Uranium Mining, NUREG/CR-3709 (Mar. 1985)) (stating "[m]any potential indicators (such as uranium and pH) are not conservative," in that "their values will change rapidly as the lixiviant interacts with the sediment" and "dissolved species that interact with the sediment do not travel as rapidly as the water and, thus, would not be useful as an early indicator of an excursion."); NUREG-1569, at 5-41 (stating "[u]ranium is not considered a good excursion indicator because, although it is mobilized by in situ leaching, it may be retarded by reducing conditions in the aquifer.").

<sup>78</sup> Moreover, our ruling here does not necessarily foreclose the use of uranium as an excursion indicator at the Ross Project for, as was pointed out by SEI witnesses Schiffer and Griffin, Wyoming regulations require SEI to perform a full chemical analysis of monitoring well water samples, which would include uranium, if a detected excursion has not been recovered within 30 days. *See* Tr. at 319-20 (Schiffer), 782-83 (Griffin).

(referencing excursions at the Smith Ranch-Highland and Kingsville Dome ISR sites and citing FSEIS 9A, at 4-43). Further, according to Dr. Abitz, while the Staff recognizes these uranium excursions, its mitigation/corrective action of changing pumping rates to recapture a lixiviant plume fails to have “a credible scientific basis because the FSEIS fails to address the needed detailed analysis on the hydrological properties in the exempted aquifer, redox conditions in the aquifer, the availability of various complexing anions, microbial community structure, and structural heterogeneity of the fluvial deposits.” Abitz Initial Testimony at 44-45.

4.147 In our estimation, however, in making its determination that long-term potential impacts to the OZ aquifer outside the exempted portion would be SMALL, the Staff’s reliance on the SEI program to detect and recover excursions via groundwater pumping is not misplaced. Because a lateral excursion would only impact the water in a non-EPA exempted aquifer if it extended beyond the monitoring ring at the Ross Project, which must be at least 100 feet inside the boundary of the exempted aquifer, *see* Tr. at 368-69 (Schiffer), we consider Joint Intervenor’s focus on vertical excursions, *see* Joint Intervenor Findings at 79-80, as the crux of their concern. In the case of the Smith Ranch-Highland site, the document Joint Intervenor cites as evidence of the nature and extent of the vertical excursions notes that, while upgradient samples were taken to establish baseline, “[e]stablishing a single baseline class of use for all shallow [aquifers] at [Smith Ranch-Highland] is problematic due to [the] presence of abundant and sporadic natural mineralization.” Ex. JTI036, at 9 (Wright Env’tl. Servs., Inc. & Telesto Solutions, Inc., 2012 Status Update Case Leak Investigation, C, E and F Wellfields, Smith Ranch-Highland Operations (Feb. 20, 2013)). Because the premining and upgradient water quality was highly variable, this report’s authors concluded it was difficult to determine how much of the contamination in these aquifers occurred because of casing leaks during ISR mining and how much can be attributed to natural mineralization and historic surface mining. *See id.* at 9-12. Indeed, to the degree vertical excursions at the Smith Ranch-Highland site were caused by an engineering failure, i.e., a casing leak, rather than by a failure of the basic design of the ISR facility, it provides a questionable example in support of the claim that vertical excursions are inevitable. Moreover, relative to the background data for Garcia Hills wells on the Kingsville Dome ISR site submitted by Joint Intervenor, *see* JTI021, at unnumbered pp. 2, 3, 6 (Carl F. Crownover, Jordan Labs., Inc., Reports of Analysis (May 12, 1988 & July 13, 2007)), the fact that these wells are “just outside” of the monitoring well ring, Joint Intervenor Findings at 81, suggests that, per the circumstances at the Ross Project, they would still be in the EPA exempted aquifer.

4.148 Joint Intervenor also reference Dr. Abitz’s blanket statement that “[a] monitor well that goes on excursion status does not prevent groundwater contamination outside the exemption zone when corrective actions are implemented, as



uranium contamination has moved past the monitor-well ring when an excursion is reported,” *see id.* at 84 (citing Abitz Rebuttal Testimony at 17). This statement, however, does not account for (1) the evidentiary record before us, as discussed in Board Findings 4.142-4.145, above, indicating that lixiviant indicators such as chloride arrive at the monitoring wells before uranium; (2) the fact that at the Ross Project any horizontal uranium excursion would have to move at least 100 feet past the monitor well ring to exit the exemption zone; and (3) the recovery response that is triggered when an excursion is discovered, which is designed to remediate the problem before contaminants move out of the exempted aquifer.

4.149 Finally, regarding Joint Intervenor’s reference to Dr. Abitz’s statement claiming the FSEIS analysis inadequately characterizes the exempted aquifer because it fails to account for “redox conditions in the aquifer, the availability of various complexing anions, microbial community structure, and structural heterogeneity of the fluvial deposits,” *see id.* (citing Abitz Initial Testimony at 45), in the face of the evidence presented by SEI and the Staff regarding the particulars of Ross Project and SEI’s program for excursion detection and recovery,<sup>79</sup> Joint Intervenor again have not provided an adequate evidentiary basis for the Board to endorse the type of extensive analysis they seek as part of the agency’s NEPA review for this (and presumably every other) ISR facility. *See supra* Board Finding 4.22. In a normal aquifer, what they propose is likely to require years of work by a university research team, a task that would be even more difficult in a mineralized system like the OZ aquifer beneath the Ross site with its numerous and profound small-scale lateral and vertical heterogeneities. In this context, it may be that Joint Intervenor are seeking to have all ISR operations deferred until scientific research has progressed to the point where a complex hydrogeologic system such as that associated with the Ross Project can be completely understood. The Board, however, does not see a basis for imposing an investigative protocol under NEPA that has the practical effect of leaving essentially open-ended the question of how much information is enough.

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<sup>79</sup> This includes evidence regarding (1) the potential for (a) vertical excursions given the bounding properties of the upper and lower confining units and the hydraulic head difference between the OZ and SM aquifers, *see* Staff Initial Testimony at 43 (citing FSEIS 9A, at 3-34, 3-37, 4-42) (Burgess, Saxon); *see supra* note 67, and (b) horizontal excursions given the less-permeable and nonmineralized zones within the OZ sandstones, *see* FSEIS 9A, at 4-41; (2) SEI’s license condition responsibilities to deal with unplugged or improperly plugged boreholes, *see* SEI License at 9 (LC 10.12); *see also supra* Board Finding 4.128, excursion detection (LC 11.5), *see* SEI License at 13-14 (LC 11.5), and mechanical integrity testing for wells on a periodic and as-serviced basis, *see id.* at 7 (LC 10.5); *see also* FSEIS 9A, at 2-23; and (3) vertical and horizontal excursion recoveries, *see* GEIS at 2-46 to -48; Griffin Initial Testimony at 4-5; Griffin Rebuttal Testimony at 4; Knode Initial Testimony at 13; Moores Initial Testimony at 8 (computer modeling).

#### **4. Board Conclusions Regarding EC 3**

4.150 Based on the findings set forth above, the Board concludes that, with the revision to LC 10.12 outlined in Board Finding 4.131, above, a preponderance of the evidence before the Board demonstrates that (1) with the addition of the Board-directed revision to LC 10.12, the FSEIS adequately analyzes the environmental impacts of fluid migration associated with unplugged exploratory boreholes; and (2) SEI's six monitor-well clusters and the 24-hour pump tests at four of these clusters and its excursion detection and recovery protocols, including the use of excursion indicators other than uranium, have provided sufficient information to demonstrate that the Staff's conclusions that groundwater control during Ross Project operations would result in SMALL impacts outside the exempted portion of the OZ in the event of an excursion.

### **V. SUMMARY FINDINGS AND CONCLUSIONS**

5.1 With respect to Joint Intervenor's EC 1, the Board rules that (1) to comply with NEPA and the agency's Part 51 implementing regulations, the applicant's 10 C.F.R. Part 40, Appendix A, Criterion 7 prelicensing monitoring program for the purpose of site characterization was not required to be conducted so as to provide the information needed to set Appendix A, Criterion 5B groundwater protection standards, in accord with an Appendix A, Criterion 7A preoperational license condition-based monitoring program; and (2) Joint Intervenor's challenges to the adequacy of the FSEIS as it was based on the supposed technical deficiencies associated with SEI's monitoring well deployment program (including well numbers and location), SEI's aquifer sampling intervals, the Staff's use of sampling results averaging, the purported data bias resulting from standard SEI drilling techniques, the purported data bias resulting from SEI's sequential development of additional wellfields, and the purported data bias associated with using well samples from the Nubeth R&D site cannot be sustained based on the preponderance of the evidence in the record before the Board. As such, a judgment on the merits regarding EC 1 is entered in favor of the Staff and SEI.

5.2 With respect to Joint Intervenor's EC 2, the Board finds that (1) the bounding analysis provided in section 4.5.1.3 of the FSEIS, as supplemented in the record before this Board, provides sufficient information about a reasonable range of the hazardous constituent concentration values associated with a potential 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)(c) post-operational ACL for that Ross Project so as to provide an appropriate NEPA assessment of the environmental impacts that will occur if SEI cannot restore groundwater to primary or secondary limits in accord with Criterion 5B(5)(a)-(b); and (2) the quantitative data from historical ISR groundwater aquifer restoration efforts used to create the bounding analysis in FSEIS § 4.5.1.3 does not invalidate the FSEIS conclusion that the

groundwater impacts of aquifer restoration using an ACL on the exempted OZ aquifer and the surrounding aquifers would be SMALL. We thus conclude that EC 2 is resolved on the merits in favor of the Staff and SEI.

5.3 With respect to Joint Intervenor's EC 3, the Board concludes that (1) with the Board-directed revision to LC 10.12, the FSEIS adequately assesses the risk of fluid migration from unplugged and abandoned boreholes; (2) the FSEIS did not improperly assess the risk of fluid migration in light of its reliance on SEI pump tests to demonstrate aquifer containment; and (3) the FSEIS impacts analysis is accurate in concluding that various lixiviant indicators other than uranium will serve as accurate excursion indicators and that the SEI detection and recovery protocols will result in SMALL impacts outside the exempted portion of the OZ in the event of an excursion. As a consequence, a judgment on the merits regarding EC 3 is entered in favor of the Staff and SEI.

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6.1 Pursuant to 10 C.F.R. § 2.1210, it is, this 23d day of January 2015, ORDERED that:

- A. Condition 10.12 to license SUA-1601 is *revised* as set forth in Board Finding 4.131, above, and Joint Intervenor's issue statements EC 1, EC 2, and EC 3 are *resolved* on the merits in favor of the Staff and SEI, and the proceeding before this Board is *terminated*.
- B. In accordance with 10 C.F.R. § 2.1210, this Initial Decision will constitute a final decision of the Commission 120 days from the date of issuance (or the first agency business day following that date if it is a Saturday, Sunday, or federal holiday, *see* 10 C.F.R. § 2.306(a)), i.e., on *Tuesday, May 26, 2015*, unless a petition for review is filed in accordance with 10 C.F.R. § 2.1212, or the Commission directs otherwise. Any party wishing to file a petition for review on the grounds specified in 10 C.F.R. § 2.341(b)(4) must do so within twenty-five (25) days after service of this Initial Decision. The filing of a petition for review is mandatory for a party to have exhausted its administrative remedies before seeking judicial review. Within 25 days after service of a petition for review, parties to the proceeding may file an answer supporting or

opposing Commission review. Any petition for review and any answer shall conform to the requirements of 10 C.F.R. § 2.341(b)(2)-(3).

THE ATOMIC SAFETY AND  
LICENSING BOARD<sup>80</sup>

G. Paul Bollwerk, III, Chairman  
ADMINISTRATIVE JUDGE

Craig M. White  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
January 23, 2015

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<sup>80</sup> Dr. Richard F. Cole, a full-time technical member of the Atomic Safety and Licensing Board Panel who served with distinction beginning in 1973, was a member of this Licensing Board from its inception and participated in the September 28 limited appearance session and the September 30–October 1, 2014 evidentiary hearing. Judge Cole passed away in December 2014 before this decision was finalized.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**E. Roy Hawken**, Chairman  
**Dr. Michael F. Kennedy**  
**Dr. Richard E. Wardwell**

**In the Matter of**

**Docket No. 50-271-LA**  
**(ASLBP No. 15-934-01-LA-BD01)**

**ENTERGY NUCLEAR VERMONT**  
**YANKEE, LLC, and ENTERGY**  
**NUCLEAR OPERATIONS, INC.**  
**(Vermont Yankee Nuclear Power**  
**Station)**

**January 28, 2015**

Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc., filed a license amendment request for Vermont Yankee Nuclear Power Station seeking to reduce levels in Vermont Yankee's on-shift staffing and Emergency Response Organization staffing to reflect a permanently shutdown and defueled reactor condition. In its request, Entergy indicated that Vermont Yankee's Emergency Response Data System ("ERDS") would not be operational after the reactor is permanently shut down and defueled. The Vermont Department of Public Service, on behalf of the State of Vermont, challenged the license amendment request, contending that Entergy's failure to maintain the ERDS would reduce public safety and hamper Vermont's emergency response. This order concludes that Vermont's contention is an inadmissible collateral challenge to 10 C.F.R. Part 50, Appendix E, § VI.2, which exempts nuclear power facilities that are "shut down permanently" from the requirement of providing an ERDS link.

#### **RULES OF PRACTICE: STANDING**

A state government has standing to challenge a license amendment request for a utilization facility when the facility is located within the boundaries of the state. 10 C.F.R. § 2.309(h)(2).

#### **RULES OF PRACTICE: TIMELINESS**

A petitioner demonstrates good cause for a 2-day delay in e-filing when the petition was submitted to the NRC by e-mail before the deadline lapsed, the delay does not prejudice the other parties, and it is clear that the delay was purely a matter of technical trouble in obtaining digital credentials with the E-Filing system, not an attempt to gain extra time to prepare a pleading or otherwise to flout the NRC's procedural requirements.

#### **RULES OF PRACTICE: TIMELINESS**

Failure to comply with the NRC's e-filing requirements without good cause or without obtaining an exemption from the requirements under 10 C.F.R. § 2.302(g) can result in rejection of a pleading. In particular, when a filing deadline is approaching, notwithstanding that an attorney is engaged in good-faith settlement discussions, prudence should compel the attorney to take all necessary actions to ensure the deadline will be met in the event that settlement discussions are unsuccessful. *See Justice v. Town of Cicero, Illinois*, 682 F.3d 662, 665 (7th Cir. 2012).

#### **REGULATIONS: INTERPRETATION (10 C.F.R. PART 50, APPENDIX E, § VI)**

Appendix E, section VI.2 of 10 C.F.R. Part 50 exempts all nuclear power reactors that have permanently ceased operations and defueled from the requirement of providing an ERDS link.

#### **REGULATIONS: INTERPRETATION (10 C.F.R. § 50.72)**

It is well established that the title of a regulation can aid in construing regulatory text. *See Immigration and Naturalization Service v. National Center for Immigrants' Rights, Inc.*, 502 U.S. 183, 189-90 (1991).

#### **REGULATIONS: INTERPRETATION (10 C.F.R. § 50.72)**

Under 10 C.F.R. § 50.72, only operating nuclear power reactors are required

to activate an ERDS link during an emergency, which convincingly supports the conclusion that the ERDS link need not be maintained by a licensee after its reactor is permanently shut down and defueled.

**RULES OF PRACTICE: CHALLENGE TO COMMISSION REGULATIONS**

A petitioner's contention that an ERDS link or another ERDS-like system is required after a reactor has permanently shut down and defueled is an impermissible collateral attack on a regulation in derogation of 10 C.F.R. § 2.335(a) because it seeks to impose a requirement more stringent than the applicable regulation, 10 C.F.R. Part 50, Appendix E, § VI.

**RULES OF PRACTICE: CHALLENGE TO COMMISSION REGULATIONS**

A petitioner in an adjudicatory proceeding cannot use one regulation to challenge another without first obtaining a waiver by showing "special circumstances." 10 C.F.R. § 2.335(b).

**REGULATIONS: INTERPRETATION (10 C.F.R. § 50.54(Q)(3))**

A licensee cannot change its emergency plan to discontinue ERDS without first showing that the change will not reduce the effectiveness of the site emergency plan. 10 C.F.R. § 50.54(q)(3).

**RULES OF PRACTICE: TIMELINESS**

A deficient contention cannot be cured by arguments presented for the first time in a petitioner's reply brief. *See USEC Inc. (American Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 476 (2006); *Louisiana Energy Services, L.P. (National Enrichment Facility)*, CLI-04-25, 60 NRC 223, 224-25 (2004).

**MEMORANDUM AND ORDER  
(Ruling on Request for Hearing and Petition to Intervene)**

The Vermont Department of Public Service, on behalf of the State of Vermont, has petitioned for an evidentiary hearing to challenge a proposal by Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. [hereinafter referred to collectively as "Entergy"] to amend the Site Emergency Plan for

Vermont Yankee Nuclear Power Station (Vermont Yankee).<sup>1</sup> In this Memorandum and Order, we determine that Vermont submitted a timely petition and has standing to intervene, but we nevertheless deny the petition because Vermont's contention collaterally challenges an NRC regulation and therefore is not admissible.<sup>2</sup>

## I. BACKGROUND

Incident to its decommissioning activities for Vermont Yankee, on March 24, 2014, Entergy submitted a license amendment request ("LAR") seeking permission from the NRC Staff to reduce levels in Vermont Yankee's on-shift staffing and Emergency Response Organization staffing to reflect a permanently shut down and defueled reactor condition.<sup>3</sup> In the LAR, Entergy observed that Vermont Yankee's Emergency Response Data System ("ERDS") "will not be operational [when the reactor is] in a permanently shut down and defueled condition."<sup>4</sup>

Vermont's petition to intervene includes a single contention that challenges the assumption in Entergy's LAR that "ERDS . . . will not be operational" after Vermont Yankee is permanently shut down.<sup>5</sup> Vermont argues that either (1) ERDS must remain operational while Vermont Yankee is permanently shut down; or (2) Entergy must provide an alternate means similar to ERDS to supply Vermont with radiation monitoring information, meteorological information, and containment parameters relevant to spent fuel pool conditions for as long as fuel remains in the pool.<sup>6</sup>

Because we conclude that the admissibility of Vermont's contention founders

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<sup>1</sup> Vermont Department of Public Service Notice of Intention to Participate, Petition to Intervene, and Hearing Request (Sept. 22, 2014) [hereinafter "Vermont's Petition"].

<sup>2</sup> Judge Wardwell agrees that Vermont submitted a timely petition and has standing, but he disagrees with the conclusion that Vermont's contention is not admissible. His dissent is attached at the end of this Memorandum and Order.

<sup>3</sup> Letter from Christopher Wamser, Site Vice President, Vermont Yankee Nuclear Power Station, to Document Control Desk, U.S. Nuclear Regulatory Commission, "Proposed Changes to the Vermont Yankee Emergency Plan" (Mar. 24, 2014) (ADAMS Accession No. ML14085A257) [hereinafter "LAR"].

Vermont Yankee permanently shut down its reactor on December 29, 2014. *See* Letter from Christopher Wamser, Site Vice President, Vermont Yankee Nuclear Power Station, to Document Control Desk, U.S. Nuclear Regulatory Commission, "Certifications of Permanent Cessation of Power Operations and Permanent Removal of Fuel from the Reactor Vessel" (Jan. 12, 2015) (ADAMS Accession No. ML15013A426).

<sup>4</sup> LAR, Attach. 4, Vermont Yankee Nuclear Power Station Analysis of Proposed Post-Shutdown On-Shift Staffing at 8 (Mar. 10, 2014) (ADAMS Accession No. ML14085A257).

<sup>5</sup> Vermont's Petition at 4.

<sup>6</sup> *Id.* at 5.



on the regulatory requirements relating to ERDS, we begin this section with a brief discussion of ERDS, followed by the procedural history of this case.

#### **A. The Emergency Response Data System**

As a result of the accident at Three Mile Island in March 1979, the NRC recognized a need to improve its ability to acquire accurate and timely data on reactor plant conditions during emergencies.<sup>7</sup> Accordingly, in October 1990, the NRC issued a proposal to amend its regulations to (1) require certain licensees to participate in the ERDS program; and (2) set a schedule for implementation of that program.<sup>8</sup> As described in the proposed rule:

The ERDS is a direct electronic data link between computer data systems used by licensees and the NRC Operations Center. The ERDS would supplement the voice transmission over [the] currently installed Emergency Notification System (ENS). The ERDS would provide the NRC Operations Center with timely and accurate values of a limited set of parameters that describe selected plant conditions. The parameter values would be taken directly from data systems existing on a licensee's onsite computer. The ERDS would be activated by a licensee during the declaration of an alert or higher emergency classification at a licensed nuclear power facility.<sup>9</sup>

The purpose of ERDS was to “improve the reliability and timeliness of data transmission and help ensure that any reactor unit in distress can be suitably monitored.”<sup>10</sup> To that end, the proposed rule stated that the class of participants would consist of “all operating nuclear power reactors.”<sup>11</sup> Expressly excluded from the proposed rule were those nuclear power reactor facilities “that are permanently or indefinitely shut down” and “Big Rock Point,” which was exempt because it had an insufficient number of transmittable data points available for effective participation in the ERDS program.<sup>12</sup>

As relevant here, the final (and current) rule — which was issued on September 12, 1991, and codified in 10 C.F.R. Part 50, Appendix E, § VI — was identical to the proposed rule.<sup>13</sup> The regulatory history accompanying the final rule reiterates that ERDS is a direct electronic data link between “licensees of operating reactors and the NRC Operations Center,” and its “objective” is to

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<sup>7</sup> See Proposed Rule: “Emergency Response Data System,” 55 Fed. Reg. 41,095 (Oct. 9, 1990).

<sup>8</sup> *Id.* at 41,095-96.

<sup>9</sup> *Id.* at 41,095.

<sup>10</sup> *Id.* at 41,098.

<sup>11</sup> *Id.*

<sup>12</sup> *Id.* at 41,096.

<sup>13</sup> See Final Rule: “Emergency Response Data System,” 56 Fed. Reg. 40,178 (Aug. 13, 1991).

“allow the NRC to monitor critical parameters during an emergency . . . at operating power reactors.”<sup>14</sup> The rule thus requires all operational nuclear power plants (except Big Rock Point) to participate in the ERDS program by providing “onsite hardware . . . at each unit . . . to interface with the NRC receiving station.”<sup>15</sup> The rule expressly exempts “all nuclear power facilities that are shut down permanently or indefinitely” from participating in the ERDS program.<sup>16</sup> Moreover, consistent with this regulatory provision exempting permanently shut down reactors from participating in the ERDS program, the NRC regulation directing licensees to activate ERDS during exigent circumstances applies, as denoted in the regulation’s title, only to “operating nuclear power reactors.”<sup>17</sup> As to the ERDS implementation schedule, the rule provides that “[e]ach licensee shall complete implementation of the ERDS by February 13, 1993, or before initial escalation to full power, whichever comes later.”<sup>18</sup>

Lastly, in the final rule’s regulatory history, the NRC “recommend[s] that States desiring an emergency data link to nuclear power plants within their jurisdiction use an ERDS connection from the NRC Operations Center. A Memorandum of Understanding with the NRC will provide the State with ERDS data.”<sup>19</sup>

## **B. Procedural Background**

On March 24, 2014, Entergy submitted an LAR seeking permission from the NRC to reduce levels in Vermont Yankee’s on-shift staffing and Emergency Response Organization staffing after the reactor is in a permanently shutdown and defueled condition.<sup>20</sup> In the LAR, Entergy excluded activation of the ERDS from its staffing analysis, noting that the “[ERDS] link to the NRC will not be operational in a permanently shut down and defueled condition.”<sup>21</sup>

A notice for the LAR was published in the *Federal Register* on July 22, 2014, informing the public of the 60-day deadline to file a petition to intervene and describing the process for submitting the petition through NRC’s required E-Filing system.<sup>22</sup>

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<sup>14</sup> *Id.* at 40,178.

<sup>15</sup> *Id.* at 40,185; 10 C.F.R. Part 50, App. E, § VI.2.

<sup>16</sup> 56 Fed. Reg. at 40,185; 10 C.F.R. Part 50, App. E, § VI.2.

<sup>17</sup> 10 C.F.R. § 50.72(a)(4).

<sup>18</sup> 56 Fed. Reg. at 40,185; 10 C.F.R. Part 50, App. E, § VI.4.d.

<sup>19</sup> 56 Fed. Reg. at 40,181.

<sup>20</sup> *See supra* note 3. As previously mentioned, the LAR is part of Entergy’s decommissioning activities for Vermont Yankee, which permanently ceased operations on December 29, 2014.

<sup>21</sup> *See supra* note 4.

<sup>22</sup> Biweekly Notice; Applications and Amendments to Facility Operating Licenses and Combined Licenses Involving No Significant Hazards Considerations, 79 Fed. Reg. 42,539, 42,540-42, 42,546 (July 22, 2014).

On the deadline of September 22, 2014, Vermont e-mailed its petition to the Secretary of the Commission, explaining that the State was “not able to file this through the web-based submission form for E-Filings.”<sup>23</sup> The petition contained a single contention challenging Entergy’s assumption that ERDS would not be operational after Vermont Yankee’s reactor was permanently shut down and defueled.<sup>24</sup> Two days later, Vermont resubmitted the same petition via the E-Filing system.<sup>25</sup> The Secretary of the Commission referred the petition to the Atomic Safety and Licensing Board Panel, and this Licensing Board was established on October 3, 2014.<sup>26</sup>

We granted the NRC Staff’s unopposed motion for a clarification of the briefing schedule, thereby giving Entergy and the Staff 25 days from the E-Filing of Vermont’s petition to file their answers.<sup>27</sup> On October 20, Entergy and the NRC Staff submitted answers opposing the intervention request,<sup>28</sup> and Vermont filed its reply on October 31.<sup>29</sup> We heard oral argument on December 1 regarding the admissibility of Vermont’s contention.<sup>30</sup>

## II. ANALYSIS

### A. Standing and Timeliness

Before analyzing the admissibility of Vermont’s contention, we consider the threshold issues of the timeliness of the petition and Vermont’s standing to intervene. We address the latter issue first, which is easily resolved. As Entergy

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<sup>23</sup> Memorandum from Annette L. Vietti-Cook, Secretary of the Commission, to E. Roy Hawkens, Chief Administrative Judge, Atomic Safety and Licensing Board Panel, “Referring a Request for Hearing and Petition to Intervene with Respect to the License Amendment Request of Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. for the Vermont Yankee Nuclear Power Station, Docket No. 50-271,” Attach. at 1 (Sept. 30, 2014).

<sup>24</sup> See Vermont’s Petition at 3-5.

<sup>25</sup> See *supra* note 23.

<sup>26</sup> See Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc.; Establishment of Atomic Safety and Licensing Board, 79 Fed. Reg. 61,107 (Oct. 9, 2014).

<sup>27</sup> Licensing Board Order (Granting Request to Clarify Schedule for Answers and Reply) (Oct. 6, 2014) (unpublished).

<sup>28</sup> Entergy’s Answer Opposing the State of Vermont’s Notice of Intention to Participate, Petition to Intervene and Hearing Request (Oct. 20, 2014) [hereinafter “Entergy’s Answer”]; NRC Staff Answer to Vermont Department of Public Service Notice of Intention to Participate, Petition to Intervene, and Hearing Request (Oct. 20, 2014) [hereinafter “NRC Staff’s Answer”].

<sup>29</sup> State of Vermont’s Reply to NRC Staff and Entergy Answers to the State of Vermont’s Notice of Intention to Participate, Petition to Intervene, and Hearing Request (Oct. 31, 2014) [hereinafter “Vermont’s Reply”].

<sup>30</sup> See Licensing Board Order (Scheduling and Providing Instructions for Oral Argument) (Nov. 12, 2014) (unpublished); Transcript of Oral Argument (Dec. 1, 2014) [hereinafter “Tr.”].

and the NRC Staff acknowledge,<sup>31</sup> Vermont has standing because Vermont Yankee is “located within the boundaries of the State” and, accordingly, “no further demonstration of standing is required.”<sup>32</sup>

But Entergy and the NRC Staff challenge the timeliness of Vermont’s petition, arguing that it is untimely because Vermont submitted it on the September 22 deadline by e-mail, instead of using the required E-Filing system.<sup>33</sup>

Vermont responds that it was engaged in negotiations with Entergy up until the filing deadline, leading the State to delay its request for the proper digital credentials needed to use the E-Filing system.<sup>34</sup> At oral argument, counsel for Vermont clarified that the State determined it might need to file a petition on the Thursday or Friday before the Monday deadline,<sup>35</sup> well after the 10-day lead time for requesting a digital certificate.<sup>36</sup> The State stresses that it (1) informed Entergy prior to the deadline of its plan to file a petition; (2) submitted its petition to the NRC by e-mail before the deadline lapsed; and (3) filed the petition on the E-Filing system at the earliest opportunity 2 days later upon obtaining the required digital credentials for the system.<sup>37</sup>

On balance, we conclude that Vermont has provided good cause for its late E-Filing submission,<sup>38</sup> particularly because the State submitted its petition to the NRC by e-mail before the deadline lapsed, and it is clear that the delay was purely a matter of obtaining digital credentials for the system, not an attempt to gain extra time to prepare a pleading or otherwise to flout the NRC’s procedural requirements.<sup>39</sup> Moreover, the delay in e-filing did not prejudice Entergy or the NRC Staff, because both were aware of the substance of Vermont’s petition by the

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<sup>31</sup> See Entergy’s Answer at 10 n.43; NRC Staff’s Answer at 4.

<sup>32</sup> 10 C.F.R. § 2.309(h)(2).

<sup>33</sup> See Entergy’s Answer at 9-10; Tr. at 65-67; see also 10 C.F.R. § 2.302(a).

<sup>34</sup> Vermont’s Reply at 15-16.

<sup>35</sup> Tr. at 18.

<sup>36</sup> 79 Fed. Reg. at 42,541 (“To comply with the procedural requirements of E-Filing, at least ten (10) days prior to the filing deadline, the participant should contact the Office of the Secretary . . . to request (1) a digital identification (ID) certificate, which allows the participant (or its counsel or representative) to digitally sign documents and access the E-Submittal server for any proceeding in which it is participating.”).

<sup>37</sup> See Vermont’s Reply at 15; Tr. at 17.

<sup>38</sup> 10 C.F.R. §§ 2.309(c)(2)(i), 2.307(a); cf. *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-13-9, 78 NRC 551, 556 n.17 (2013) (the Commission exercises its discretion to consider briefs that were not filed via the agency’s E-Filing system).

<sup>39</sup> Cf. *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7), LBP-11-6, 73 NRC 149, 247 (2002) (finding no good cause where petitioner’s late-filed contention was due to “careless ‘inadverten[ce]’” and not, as petitioner claimed, attributable to technical difficulties with the E-Filing system).

September 22 deadline, and both received a full 25 days from the September 24 e-filing submission to file their answers.<sup>40</sup>

Although we decline to dismiss Vermont's petition as untimely, we caution future petitioners that failure to comply with the NRC's e-filing requirements without good cause or without obtaining an exemption from the requirements under 10 C.F.R. § 2.302(g) can result in rejection of a pleading. In particular, when a filing deadline is approaching, notwithstanding that an attorney is engaged in good-faith settlement discussions, prudence should compel the attorney to take all actions that are necessary to ensure the deadline will be met in the event that settlement discussions are unsuccessful.<sup>41</sup>

## **B. Contention Admissibility**

### ***1. Contention Admissibility Standards***

Vermont's contention is admissible only if it satisfies all six criteria set forth in 10 C.F.R. § 2.309(f)(1).<sup>42</sup> That rule requires Vermont to (i) provide a specific statement of the issue of law or fact to be raised; (ii) explain briefly the basis for the contention; (iii) show that the issue raised in the contention is within the scope of the license amendment proceeding; (iv) demonstrate that the issue is material to the findings the NRC must make to support the LAR; (v) state concisely the alleged facts or expert opinions that support Vermont's position on the issue and on which Vermont intends to rely at hearing; and (vi) show that a genuine dispute exists with Entergy on a material issue of law or fact, with reference to the disputed portion of the LAR.<sup>43</sup>

Additionally, except as provided by the waiver provision in 10 C.F.R. § 2.335(b) and (d), "no rule or regulation of the Commission, or any provision thereof . . . is subject to attack . . . in any adjudicatory proceeding subject to [10 C.F.R. Subpart 2]." <sup>44</sup> Thus, absent a waiver, contentions that raise a direct or indirect

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<sup>40</sup> See *supra* note 27. Although Entergy and the NRC Staff correctly observe that lack of prejudice, standing alone, does not excuse an untimely filing (*see* Tr. at 63, 65), it is a factor the Commission has considered in determining whether good cause exists. *See Crow Butte Resources, Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 549-50 (2009).

<sup>41</sup> See *e.g., Justice v. Town of Cicero, Illinois*, 682 F.3d 662, 665 (7th Cir. 2012) ("Courts used to say that a single day's delay can cost a litigant valuable rights. With e-filing, 1 hour's or even a minute's delay can cost a litigant valuable rights. A prudent litigant or lawyer must allow time for difficulties on the filer's end.") (citation omitted).

<sup>42</sup> See *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 395-96 (2012).

<sup>43</sup> 10 C.F.R. § 2.309(f)(1).

<sup>44</sup> *Id.* § 2.335(a).

challenge to a Commission regulation must be rejected as nonjusticiable and, hence, inadmissible.<sup>45</sup>

## **2. *Vermont's Contention, and the Parties' Arguments Regarding Admissibility***

In its petition, Vermont argues that Entergy's plan to deactivate Vermont Yankee's ERDS link to the NRC Operations Center upon permanent cessation of reactor operations and permanent removal of fuel from the reactor violates Entergy's regulatory duty to ensure public safety because, the State asserts, the lack of timely information will hinder the State's emergency response.<sup>46</sup> Specifically, Vermont's contention alleges that:

Entergy has failed to ensure a Radiological Monitoring System that will provide the information that the State needs to assess Vermont Yankee conditions as part of the State's protective action decision-making process, and Entergy has thus failed to demonstrate that its license amendment request (1) will not significantly reduce the margin of safety or significantly increase the consequences of an accident previously evaluated as required by 10 CFR § 50.92; (2) will provide adequate protection for the public health and safety as required by 10 CFR § 50.57(a)(3); and (3) will comply with the requirements of 10 CFR § 50.47 to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.<sup>47</sup>

In support of its contention, Vermont asserts that its Radiological Emergency Response Plan depends on the ERDS link to provide information during an emergency.<sup>48</sup> This Plan was developed by the State and approved by the Federal Emergency Management Agency to ensure that the State is prepared to handle the offsite effects of a radiological emergency at Vermont Yankee.<sup>49</sup> Vermont requests that either (1) the ERDS link "be retained during Vermont Yankee's permanently

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<sup>45</sup> *Id.* § 2.335(b); *see also infra* note 64 (citing cases).

<sup>46</sup> Vermont's Petition at 4. Vermont has a Memorandum of Understanding with the NRC (*see supra* note 19) enabling it to access ERDS data via a link with the NRC Operations Center. *See* Final Memorandum of Understanding Between the U.S. Nuclear Regulatory Commission and the State of Vermont, 62 Fed. Reg. 6281 (Feb. 11, 1997). The Memorandum of Understanding may be terminated by either party "upon 30 days written notice." *Id.* at 6282.

<sup>47</sup> Vermont's Petition at 3-4.

<sup>48</sup> *Id.* at 4; Vermont's Reply, Attach. A, at 99-100.

<sup>49</sup> 44 C.F.R. Part 350; *see* Emergency Preparedness Program Office, Office of Nuclear Reactor Regulation, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, NUREG-0654/FEMA-REP-1, Rev. 1 (1980) (ADAMS Accession No. ML040420012).

shut down and defueled period”; or (2) Entergy provide an alternative system, similar to ERDS, that will “provide equivalent Radiation Monitoring System, Meteorological information, and Containment parameters relevant to the spent fuel pool conditions for as long as fuel remains within the spent fuel pool.”<sup>50</sup>

Entergy argues that Vermont’s contention is not admissible for several alternative reasons. First, Entergy argues that Vermont’s demand that Entergy must maintain its ERDS link with the NRC after Vermont Yankee’s nuclear reactor is permanently shut down is an impermissible collateral attack on 10 C.F.R. Part 50, Appendix E, § VI, which exempts “all nuclear power facilities that are shut down permanently” from the requirement of providing ERDS hardware.<sup>51</sup> Additionally, Entergy argues that Vermont’s contention is inadmissible for the following independent reasons: (1) it falls outside the scope of this proceeding, contrary to section 2.309(f)(1)(iii);<sup>52</sup> (2) it is unsupported by adequate factual information or expert opinion, contrary to section 2.309(f)(1)(v);<sup>53</sup> and (3) it does not raise a genuine dispute of material law or fact with the LAR, contrary to section 2.309(f)(1)(vi).<sup>54</sup>

The NRC Staff also opposes the admission of Vermont’s contention. First, the Staff, like Entergy, characterizes Vermont’s contention as an impermissible collateral attack on 10 C.F.R. Part 50, Appendix E, § VI.<sup>55</sup> Additionally, the Staff argues that Vermont’s contention is (1) outside the scope of this proceeding, contrary to section 2.309(f)(1)(iii);<sup>56</sup> and (2) not material to findings the NRC must make on the LAR, contrary to section 2.309(f)(1)(iv).<sup>57</sup>

In its reply, Vermont denies that its contention is an impermissible collateral attack on ERDS regulations, and it also contests the other arguments advanced by Entergy and the NRC Staff regarding the alleged inadmissibility of its contention.<sup>58</sup>

### **3. *Vermont’s Contention Is Not Admissible***

Vermont’s contention seeks to require Entergy to maintain its ERDS link *after* its reactor is permanently shut down and defueled, or, alternatively, to create an ERDS-like system that would provide Vermont with data relevant to the spent

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<sup>50</sup> Vermont’s Petition at 5.

<sup>51</sup> Entergy’s Answer at 9, 15.

<sup>52</sup> *Id.* at 14-15.

<sup>53</sup> *Id.* at 15-16.

<sup>54</sup> *Id.* at 16-17.

<sup>55</sup> NRC Staff’s Answer at 12-13.

<sup>56</sup> *Id.* at 9-12.

<sup>57</sup> *Id.* at 15-16.

<sup>58</sup> Vermont’s Reply at 2-15.

fuel pool.<sup>59</sup> In our view, the relief sought by Vermont is inconsistent with the exception provision in 10 C.F.R. Part 50, Appendix E, § VI.2, which exempts “all nuclear power facilities that are shut down permanently” from providing an ERDS link.<sup>60</sup> As discussed *infra* Part II.B.3.a, the scope of this exception is informed by the regulatory history, which states that ERDS is to be “used by *licensees of operating reactors*”<sup>61</sup> and which repeatedly stresses that the purpose of ERDS is to enhance the NRC’s ability to monitor “what is taking place *at the reactor during an accident*.”<sup>62</sup> In light of the regulation’s unambiguous purpose, the exception provision is most reasonably interpreted as exempting from the ERDS program all nuclear reactors that, like Vermont Yankee, have permanently ceased operations and defueled — i.e., that are permanently shut down. This conclusion is confirmed by 10 C.F.R. § 50.72, which, as discussed *infra* Part II.B.3.a, is the only regulation that requires a licensee to activate its ERDS link, and which applies only to “operating nuclear power reactors.”<sup>63</sup> The upshot of section 50.72 is clear: if the licensee of a permanently shutdown reactor is never required to activate the ERDS link, it follows that such a licensee need not maintain the ERDS link. To the extent Vermont’s contention would require Entergy to maintain the ERDS link or to create another ERDS-like system after Vermont Yankee’s reactor is permanently shut down and defueled, it seeks to impose a requirement more stringent than the requirement imposed in section VI. It is therefore an impermissible collateral attack on a regulation in derogation of 10 C.F.R. § 2.335(a) and must be rejected as inadmissible.<sup>64</sup>

Vermont advances several arguments in an effort to rescue its contention from

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<sup>59</sup> Vermont’s Petition at 5.

<sup>60</sup> 10 C.F.R. Part 50, App. E, § VI.2.

<sup>61</sup> 56 Fed. Reg. at 40,178 (emphasis added).

<sup>62</sup> *Id.* at 40,179 (emphasis added).

<sup>63</sup> 10 C.F.R. § 50.72 (regulation’s title).

<sup>64</sup> See, e.g., *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 79 n.27 (2014) (“Contentions that are the subject of general rulemaking by the Commission may not be litigated in individual license proceedings.”); *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 315 (2012) (“This proposition contravenes our longstanding practice of rejecting, as a collateral attack, any contention calling for requirements in excess of those imposed by our regulations.”); *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 206 (2000) (rejecting an “attempt[ ] to impose . . . a requirement more stringent tha[n] the one imposed by the regulations”); *Curators of the University of Missouri* (TRUMP-S Project), CLI-95-1, 41 NRC 71, 170 (1995) (“[T]he Intervenor[s] are, in essence, contending that those regulatory provisions are themselves insufficient to protect the public health and safety. This assertion constitutes an improper collateral attack upon our regulations.”) (footnote omitted)).



being rejected as a collateral attack on section VI. As discussed below, we are not persuaded by those arguments.<sup>65</sup>

a. Noting that the exception provision in Appendix E, § VI.2 applies to “nuclear power facilities that are shut down permanently” and not simply to nuclear reactors that are shut down permanently, Vermont argues that a permanently shutdown nuclear power facility should be construed as a nuclear power plant that has (1) permanently shut down its reactor, *and* (2) moved all fuel from spent fuel pools to dry storage.<sup>66</sup> So construed, asserts Vermont, its request for relief does not seek to impose a requirement more stringent than the one imposed by regulation.

But Vermont’s interpretation of the phrase “nuclear power facilities that are shut down permanently” is not tenable. First, the regulation speaks of facilities instead of reactors because any facility with an operating “unit” (i.e., an operating reactor) is required to provide ERDS for that unit, regardless of the status of other reactors at the facility.<sup>67</sup> Second, nothing in section VI or its regulatory history ties the design or purpose of ERDS to spent fuel pools or spent fuel storage.<sup>68</sup> Rather, the regulation speaks of “transmit[ing] data from each [reactor] *unit*,”<sup>69</sup> and the regulatory history repeatedly stresses that the purpose of ERDS is to improve the NRC’s ability to monitor “any *reactor unit* in distress.”<sup>70</sup> The regulatory history

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<sup>65</sup> Because we reject Vermont’s contention as a collateral attack on 10 C.F.R. Part 50, Appendix E, § VI, we do not consider whether it is inadmissible on the alternative grounds that it (1) falls outside the scope of this proceeding; (2) is not material to findings the NRC Staff must make on the LAR; (3) is unsupported by adequate factual information or expert opinion; and (4) fails to raise a genuine dispute of material law or fact with the LAR. *See supra* notes 52-54 and 56-57.

<sup>66</sup> *See* Tr. at 21-22; Vermont’s Petition at 5.

<sup>67</sup> 10 C.F.R. Part 50, App. E, § VI.2; *see also* Office for Analysis and Evaluation of Operational Data, Emergency Response Data System (ERDS) Implementation, NUREG-1394, Rev. 1 at 6 (June 1991) (“Since ERDS treats each reactor unit as an individual plant, a separate data stream is required for each reactor unit.”).

<sup>68</sup> Significantly, the NRC Staff represents that in 1991 when section VI was promulgated, reactors at six NRC-regulated nuclear power facilities were shut down permanently but still stored fuel in their spent fuel pools. All of these facilities continued to store fuel in spent fuel pools beyond the regulation’s implementation date in February 1993, and five of the six facilities continued to store fuel in spent fuel pools until 2002 and beyond. *See* NRC Staff Answer to [ASLB] Question Asked During December 1, 2014 Contention Admissibility Argument at 2-3 (Dec. 8, 2014) [hereinafter “NRC Staff Dec. 8, 2014 Answer”]. Yet, to the Staff’s knowledge, “ERDS was never installed at any of these facilities.” *Id.* at 3.

<sup>69</sup> 10 C.F.R. Part 50, App. E, § VI.2 (emphasis added).

<sup>70</sup> 55 Fed. Reg. at 41,098 (emphasis added); *accord, e.g., id.* at 41,096 (“[the NRC] has placed a high priority on the implementation of the ERDS program by all *operational nuclear power units*”) (Continued)

thus refers to the class of required participants as “all operating nuclear power reactors.”<sup>71</sup>

Given its emergency planning function, the regulation sensibly focuses on emergencies at operating reactors because the NRC Staff has determined that permanently shutdown reactors face a smaller number of potentially severe accident scenarios.<sup>72</sup> The following categories of ERDS-transmitted data demonstrate this focus: (1) reactor core and coolant systems; (2) reactor containment conditions; (3) radioactivity release rates relating to operating reactors; and (4) meteorological tower data.<sup>73</sup> By design, ERDS-transmitted data in the above categories “allow[s] the NRC to monitor critical parameters during an emergency . . . at operating power reactors.”<sup>74</sup> Vermont itself concedes that “many of the ERDS parameters (such as those related to the reactor coolant system and safety injection) are not needed once Vermont Yankee is in a permanently shut down and defueled condition.”<sup>75</sup> Yet Vermont’s flawed reading of the term “facility” would require plants to continue providing reactor-related parameters via ERDS even after all reactor units have been permanently shut down.<sup>76</sup>

In light of the above regulatory language and history, we conclude that a nuclear power facility has shut down permanently within the meaning of 10 C.F.R. Part

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(emphasis added); 56 Fed. Reg. at 40,178 (the “objective” of ERDS is to “allow the NRC to monitor critical parameters during an emergency . . . at operating power reactors”) (emphasis added); *id.* at 40,179 (“ERDS is designed to transfer needed reactor data from a nuclear power plant only during emergencies”) (emphasis added); *id.* (“the principal effect of ERDS will be a marked improvement in the availability, timeliness, and reliability of key information about what is taking place at the reactor during an accident”) (emphasis added); *id.* at 40,183 (same).

<sup>71</sup> 55 Fed. Reg. at 41,098 (emphasis added); *accord, e.g.*, 56 Fed. Reg. at 40,178 (ERDS is an electronic data link between “licensees of operating reactors and the NRC”) (emphasis added).

<sup>72</sup> See Office of Nuclear Reactor Regulation, Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants, NUREG-1738, at x (2001) (ADAMS Accession No. ML010430066) (“The staff found that the event sequences important to risk at decommissioning plants are limited to large earthquakes and cask drop events. For emergency planning (EP) assessments this is an important difference relative to operating plants where typically a large number of different sequences make significant contributions to risk.”).

<sup>73</sup> See 10 C.F.R. Part 50, App. E, § VI.2; *see also id.* § VI.2.a(ii) (identifying parameters from which ERDS transmits data points for boiling water reactors).

<sup>74</sup> 56 Fed. Reg. at 40,178.

<sup>75</sup> Vermont’s Petition at 4.

<sup>76</sup> Vermont’s definition of nuclear power “facility” is also flawed because there is no regulatory basis for concluding that a nuclear power “facility” is permanently shut down just because the licensee has moved all fuel from onsite spent fuel pools to onsite dry storage. *Cf. Tr.* at 22 (counsel for Vermont acknowledges possibility of a “dry cask accident” after fuel has been removed from spent fuel pools). Indeed, a nuclear power “facility” arguably exists until final decommissioning, which may take up to 60 years, or longer if approved by the Commission. See 10 C.F.R. § 50.82(a)(3). Not even Vermont, however, presses for such an expansive definition of “facility” in the context of Appendix E, § VI.2. See *Tr.* at 21-22.

50, Appendix E, § VI.2 when it has permanently ceased reactor operations, and permanently removed fuel from the reactor vessel, as those terms are defined in 10 C.F.R. § 50.2.<sup>77</sup> This interpretation of the exception provision in section VI.2 comports with what NRC Staff represents is its longstanding interpretation<sup>78</sup> and the longstanding practice of the industry.<sup>79</sup> Pursuant to this interpretation, Entergy is categorically exempt by regulation from maintaining an ERDS link under the terms of its LAR, which seeks a revision to its site emergency plan to reflect a permanently shutdown and defueled condition.<sup>80</sup>

Our conclusion that Entergy falls within the exception provision of section VI.2 is confirmed by the regulatory framework. The only regulation that requires a licensee to turn on its ERDS link is 10 C.F.R. § 50.72(a)(4), which directs licensees to “activate the [ERDS] as soon as possible but not later than 1 hour after declaring an Emergency Class of alert, site area emergency, or general emergency.”<sup>81</sup> Dispositively, the activation requirement in section 50.72 applies only to “operating nuclear power reactors.”<sup>82</sup> Restated, there is no regulatory requirement for the licensee of a reactor that has permanently ceased operations to activate the ERDS link during an emergency. If the licensee of a permanently shutdown reactor is never required to activate the ERDS link, it must be concluded that — consistent with the language and history of Appendix E, § VI.2 — such a licensee is exempt from the ERDS program.

The dissent attempts to discount the significance of 10 C.F.R. § 50.72 to this

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<sup>77</sup> “[P]ermanent cessation of operation(s) . . . for a nuclear power reactor facility” is defined as “a certification by a licensee to the NRC that it has permanently ceased or will permanently cease reactor operations(s).” 10 C.F.R. § 50.2. “[P]ermanent fuel removal . . . for a nuclear power reactor facility” is defined as “a certification by the licensee to the NRC that it has permanently removed all fuel assemblies from the reactor vessel.” *Id.*

<sup>78</sup> See Tr. at 78-80, 97; NRC Staff Dec. 8, 2014 Answer at 2-3; NRC Staff’s Answer at 8 n.33.

<sup>79</sup> According to the NRC Staff, all nuclear reactors decommissioned since 1991 have removed ERDS from their emergency plans or have deactivated the ERDS link. See Tr. at 78-80, 97.

<sup>80</sup> In a recent NRC Staff Memorandum, the Director of the Division of Preparedness and Response viewed the section VI exception provision as applying to “nuclear power reactor licensees who have submitted a certificate of permanent cessation of operation.” Memorandum from Robert J. Lewis, NRC Director of Preparedness and Response, “[ERDS] at Plants that have Permanently Ceased Operations” at 1 (June 2, 2014) (ADAMS Accession No. ML14099A520) [hereinafter “Lewis Memorandum”]. As stated above in text, we conclude the exception provision applies to licensees who certify permanent cessation of operations *and* permanent removal of fuel from the reactor vessel. When these two conditions are satisfied, the “license no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel” (10 C.F.R. § 50.82(a)(2)), and “physically the reactor can’t be operated.” Tr. at 78; *see also* NRC Staff’s Answer at 8 n.33.

<sup>81</sup> 10 C.F.R. § 50.72(a)(4).

<sup>82</sup> *Id.* § 50.72 (regulation’s title). It is well established that the title of a regulation can aid in construing regulatory text. See, e.g., *Immigration and Naturalization Service v. National Center for Immigrants’ Rights, Inc.*, 502 U.S. 183, 189-90 (1991).

case, arguing that the activation requirement of section 50.72 is irrelevant because Vermont Yankee's ERDS link is activated at all times.<sup>83</sup> But continuous activation of the ERDS link is not required by regulation, so Vermont Yankee's action in this regard offers no guidance in terms of regulatory interpretation.<sup>84</sup> In contrast, the fact that section 50.72 requires only "operating nuclear power reactors" to activate the ERDS link convincingly supports the conclusion that only licensees with operating reactors are required to maintain the ERDS link.<sup>85</sup>

*b.* Vermont also argues that 10 C.F.R. Part 50, Appendix E, § VI merely implemented the mandatory roll-out of the ERDS program in 1991, creating obligations and exceptions that applied only to nuclear reactor facilities existing in 1991. Pursuant to this argument, section VI.2 exempted permanently shutdown reactors from implementing ERDS in 1991, but it did not authorize a licensee to discontinue ERDS after it had been implemented.<sup>86</sup>

We disagree. If, as Vermont argues, section VI were a one-time requirement that applied only to units existing in 1991, that would mean it was not intended to apply prospectively to newly built reactors. In addition to defying common sense, such an interpretation of section VI is negated by 10 C.F.R. § 50.47(e), which confirms that a holder of a combined license for a newly built reactor "may not load fuel or operate except as provided in accordance with [A]ppendix E."<sup>87</sup>

Moreover, nothing in the regulation suggests it was intended to apply only to plants that were operating in 1991, or that its exemption was intended to be limited to plants that were already shut down in 1991. The regulation is written in broad terms: it requires that, "[e]xcept for Big Rock Point and all nuclear power facilities that are shut down permanently or indefinitely, onsite [ERDS]

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<sup>83</sup> See Dissent at p. 184 n.36.

<sup>84</sup> As explained in the regulatory history, a licensee is not required to activate ERDS continuously, because ERDS "is designed to transfer needed *reactor data* from a nuclear power plant *only during emergencies*." 56 Fed. Reg. at 40,179 (emphasis added).

<sup>85</sup> Significantly, Vermont's contention attacks the assumption in Entergy's LAR that "ERDS . . . will not be operational" after Vermont Yankee's reactor is permanently shut down. See Vermont Yankee's Petition at 4. If that assumption were rewritten to state that ERDS need not be activated after Vermont Yankee's reactor is permanently shut down, it would be unassailable in light of 10 C.F.R. § 50.72, and Vermont's contention would be groundless. For present purposes, we discern no material difference between these two assumptions.

<sup>86</sup> See Vermont's Reply at 8-9.

<sup>87</sup> *Id.* § 50.47(e); see also *id.* § 50.54(q)(2) ("A holder of a license under this part, or a combined license under part 52 . . . , shall follow and maintain the effectiveness of an emergency plan that meets the requirements in [A]ppendix E to this part . . . ."). Vermont's argument is also belied by the implementation deadline in Appendix E, § VI.4.d, which requires each licensee to "complete implementation of the ERDS by February 13, 1993, *or before initial escalation to full power, whichever comes later.*" 10 C.F.R. Part 50, App. E, § VI.4.d (emphasis added).

hardware shall be provided at each unit by the licensee to interface with the NRC receiving system.”<sup>88</sup> Concluding that the regulation operates prospectively to include *all* operating reactors, and *only* operating reactors, satisfies the rule’s goal of ensuring that NRC can monitor the “critical parameters during an emergency . . . at operating power reactors.”<sup>89</sup>

In support of its argument that section VI is solely an implementation rule, Vermont also asserts that the NRC did not consider whether to require ERDS hardware at facilities that shut down after installing the hardware.<sup>90</sup> But that assertion ignores the plain language of the exception provision, which unequivocally exempts licensees of “all nuclear power facilities that are shut down permanently” from providing “onsite [ERDS] hardware.” And if additional evidence were needed to show that the ERDS link need not be maintained by a licensee after its reactor is permanently shut down, that evidence is found in 10 C.F.R. § 50.72, which requires only “operating nuclear power reactors” to activate the ERDS link.<sup>91</sup> Vermont fails to explain how the ERDS link will protect the public health and safety in a regulatory regime that does not require the link to be activated.

c. Vermont also argues that its contention, properly viewed, does not collaterally attack Appendix E; rather, it simply seeks to have Entergy comply with Appendix E as well as the emergency planning standards in 10 C.F.R. § 50.47(b).<sup>92</sup> Vermont asserts that Entergy has not satisfied those requirements, because the discontinuation of ERDS following permanent shutdown of the reactor will result in the State receiving inadequate information during an emergency.<sup>93</sup> This argument fails to render Vermont’s contention admissible.

First, as shown above (*supra* Parts II.B.3.a and II.B.3.b), Entergy satisfies the requirements of Appendix E, section VI by maintaining the ERDS link until its reactor is permanently shut down and defueled. Vermont’s assertion that Entergy must thereafter maintain the ERDS link or an equivalent alternative is a demand for requirements beyond those established by section VI and, thus, is an impermissible collateral attack on a regulation.<sup>94</sup>

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<sup>88</sup> 10 C.F.R. Part 50, App. E, § VI.2.

<sup>89</sup> 56 Fed. Reg. at 40,178.

<sup>90</sup> Tr. at 23-24; Vermont’s Reply at 8-9.

<sup>91</sup> See *supra* text accompanying notes 81-85.

<sup>92</sup> Vermont’s Reply at 8-10.

<sup>93</sup> Vermont’s Petition at 4-5; Tr. at 28-29.

<sup>94</sup> Vermont concedes that, “at most, [Appendix E] only removes [the] regulatory obligation for Vermont Yankee to continue ERDS” following permanent shutdown of the reactor. Vermont’s Reply at 9. That concession is fatal to Vermont’s contention, because once the regulatory obligation to

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Second, it is a well-established principle that a petitioner in an adjudicatory proceeding cannot use one regulation to challenge another without first obtaining a waiver by showing “special circumstances.”<sup>95</sup> Vermont has not sought, much less obtained, a waiver to the exception provision in section VI. For this reason, Vermont’s reliance on section 50.47(b) to support its assertion that Entergy must maintain an ERDS link or an ERDS-like link after the reactor is permanently shut down and defueled is unavailing.<sup>96</sup>

*d.* In its reply, Vermont argued for the first time that 10 C.F.R. § 50.54(q)(3) forbids Entergy from changing its emergency plan to discontinue the ERDS link unless Entergy “performs and retains an analysis that demonstrates the changes do not reduce the effectiveness of the plan as changed . . . .”<sup>97</sup> At the December 1 oral argument, counsel for Entergy acknowledged that Entergy has not yet completed the section 50.54(q)(3) analysis.<sup>98</sup> Entergy’s failure to complete the required analysis, asserts Vermont, bars Entergy from changing its emergency plan to discontinue the ERDS link.<sup>99</sup>

We agree. Significantly, so do Entergy and the NRC Staff. Specifically, in the NRC Staff’s view, before Entergy may change its emergency plan to discontinue the ERDS link, section 50.54(q)(3) requires Entergy to “perform and retain an analysis that concludes that the removal of ERDS is not a reduction in [emergency plan] effectiveness.”<sup>100</sup> Entergy likewise acknowledges that prior to changing its

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continue ERDS has been removed, a contention that seeks to reimpose that obligation, or to otherwise “impose . . . a requirement more stringent tha[n] the one imposed by the regulation[ ],” must be rejected as an impermissible collateral attack on the regulation. *Oyster Creek Nuclear Generating Station*, CLI-00-6, 51 NRC at 206; *see also supra* note 64.

<sup>95</sup> 10 C.F.R. § 2.335(b); *see Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 385-88 (2012); *supra* text accompanying notes 44-45.

<sup>96</sup> *See Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4), CLI-09-3, 69 NRC 68, 75 (2009) (“Absent a waiver, parties are prohibited from collaterally attacking our regulations in an adjudication. Intervenor did not seek such a waiver. Therefore, under our rules, the Board should not have admitted the contention.”) (footnote omitted).

<sup>97</sup> 10 C.F.R. § 50.54(q)(3); *see* Vermont’s Reply at 11-12.

<sup>98</sup> Tr. at 44.

<sup>99</sup> Vermont’s Reply at 11-12; Tr. at 15-16, 32.

<sup>100</sup> Lewis Memorandum at 2. The Lewis Memorandum (*supra* note 80) was written in June 2014 by the NRC Director of the Office of Nuclear Security and Incident Response and addressed to designated Office Directors and Deputy Directors in the NRC’s four regional offices, with a recommendation that the information be provided to the regional inspection staffs. *Id.* at 1-2. The stated purpose of the Memorandum was to clarify the requirements for maintenance and use of ERDS for licensees who no longer are subject to the requirements of Appendix E, section VI. *Id.* at 1.

The dissent asserts that the existence of the Lewis Memorandum indicates that the exception  
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emergency plan to discontinue the ERDS link, section 50.54(q)(3) requires an analysis showing that such a change does not reduce the plan's effectiveness.<sup>101</sup>

Contrary to Vermont's assertion, however, the fact that Entergy has not yet completed a section 50.54(q)(3) analysis does not provide a basis for granting Vermont's hearing request. First, Vermont belatedly raised this argument in its reply. Vermont's petition referred once to the emergency planning requirements of 10 C.F.R. § 50.47,<sup>102</sup> but the State's only dispute with the proposed license amendment concerned the assumption that ERDS would not be operational after Vermont Yankee began decommissioning. Because the petition did not cite section 50.54(q)(3) or make even a cursory attempt to explain how a contention based on the section 50.54(q)(3) analysis would satisfy the contention admissibility standards, we reject this new argument as untimely.<sup>103</sup>

Even if the section 50.54(q)(3) argument were timely, however, it would not salvage Vermont's hearing request. Based on the relief Vermont seeks (i.e., retention by Entergy of the ERDS link, or an ERDS-like link, after permanent shutdown of the reactor), it is plain that Vermont is relying on Entergy's alleged noncompliance with section 50.54(q)(3) to impose requirements on Entergy that are in derogation of the exception provision in Appendix E, section VI.2. But, as discussed *supra* Part II.B.3.c, absent a waiver — which Vermont has neither

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provision in Appendix E, section VI is ambiguous, and confirms that the exception provision does not apply to licensees, like Entergy, whose reactors are permanently shut down and defueled. *See* Dissent at p. 187. The dissent is wrong. It ignores that (1) any alleged ambiguity in the exception provision is eliminated when the regulatory language is examined in light of the regulatory history and framework (*see supra* Parts II.B.3.a and II.B.3.b); (2) the Lewis Memorandum supports the conclusion that the exception provision of section VI applies to Entergy (*see* Lewis Memorandum at 1); and (3) the NRC Staff represents that, since the issuance of section VI, licensees have been consistent in their interpretation and application of the exception provision. *See supra* notes 78-79.

<sup>101</sup> *See* Tr. at 44, 50. According to the dissent, the majority opinion construes the exception provision of section VI as giving Entergy "carte blanche permission" to shut down ERDS "regardless of the impact of this action on the effectiveness of the emergency plan." Dissent at pp. 178, 190; *see also id.* at pp. 184-86, 187-88. This is a mischaracterization of the majority opinion. We conclude that a licensee, like Entergy, is no longer subject to the requirements of section VI after its reactor is permanently shut down and defueled. As explained above, however, and as more fully described in the Lewis Memorandum, Entergy still must comply with the requirements of 10 C.F.R. § 50.54(q)(3) before it effects a change to its emergency plan to delete references to ERDS or its use during an emergency.

<sup>102</sup> *See* Vermont's Petition at 4.

<sup>103</sup> *See USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 476 (2006) (explaining that petitioner cannot cure a deficient contention with new arguments not presented in the initial petition); *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 224-25 (2004) (explaining that petitioners cannot rely on "a late attempt to reinvigorate thinly supported contentions by presenting entirely new arguments in the reply briefs").

sought nor obtained — Vermont cannot rely on one regulation to collaterally attack another regulation.<sup>104</sup>

*e.* That Vermont does not advance a litigable contention in this proceeding does not leave it without an opportunity to seek relief. If Vermont wishes to effect a substantive change to Appendix E, § VI.2, it may petition for rulemaking.<sup>105</sup> Or if Vermont has a credible basis to question the adequacy of Entergy’s compliance with 10 C.F.R. § 50.54(q)(3), it may petition for enforcement action under 10 C.F.R. § 2.206, which provides a process for stakeholders “to advance concerns and obtain full or partial relief, or written reasons why the requested relief is not warranted.”<sup>106</sup> Vermont may also seek relief from the Federal Emergency Management Agency (which coordinates emergency responses to radiological releases) and endeavor to show that, without ERDS-like data, the State’s emergency plan is no longer adequate.<sup>107</sup>

Our observation that other avenues of administrative relief may be available to Vermont is not an intimation that Entergy will fail to meet its regulatory obligations. Entergy represents that it will comply with the requirement in section 50.54(q)(3),<sup>108</sup> and Entergy’s actions will be subject to review by the NRC Staff.

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<sup>104</sup> Whether Vermont’s contention is characterized as one of omission or one of adequacy, it ultimately seeks to impose requirements in excess of those imposed by section VI and, accordingly, must be rejected as a collateral attack on a regulation. *See supra* note 64.

<sup>105</sup> *See* 10 C.F.R. § 2.802. As the Commission has stated, “[t]he regulatory process continuously reassesses whether there is a need for additional oversight or regulations to protect public health and safety.” *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 463 (2010).

<sup>106</sup> *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), CLI-14-11, 80 NRC 167, 179 (2014).

At oral argument, counsel for NRC Staff represented (Tr. at 81) that Vermont may seek section 2.206 relief to challenge Entergy’s compliance with section 50.54(q)(3). Staff counsel expressed uncertainty, however, as to whether Vermont would be provided access to the section 54(q)(3) analysis. *See* Tr. at 69. To promote public confidence in the emergency planning process, we encourage the Staff and Entergy to make the analysis available to Vermont.

<sup>107</sup> *See* 10 C.F.R. § 50.47(a)(2) (“In any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation ability [of state and local emergency plans].”); *see also* Tr. at 54 (Entergy counsel acknowledges that FEMA has “responsibility to make findings and determinations about whether the off-site [emergency response] plans are adequate and capable of being implemented”).

<sup>108</sup> *See* Tr. at 50-51. The Commission has “long declined to assume that licensees will refuse to meet their obligations under their licenses or our regulations.” *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-03-2, 57 NRC 19, 29 (2003).



### III. CONCLUSION

For the foregoing reasons, we *deny* Vermont's Request for Hearing and Petition to Intervene.<sup>109</sup>

An appeal of this Memorandum and Order may be filed within twenty-five (25) days of service of this decision by filing a notice of appeal and an accompanying supporting brief under 10 C.F.R. § 2.311(b). Any party opposing an appeal may file a brief in opposition to the appeal. All briefs must conform to the requirements of 10 C.F.R. § 2.341(c)(3).

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

E. Roy Hawkens, Chairman  
ADMINISTRATIVE JUDGE

Dr. Michael F. Kennedy  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
January 28, 2015

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<sup>109</sup> On December 12, 2014, Vermont moved to file an additional brief addressing new information concerning a FEMA letter that the NRC Staff discussed at oral argument (*see* Tr. at 95-96) in response to a question asked by the Licensing Board. *See* State of Vermont's Submission of Additional Information and Request to File Supplemental Briefing Addressing New Information and Argument Raised at Oral Argument (Dec. 12, 2014). Because our decision neither considers nor relies on new information regarding the FEMA letter, Vermont's request is moot.

### **Wardwell, J., Dissenting**

In its LAR, Entergy asks permission to reduce its staffing upon the shutdown of Vermont Yankee to levels that are predicated in part on the premise that the ERDS link will be retired pursuant to Entergy's reading of section VI.2 of Appendix E to 10 C.F.R. Part 50 (section VI.2).<sup>1</sup> Vermont contests Entergy's right to disconnect the ERDS without adequately demonstrating that this would not reduce the margin of safety by increasing the potential consequences from emergency actions during an accident due to the loss of crucial data.<sup>2</sup> The majority opinion accepts Entergy's and NRC Staff's (Staff's) claim that Vermont's proposed contention is a collateral attack on NRC regulations,<sup>3</sup> while Entergy and Staff also maintain that it is not within the scope of the proceeding and Entergy claims that it lacks material support.<sup>4</sup>

The majority's opinion (rejecting Vermont's contention) rests on an interpretation of the first sentence of section VI.2,<sup>5</sup> which states that "[e]xcept for . . . all nuclear power facilities that are shut down permanently or indefinitely" (exemption clause), operating plants must provide the hardware for an ERDS, and electronically assemble and transmit the data.<sup>6</sup> The majority maintains that the "exemption clause" not only excuses those plants that were inactive at the time of rulemaking from installing and operating an ERDS, but also allows licensees of plants that installed and operated an ERDS to shut down the system at decommissioning without seeking further agency approval.<sup>7</sup>

I disagree. A more logical reading of section VI.2 is that the "exemption clause" only applies to those plants that were already shut down at the time of the rulemaking and not to plants at which an ERDS was later installed. Moreover, in my opinion, under either interpretation of section VI.2, Entergy must still adequately assess the impact of shutting down its active ERDS before taking such

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<sup>1</sup> LAR at 1-2.

<sup>2</sup> Vermont's Petition at 3-4.

<sup>3</sup> Majority opinion at pp. 159, 167.

<sup>4</sup> Entergy's Answer at 1-2; NRC Staff's Answer at 1-2; Tr. at 68:4-8, 85:12-19. Entergy also claims that Vermont's petition lacks adequate factual or expert opinion, which I reject based on Vermont's declarations. *See* Vermont's Reply at 7; Tr. at 34, 89.

<sup>5</sup> Majority opinion at p. 167. The majority uses their reading of the text of the rule, its regulatory history and structure to support their interpretation of section VI.2 but as will be demonstrated in this dissent, their objections to admitting this contention fall by the wayside if their take on section VI.2 does not hold.

<sup>6</sup> 10 C.F.R. Part 50, App. E, § VI.2.

<sup>7</sup> The exemption clause also references Big Rock Point which, as explained in the statement of considerations (SOC) for the rule, is "exempt because configuration of the facility does not make available as transmittable data a sufficient number of parameters for effective participation in the ERDS program." 56 Fed. Reg. at 40,178. The Big Rock Point exemption is not an issue in this proceeding.

action to assure no reduction in the effectiveness of its emergency plan and, in turn, no adverse impact on public health and safety. Therefore, I would find Vermont's contention admissible and must dissent.

## **I. CONTENTION NOT A CHALLENGE TO THE REGULATIONS AND PRESENTS A MATERIAL DISPUTE**

The majority opinion reads the "exemption clause" in section VI.2 as excusing Entergy from the requirement to maintain a functioning ERDS once the Vermont Yankee reactor ceases operation and fuel has been transferred from the reactor to the spent fuel pool (SFP), regardless of the impact of this action on the effectiveness of the emergency plan. But, as Vermont contends, this regulation can be read a second way — that the "exemption clause" only exempts those reactors that were already shut down at the time the regulation was promulgated.

As discussed below, the correct reading of section VI.2 is not conclusively established by either the plain language of the regulation or the statement of considerations (SOC) for the rule. But when the purpose and overall function of the regulation are considered, it becomes apparent that this rule does not automatically allow a licensee with an active ERDS established as a result of section VI to terminate the system upon reactor decommissioning.

Ignoring for the moment the ambiguity in the interpretation of section VI.2, Vermont also contends that there are compelling requirements relating to the protection of public health and safety that support the premise that a licensee must take other steps before retiring its ERDS — a system that was established to assure effective emergency actions during an accident. In contrast with the majority opinion, analysis of the latter argument, discussed below, establishes that the petitioner's contention does not create a collateral attack on the regulations in raising material disputes with Entergy and the Staff.<sup>8</sup>

### **A. Regulatory Requirement to Assure Public Health and Safety**

As Vermont contends, regardless of the reading of section VI.2, other regulatory requirements prohibit a licensee from simply disconnecting its ERDS when

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<sup>8</sup>For example, material disputes evident from the filings and the oral argument include questions regarding: the reduction in the effectiveness of Entergy's emergency plan, the number of personnel changes that are directly related to the reduced labor effort in the LAR, the effort required to keep the ERDS operational during the 6-year period while fuel resides in its SFP, the actual monitoring parameters lost to Vermont with the retirement of the system, and the alternative mechanisms available to provide the same data relevant to emergency planning that could take the place of the lost information, among others.

the reactor is powered down during decommissioning.<sup>9</sup> Because the regulations do not require a licensee to shut down its system,<sup>10</sup> Vermont posits that Entergy and Staff have another responsibility associated with assuring public health and safety. This requirement supports its claim that the ERDS should remain active (or that Entergy should provide an equivalent alternative means to communicate crucial data to the State)<sup>11</sup> as long as spent fuel remains in the SFP because the monitoring data<sup>12</sup> may be useful in tracking and managing the risk in the event of an SFP accident after plant shutdown.<sup>13</sup>

I agree. No regulation requires Entergy to shut down its ERDS. Rather, in addition to the SOC establishing the need for emergency planning as a critical element in the protection of public health and safety, the Commission states that “the principal effect of ERDS will be a marked improvement in the availability, timeliness, and reliability of key information about what is taking place at the reactor during an accident, particularly during the critical early hours before the NRC Site Team arrives,” and that “the implementation of ERDS will provide a significant improvement in the NRC’s ability to accurately and promptly assess the situation at the site.”<sup>14</sup> Nothing prohibits these same considerations from being applied to the operation of the spent fuel pool which, in turn, needs to be addressed before a licensee disconnects its ERDS.

Vermont contends that Entergy is required to operate its ERDS (or provide an equivalent means for data transfer) at Vermont Yankee until the fuel is removed from the SFP in 2020 to meet its communications and notification requirements of section 50.47(b)<sup>15</sup> and to meet the Commission’s performance levels (discussed in the SOC)<sup>16</sup> to provide the public health and safety protection afforded by this

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<sup>9</sup> See 10 C.F.R. §§ 50.47(b), 50.57(a)(3), 50.92.

<sup>10</sup> See Tr. at 37:13-16.

<sup>11</sup> Vermont’s Petition at 5. As allegedly required to meet section 50.47(b), Vermont asks Entergy to provide radiological, meteorological, and containment information relevant to the spent fuel pool conditions to assure no reduction in the effectiveness of the State’s emergency plan.

<sup>12</sup> Tr. at 30 (alleging that thirty-seven parameters currently being monitored by the ERDS are crucial to continued operation of Vermont’s Radiological Emergency Response Plan (RERP)).

<sup>13</sup> Vermont’s Reply at 3-4, 13; Tr. at 19-20, 87-88. While severe reactor accidents create a larger risk, it has been established that accidents do not stop after the fuel is unloaded from the reactor and placed in the SFP, or that the risk of accidents drop to zero once the reactor is defueled. See Vermont’s Reply at 5 (citing Consequence Study of a Beyond-Design-Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I Boiling Water Reactor (Oct. 2013) (ADAMS Accession No. ML13256A342) at 160 et seq.; A Safety and Regulatory Assessment of Generic BWR and PWR Permanently Shutdown Nuclear Power Plants, NUREG/CR-6451 (1997) (ADAMS Accession No. ML082260098) at Table 4.2).

<sup>14</sup> 56 Fed. Reg. at 40,179.

<sup>15</sup> 10 C.F.R. § 50.47(b)(2), (5), (6).

<sup>16</sup> 56 Fed. Reg. at 40,179. The SOC states that there is a regulatory and statutory basis for having

(Continued)

system during emergency actions after an SFP accident. I agree, noting that the majority does not address Entergy's obligation to provide emergency planning data in accordance with section 50.47(b)<sup>17</sup> even if the ERDS is retired. And contrary to the majority opinion, Vermont's contention is not a challenge of one regulation (i.e., section 50.47(b)) via another (i.e., section VI.2), because the former regulation holds regardless of the interpretation of the latter.

Whether the ERDS data actually provide any increased safety during this brief period is a merits question for a hearing, as is the need, if any, for Entergy to provide data to outside entities based on the SOC summary of the Staff mandate to assure that it is providing "the flow of accurate information to affected offsite officials and the public regarding the status of the emergency" and "providing to State and local authorities, and to other Federal agencies, an independent assessment of protective actions recommended by the licensee."<sup>18</sup>

ERDS access is called for in both Vermont's plan and in Entergy's program for Vermont Yankee,<sup>19</sup> and Staff has recognized the potential for spent fuel pool accidents.<sup>20</sup> These points clarify the need for Staff to assure that the effectiveness of both these emergency programs is not jeopardized by Entergy's shutdown of the ERDS. Entergy is obligated to provide an adequate emergency plan under 10 C.F.R. § 50.47 and has failed to demonstrate that the elimination of the ERDS (which directly influences the level of Staff reductions in the LAR) does not reduce the effectiveness of the plan. Nor has it demonstrated how adequate "[p]rovisions exist for prompt communications among principal response organizations to emergency personnel and to the public"<sup>21</sup> with the shutdown of the ERDS. Entergy's alleged failure to adequately address the impacts to public health and safety from retiring its ERDS is sufficient cause to admit this contention.<sup>22</sup>

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emergency planning as a critical element in the protection of public health and safety, the NRC has a responsibility to monitor a licensee's response to an accident to minimize the consequences of the accident, and the agency must help assure the transfer of information relating to emergency status.

<sup>17</sup> 10 C.F.R. § 50.47(b)(2), (4), (5), (6), and (9).

<sup>18</sup> 56 Fed. Reg. at 40,179.

<sup>19</sup> Tr. at 94:8-10.

<sup>20</sup> *Supra* note 13.

<sup>21</sup> 10 C.F.R. § 50.47(b)(6).

<sup>22</sup> In accordance with 10 C.F.R. § 50.54(q)(3), Entergy is preparing an analysis of the impact of its LAR on the effectiveness of its emergency plan. Entergy notes that (exclusive of this contention), there is no regulatory basis for Vermont to challenge this study. Tr. at 50:9-16. While Entergy has not completed this analysis, the outcome is clear (*see infra* note 55), and Vermont has challenged the adequacy of the Applicant's study in meeting the requirements of 10 C.F.R. § 50.47(b).

## **B. Interpretation of Section VI.2**

### **1. Plain Language of the Rule and Its Regulatory History**

Section VI.2 simply states that plants that are shut down do not have to provide the ERDS hardware, or assemble and transmit data. It is clear that section VI.2 excludes all the plants that were shut down at the time the rule was promulgated from the need to install, implement, and maintain an ERDS. This was a reasonable waiver of the requirements because at the time the regulation was implemented, there was no need to install an ERDS at a plant that was already shut down and whose spent fuel had been cooling in its pool for a period of time.

Likewise, as attested to by Staff, the backfit requirements of section VI are not necessary as a specific mandate for new plants because “in the future all plants are required to have ERDS, so there’s no backfit to a new plant that is getting say a COL license, or a new Part 50 license, because all these regulations already apply to it from the get-go.”<sup>23</sup> Based on this, applicants for new plants would recognize the requirement for this system and provide the necessary equipment to meet design criteria — negating any need to require that the terms in section VI.2 be explicitly extended to future plants that were neither in existence nor anticipated at the time of rulemaking.

The critical question is whether the “exemption clause” applies only to those plants that were shut down at the time the regulation was written or was intended to also apply to operating reactors that have already installed and implemented the ERDS, but are now ceasing operations. But the rule is ambiguous, so the SOC<sup>24</sup> is consulted. In the instant matter, the SOC, like the rule itself, focuses on implementing the ERDS at existing plants. Nothing in the regulations or the SOC supports the questionable reasoning that, because operating plants must provide the ERDS hardware, plants that are ceasing operations can automatically remove an already installed and implemented system.

The regulatory history does state that “[section VI.2] applies to *all licensed nuclear power reactor facilities*, except . . . those that are permanently or indefinitely shut down” and clarifies the objective of the rule as one to “ensure timely and effective implementation of ERDS to provide NRC increased assurance that a reliable and effective communication system . . . is in place at *operating power reactors*.”<sup>25</sup> While these comments may appear to support the interpretation of the rule as applying to all future plants, the reference to “all licensed nuclear power reactor facilities” and to “operating power reactors” may only apply to

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<sup>23</sup> Tr. at 84:21-25.

<sup>24</sup> 56 Fed. Reg. at 40,178.

<sup>25</sup> 56 Fed. Reg. at 40,178 (emphasis added).

those facilities and reactors that were active at the time the rule was written with no intent of applying to any possible future reactors — not an unlikely proposition in 1991.<sup>26</sup> This interpretation is reinforced by a recognition that this rule is not needed to assure installation of the ERDS for future Part 50 licenses or COLs.

The regulatory history, like the regulation itself, is focused entirely on implementation and maintenance of the ERDS operations,<sup>27</sup> with not one word about decommissioning the system — an issue that could easily be addressed at a future date. To rely on the simple references in the SOC and “exemption clause” as a rationale for a licensee to turn off these systems without additional analysis or action once the reactor shuts down stretches the credibility of a fair reading of the plain language of the rule and its history. There is just no indication whatsoever of the procedures required to terminate this system in a rule that clearly deals with only the initial installation, startup, operation, and maintenance of the ERDS.

But Entergy (with the Board majority following suit) would like to broaden the influence of the short introductory clause of section VI.2 to one that identifies and requires participation by certain categories of entities.<sup>28</sup> Even so, Entergy concurs that there is nothing in the SOC that says anything about terminating or decommissioning its ERDS, concludes that section VI could be characterized as an implementation rule, and agrees that there is nothing in the regulation or SOC prohibiting an alternative reading of section VI.2.<sup>29</sup> In lieu of this, Entergy suggests looking at the Staff guidance issued in 2014 — the Lewis Memorandum.<sup>30</sup> But, as will be discussed below in further detail, under Entergy’s and Staff’s reading of section VI.2, this memo would be unnecessary because with their interpretation, the licensee would already have been permitted to shut off the ERDS system once the reactor was defueled.

With little help provided by the plain language of the rule and SOC, I consider the construction of the regulation for ascertaining those plants covered by the “exemption clause.” Staff argues that regulations are often written prospectively,<sup>31</sup> and I note that such is the case with Section VI — a prospective regulation that requires future action by the “nuclear power reactor facilities.” Specifically, this regulation requires operating plants that had declined to participate in a voluntary program to install the ERDS equipment and implement the operations of this new electronic data retrieval and transmission system.

But regulations are not written prospectively to dictate specific inactions, and the “exemption clause” itself is not one of action; rather it is merely a passive

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<sup>26</sup> *Id.*

<sup>27</sup> See generally *id.*; 10 C.F.R. Part 50, App. E, § VI; 56 Fed. Reg. at 40,178.

<sup>28</sup> Tr. at 57:19 to 58:1; Majority Opinion at p. 167.

<sup>29</sup> Tr. at 42:4-12, 58:17-25, 61:9-16.

<sup>30</sup> Tr. at 61:9-16.

<sup>31</sup> Tr. at 81:21 to 82:3, 82:10-13.

indication that those nuclear power plants that were shut down at the time the rule was written need not meet this rule. Inherent in the majority's position is the needed assumption that the "exemption clause" is prospective in construction to include not only inaction by those decommissioned facilities existing at the time the regulation was promulgated but also future action by all decommissioned facilities. While the overall regulation provides prospective actions to backfit the operational plants that existed at that time, there is no indication that the passive "exemption clause" can also be turned into an active prospective phrase that allows operating plants or proposed new plants (of which none were anticipated at that time) to terminate their active monitoring systems when they cease operations in the future. An exemption from initially providing the system (a passive, nonaction statement) is a far cry from using this same phrase to allow a licensee with an already installed, implemented, and operating system to actively shut down (i.e., "not provide") its ERDS without first ensuring there is some explicit judgment (in the context of a license amendment or a rulemaking actually dealing with this particular subject) about whether such an action provides continued reasonable assurance of public health and safety.

## ***2. Purpose and Theme of Appendix E, § VI***

As an aid in evaluating the appropriate meaning of section VI.2, the theme and overall purpose of Appendix E, § VI is assessed as an indicator of the nature of the regulation. According to the SOC, section VI was developed to "provide NRC increased assurance that a reliable and effective communication system that will allow the NRC to monitor critical parameters during an emergency is in place at operating power reactors."<sup>32</sup> Entergy also agrees that this rule concerns the implementation and maintenance of the ERDS in those active plants that had not chosen to do so voluntarily up to that point.<sup>33</sup>

The rule discusses the characteristics of the necessary equipment, the implementation of the system and the process for maintaining the ERDS. When read in its totality, the subject matter of the regulation and its history are limited to implementing this new valuable system at the operating plants — it has nothing to do with retiring an already implemented system. The one sentence "exemption clause" should not be used to justify the premature shutdown of a viable operating data transfer system that, in the words of the NRC, has the potential to "provide a substantial increase in the overall protection of the public health and safety by ensuring far more accurate and timely flow of data for the NRC to fulfill its role during an alert or higher emergency."<sup>34</sup>

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<sup>32</sup> 56 Fed. Reg. at 40,178; *see also* Tr. at 41:8-16; Lewis Memorandum at 1-2.

<sup>33</sup> Tr. at 41:17-20.

<sup>34</sup> 56 Fed. Reg. at 40,183.



Entergy believes that the regulations refer to power facilities that “are” shut down under its assumption that, if “the NRC’s intent had been to apply this exclusion only to those reactors that were permanently shut down as of 1991 . . . NRC could have made that intent very clear by substituting the word ‘were’ instead of ‘are’” or inserted a date specific.<sup>35</sup> But conversely, nothing rules out the use of “are” to mean all those plants that are currently shut down as the regulation was being written. Moreover, an equally valid counterargument is that had the NRC intended to apply the “exemption clause” to operational systems in existing and future reactors, the agency could have made it clear by adding these modifiers to the sentence. Furthermore, the use of the word “are” is correct for referring to the status of those plants at the time the rule was being written if, consistent with the specific implementation actions of the rule, there was no interest in complicating this rule by also addressing the timing and criteria for terminating an active system decades in the future when the then-operating plants would start to be decommissioned.

### **3. Section VI.2 “Exemption” Provision and Difference with Terminating an Active System**

Clearly, section VI.2 exempts previously closed plants from meeting this regulation. To help determine whether this exception applies to the currently operating plants that have implemented the ERDS in accordance with section VI or only to plants that had shut down at the time of rulemaking, I look to the regulation as to what is being excluded. This rule defines the activities that the closed plants in 1991 are exempt from performing — and these actions are limited to only implementation and maintenance of the ERDS,<sup>36</sup> with no requirements relating to termination of this system at the end of plant operations. Because the exemption in the regulation only deals with implementation and maintenance of the ERDS, the silence regarding procedures for retiring this system suggests that there was no thought to addressing the shutdown of systems activated in accordance with the rule. Under this interpretation, the rule only applies to those closed plants that never had to install the system, i.e., the ones shut down at the time of rulemaking.

This reading of the regulation also makes sense when considering the difference

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<sup>35</sup> Tr. at 59:13-23.

<sup>36</sup> See 10 C.F.R. Part 50, App. E, § V. In addition to implementation and maintenance, 10 C.F.R. § 50.72(a)(4) describes activation of the system in the event of an emergency. As with most plants, Vermont Yankee’s system continuously supplies the data, thus eliminating the need for system activation. See Entergy’s Answer at 7-8; Tr. at 35:22 to 36:6, 41:21-25. As Entergy conceded (Tr. at 41:21-25), there is no need to be concerned with activation procedures for this proceeding, so that only implementation and maintenance of the tasks mandated in Part 50 will be referenced.

between never installing the system (the passive result of the “exemption clause” as applied to the closed plants in 1991), and taking action to terminate a system that was installed and maintained as a result of Appendix E, § VI. Because the criteria for terminating an active system are much more involved than merely exempting plants that were already shut down at the time of rulemaking (as evident by the detail provided in the 2014 Staff guidance expressed in the Lewis Memo), it seems obvious that the simple “exemption” statement in section VI.2 cannot possibly apply to the complex process of decommissioning the ERDS and therefore only relates to those plants already darkened when the rule was promulgated.

The majority notes that 10 C.F.R. § 50.72(a)(4) directs licensees to activate the ERDS within 1 hour after declaring an emergency and, by referencing the term “operating nuclear power reactors” in the title of this regulation, maintain that this rule only applies to operating plants. With no such “activation” requirement for an inactive plant that has ceased operations and defueled its reactor, the majority concludes from the lack of activation instructions that shutdown plants are exempt from the ERDS program.<sup>37</sup> I do not agree with that line of reasoning. Section 50.72(a)(4) is related to activation of a system that is provided for under and implemented by the requirements of section VI.2 — something that has already been achieved at Vermont Yankee. Furthermore, no one is alleging that an inactive plant whose ERDS was never installed needs to be provided or one whose ERDS was shut down when the plant ceased operation needs to be reactivated. Plus, the absence of activation requirements after the reactor is shut down is not surprising with a rule that focused only on the operational need for this system that resulted from the Three Mile Island accident.<sup>38</sup> These reasons provide a rational explanation as to why there is no equivalent “activation” regulation for the ERDS after reactor shutdown, and that section 50.72(a)(4) has no bearing on assessing the fate of an operating ERDS at plant closure.<sup>39</sup>

Thus, the validity of the majority’s conclusion regarding 10 C.F.R. § 50.72(a)(4)

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<sup>37</sup> Majority Opinion at pp. 168-69.

<sup>38</sup> 55 Fed. Reg. at 41,095. With the rule’s focus on implementation causing an absence of activation requirements once the reactor is shut down, it is obvious why Entergy used the assumption that its “ERDS . . . will not be operational” in its LAR instead of the materially different assumption that its ERDS would not be activated after reactor shutdown (*see* Majority Opinion, note 85).

<sup>39</sup> While the majority questions how the ERDS will protect health and safety in a regulation that does not require the link to be activated (Majority Opinion at p. 172), the rules are silent on activation after current reactors are shut down because the regulation was not concerned with issues dealing with decommissioning. Furthermore, the rule does not require the link to be deactivated or relieve Entergy from providing crucial data if it is required to meet the health and safety standards of section 50.47(b) associated with emergency planning. Also, Vermont does not demand that the ERDS remain operational, but only asks that accident information needed for its emergency planning be timely communicated in a manner similar to the ERDS.

again rests on the appropriate interpretation of section VI.2, i.e., what steps are needed, if any, to shut down an ERDS that has already been implemented and activated. Can the licensee terminate its system at will (which is permitted under the Majority Opinion that section VI.2 allows licensees of operating plants to unilaterally shut down its system) or are there certain criteria that must be met before licensees can do so (Vermont's position adopted by this dissent)? As pointed out, the rules are ambiguous on this issue but the balance of the arguments demonstrates that a licensee of an operating plant during decommissioning is not excluded by section VI.2 from undertaking additional steps before turning off this system as established by the NRC Staff guidance issued in 2014 and discussed below.

#### **4. NRC Staff Guidance (*Lewis Memo*)**

To support their position that section VI.2 allows a licensee to turn off its ERDS without additional analysis or action, Entergy and Staff refer to the Staff's Lewis Memo.<sup>40</sup> Although this memo is a guidance document and does not carry regulatory weight, Staff guidance can be useful as one interpretation of regulatory intent. Relative to the instant issue, the guidance appears to be a regurgitation of the unchallenged Staff approach that has been used during plant shutdowns for the past 23 years.<sup>41</sup> But it also presents detailed criteria and procedures on the processes to be followed to terminate an ERDS when a plant shuts down. These instructions are the types of steps that would have logically been included in the original rule if section VI.2 was intended to be applied to the shutdown of an ERDS that was implemented at an operating plant as a result of section VI.

The Lewis Memo restates that permanently shutdown facilities have the authority to retire ERDS without prior NRC approval, but then tacks on an important caveat: this can be done only if the licensee's emergency plan does not describe ERDS or its use — which most certainly is not the case here. This modifier runs counter to the majority opinion that section VI.2 allows a licensee unfettered permission to retire its ERDS. Under the Lewis Memo, because the Applicant's emergency plan discusses its ERDS, Entergy must process a change to its plan, as required by 10 C.F.R. § 50.54(q)(3) by performing and retaining an adequate analysis as to whether the removal of ERDS is not a reduction in effectiveness of the plan.<sup>42</sup>

Referencing the Lewis Memo, Entergy and the Staff maintain that terminating the ERDS will not reduce the effectiveness of the Applicant's emergency plan

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<sup>40</sup> Tr. at 61:9-16.

<sup>41</sup> NRC Staff Dec. 8, 2014 Answer at 2-3.

<sup>42</sup> Lewis Memorandum at 1.

because ERDS data are not an emergency planning function.<sup>43</sup> But this seems to prejudge the issue, given that the guidance indicating that if the licensee's emergency plan relies upon ERDS to provide data to the emergency response organization (e.g., directly to the NRC and ultimately to Vermont through its memorandum of understanding (MOU) with NRC<sup>44</sup>), then that action is an emergency planning function and the licensee is required to assess whether removing the ERDS results in a reduction in effectiveness of its plan,<sup>45</sup> which is what Entergy is apparently doing in preparing its still-to-be-completed section 50.54(q)(3) analysis.

With the majority's interpretation of section VI, there is no need for Staff guidance.<sup>46</sup> In support of its opinion (shared by the majority), Entergy notes that "the language of the rule is clear on its face by itself,"<sup>47</sup> implying that the Lewis Memo is unnecessary. Yet the Staff obviously detected enough ambiguity in the regulation to require amplifying remarks that would have been superfluous if the existing rule truly intended for an operating ERDS to be shut down at the initiative of the licensee (without further Staff review or approval) once the reactor was defueled. And the Lewis Memo correctly addressed this issue by clarifying the actions needed if a plant relies on the ERDS in its emergency plan, while at the same time granting a plant that doesn't reference this system in its emergency plan the authority to retire it without prior NRC approval.<sup>48</sup>

Allowing the past and present operating plants that reference a functioning ERDS in their emergency plans to darken their systems on their own volition obviates the need to provide the supplemental guidance summarized in the Lewis Memo. The mere presence of the Lewis Memo runs counter to the majority's

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<sup>43</sup> Tr. at 53:1-14; Lewis Memorandum at 2. As mentioned, Entergy is in the process of preparing the section 50.54(q)(3) analysis, allegedly stating that the shutdown of the ERDS will not reduce the effectiveness of emergency planning, an opinion shared by Staff. *Infra* note 55.

<sup>44</sup> 56 Fed. Reg. at 40,181; Entergy's Answer at 8; Vermont's Reply at 12; Tr. at 31:14-18, 72:21-25.

<sup>45</sup> Lewis Memorandum at 2.

<sup>46</sup> As restated in its note 101, the majority concludes that Entergy "is no longer subject to the requirements of section VI [of Appendix E]." This means that Entergy no longer needs to provide its ERDS, which effectively allows the Applicant to shut down its system on its own accord. Clearly, the majority's position is in tension with the Lewis Memorandum and section 50.54(g)(3) requiring, inter alia, that Entergy's emergency plan still meet the requirements of Appendix E (of which the majority believes it is no longer required to meet section VI). This tension, caused by the majority's interpretation, is released only under Vermont's position that the "exemption clause" of section VI does not apply to future plants.

<sup>47</sup> Tr. at 62:7-11.

<sup>48</sup> Lewis Memorandum at 1.

position that section VI.2 gives unlimited authority for the licensee to shut off its ERDS on its own discretion.<sup>49</sup>

### 5. *Other Weighing Factors*

The majority deems this contention inadmissible as a challenge to the regulations (i.e., section VI of Appendix E),<sup>50</sup> and concludes that Vermont's allegations that Entergy must comply with sections 50.54(q)(3), 50.47(b) are collateral attacks on section VI.<sup>51</sup> But this purported challenge to and collateral attack on the regulations are caused by Entergy's own interpretation of section VI.2 as exempting a decommissioning licensee from the need to provide the ERDS, or as specifically applied to this contention, allowing Entergy to shut off this system when Vermont Yankee ceases operations. The regulatory challenge and attack are not a result of Vermont's contention and indeed vanish with Vermont's interpretation of "exemption clause" in section VI.2.

As a result, the admissibility of Vermont's contention hinges on a determination of the correct reading of the ambiguous "exemption clause" in section VI.2, because there is no challenge to the regulations or a collateral attack on the rules if Vermont is correct that section VI.2 was never intended to apply to a previously installed and operating ERDS once a plant ceases operations. And, as alleged in the contention, separate and apart from the reading of section VI.2, Entergy is still required to demonstrate reasonable assurance of public health and safety during the period of recognized risk from spent fuel pool accidents<sup>52</sup> (an obligation that continues after the reactor ceases operation). Plus, Entergy must analyze the extent to which the retirement of its operating ERDS would adversely impact Vermont's emergency planning during these accidents by denying the State important monitoring data.

The majority concurs that Entergy must meet the analysis requirements of 10 C.F.R. § 50.54(q)(3), but goes on to repeat its refuted claim that Vermont is using this regulation to collaterally challenge Appendix E.<sup>53</sup> While all agree that the analysis mandated by section 50.54(q)(3) must be prepared by Entergy,<sup>54</sup> the

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<sup>49</sup> The Entergy and Staff positions adopted by the majority opinion are consistent with the procedures that have been followed for all plants that have ceased operations to date. *See* NRC Staff Dec. 8, 2014 Answer at 2-3; Tr. at 79:2-7, 20-25; 80:1-13, 97:11-19. But that does not make it the correct process — especially since this practice had never been challenged until now. *See* Tr. at 79:8-12. As such this prior practice has little, if any, bearing in this instance.

<sup>50</sup> Majority Opinion at pp. 167, 171-72.

<sup>51</sup> *Id.* at p. 172.

<sup>52</sup> *Supra* note 13.

<sup>53</sup> Majority Opinion at pp. 172-74.

<sup>54</sup> *Id.* at p. 173; Tr. at 44:15-16; Lewis Memorandum at 2.

adequacy of this plan to demonstrate that the staffing reductions do not reduce the margin of safety during SFP accidents is a merits determination for a hearing.<sup>55</sup>

Additionally, I note that subsection 4 of section VI states that “[e]ach licensee shall complete implementation of the ERDS by February 13, 1993, or before initial escalation to full power, whichever comes later.”<sup>56</sup> The timing relating to the escalation to full power in this provision sounds like it is referring to new reactors that come on line, thus appearing to support the majority’s opinion. But it is just as likely, if not more so, that the phrase “before initial escalation to full power”<sup>57</sup> applies to the existing “units shut down for maintenance, or authorized for fuel loading only, or low power operations” that are referenced in the SOC.<sup>58</sup> Stated otherwise, because some operating reactors would be offline when the regulation was promulgated and would not be ready to go online in sufficient time to meet the February 1993 deadline, this language allows them to delay the implementation of the ERDS until they were ready to power back up.

The majority also concludes that “nothing in the regulation suggests it was intended to apply only to plants that were operating in 1991, or that its exemption was intended to be limited to plants that were already shut down in 1991.”<sup>59</sup> But the converse is also true, i.e., nothing in the provision suggesting it includes future operating plants, or, more on point regarding Vermont’s contention, nothing in the rule specifically expands the “exemption clause” to give unlimited authority to an operating plant licensee to retire its ERDS when it ceases reactor operation.

Entergy maintains as well that its ERDS would have to run indefinitely unless section VI.2 is read to permit a licensee to terminate its system after defueling.<sup>60</sup> But the Lewis Memo summarizes the steps that Staff uses to retire this system, and Vermont’s site-specific request is finite — asking only that Entergy’s ERDS remain online from the cessation of reactor operations until the fuel is removed from the spent fuel pools, an activity that is planned for 2020, a mere 6 years from the present.<sup>61</sup> Moreover, the required level of Entergy effort to accomplish

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<sup>55</sup> In addition to claiming that Vermont has no regulatory basis to challenge its section 50.54(q)(3) analysis, Entergy concludes that there will be no reduction in the effectiveness of the emergency plan, and that the modified emergency plan will meet the requirements of Appendix E and section 50.47(b). Tr. at 50:9-24, 53:1-14. Staff concurs that the removal of ERDS from the licensee’s emergency plan is the kind of change that does not result in a reduction in effectiveness of Entergy’s emergency plan; NRC Staff’s Answer at 2, Tr. at 69:1-14.

<sup>56</sup> 10 C.F.R. Part 50 App. E, § VI.4.d. This section also calls for the development and submittal of an ERDS implementation program plan to the NRC by October 28, 1991, which is obviously unattainable for future plants.

<sup>57</sup> *Id.*

<sup>58</sup> 56 Fed. Reg. at 40,178.

<sup>59</sup> Majority Opinion at p. 171.

<sup>60</sup> Tr. at 78:18-21.

<sup>61</sup> Vermont’s Petition at 5; Vermont’s Reply at 3, 13; Tr. at 38:15-17.

this task seems minimal since all the infrastructure for the system is in place and has been operating for more than two decades.

In sum, the issues discussed in this dissent provide convincing arguments supporting the premise that section VI.2 only applies to the plants in operation at the time the rule became effective. In addition, because nothing in the rule requires a licensee to shut down its ERDS, conclusive arguments have been advanced as to why the overall requirement to protect public health and safety mandates that a licensee adequately assess the impact of retiring this system on the effectiveness of both onsite and offsite emergency operations. As such, the contention stands on its own regardless of how section VI.2 is interpreted, demonstrating as well that the issues raised are within scope of the proceeding and formulate well-defined material disputes for hearing. The opposite cannot be said of the majority view, which is predicated solely on the challenge to the regulations, specifically section VI.2. Indeed, its position crumbles if it cannot rely on the simple “exemption clause” to provide each licensee carte blanche permission to close out the ERDS as soon as the plant ceases operations and removes fuel from the reactor.

## **II. CONTENTION WITHIN SCOPE OF THE PROCEEDING**

Entergy’s LAR seeks permission to reduce staffing levels ostensibly based, in part, on the reduced tasks associated with the impending shutdown of the ERDS performed by the Applicant using section VI.2 as the authorizing authority. Vermont has presented sufficient arguments to demonstrate a potential connection between the staffing levels of the LAR and this contention. It receives ERDS data through an MOU with the NRC,<sup>62</sup> and incorporates those data into its RERP, which depends upon the link to the ERDS for guiding its emergency actions.<sup>63</sup> Vermont’s RERP was developed to ensure that the State is prepared to handle the offsite effects of a radiological emergency at Vermont Yankee.<sup>64</sup> But Entergy states that the ERDS links to the NRC “will not be operational in a permanently shut down and defueled condition,” and the “task of ERDS activation is therefore not included as an on-shift task requiring evaluation as part of this Staffing analysis.”<sup>65</sup> To that, Vermont argues that deactivating the ERDS link will hamper its ability to respond to an emergency, which leads to a reduced margin of public safety.<sup>66</sup>

Furthermore, Vermont alleges that the reduced staffing levels are, in part,

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<sup>62</sup> Entergy’s Answer at 8; Vermont’s Reply at 12; Tr. at 31:14-18, 72:23-25.

<sup>63</sup> Vermont’s Petition at 5; Tr. at 15-16.

<sup>64</sup> Vermont’s Petition at 4; Vermont’s Reply at 2, 5, 13.

<sup>65</sup> Entergy’s Answer at 14 (citing LAR, Attach. 4, at 8).

<sup>66</sup> Vermont’s Reply at 13.

directly related to Entergy's plans to independently turn off its ERDS.<sup>67</sup> The Applicant's estimated cost of nearly \$700,000<sup>68</sup> to keep the system going until 2020, when the fuel in the SFP is scheduled to be removed to an independent spent fuel storage installation, strongly implies that significant labor costs must be involved with implementing and maintaining this system, given that the equipment has already been provided and operated for several decades in accordance with 10 C.F.R. Part 50, Appendix E, § VI.<sup>69</sup> In my opinion, these explicit and implicit links between Entergy's LAR and the ERDS conclusively demonstrate that Vermont's contention and an associated discussion of the need to operate the ERDS after plant shutdown are well within the scope of this proceeding.

### III. CONCLUSION

I conclude that Vermont's contention is admissible with either of the two interpretations of section VI.2, because Entergy still needs to assure public health and safety by demonstrating no reduction in the effectiveness of emergency actions during an accident. Yet, nothing in the LAR comes close to documenting such an assurance. In its petition, however, Vermont has presented sufficient bases raising material disputes as to the importance of these data from this system on emergency actions during a recognized SFP accident.

But the majority's interpretation of section VI.2 may result in Entergy's unilateral retirement of its ERDS, which could potentially impact important health and safety issues during accident emergencies. In the unlikely event of an SFP accident, the lack of crucial data, such as that provided by the ERDS, may have an impact on the effectiveness of implementing both Entergy's and Vermont's emergency actions. Vermont's contention deals with the important question whether or not Entergy's ERDS will continue to operate for the brief 6-year period that fuel remains in the SFP at Vermont Yankee, during which time events may occur that directly impact emergency actions that can affect the public health and safety of citizens surrounding a nuclear power plant. If admitted, a hearing would be held to document what impacts, if any, the early termination of the ERDS may have on the effectiveness of implementing these actions.

But if the majority's ruling holds, the State will be precluded from presenting its case and the important issues raised by Vermont will not be aired due solely to the majority's interpretation of the "exemption clause." In situations such as

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<sup>67</sup> *Id.* at 3, 5.

<sup>68</sup> Tr. at 38:11-17 (citing to an estimated \$680,000 for ERDS costs over the next 6 years, which is not copacetic with its other statement that none of the staffing reductions proposed in its LAR are associated with the termination of the ERDS (Tr. at 50:1-7)).

<sup>69</sup> See 10 C.F.R. Part 50, App. E, § VI.



this, is it not better to err on the side of safety, which, in this case, means that the regulations are not read to allow a licensee to shut down the ERDS on its own volition? With that interpretation, Vermont's contention is admissible because it is within the scope of the proceeding, is not a challenge to the regulations, and legitimately raises the question about whether the effectiveness of emergency planning is hampered by Entergy's requested reduction in staffing that is allegedly linked directly with the termination of its ERDS. For these reasons, Vermont's contention should be admitted so the issues can be explored at hearing where ambiguities in the regulations can best be resolved.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

Jennifer L. Uhle, Deputy Director

In the Matter of

ALL GENERAL ELECTRIC  
MARK I BOILING-WATER  
REACTOR OPERATING LICENSEES

January 15, 2015

On April 13, 2011, Mr. Paul Gunter, along with Mr. Kevin Kamps, of Beyond Nuclear (the Petitioner) requested that the NRC order the immediate suspension of the operating licenses of all General Electric (GE) boiling-water reactors (BWRs) that use the Mark I primary containment system. The Petitioner cited the Fukushima Dai-ichi accident in Japan as the rationale for and basis of the petition.

On January 15, 2015, the NRC evaluated and provided final resolutions to each of the Petitioner's requests.

**DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206**

**I. INTRODUCTION**

On April 13, 2011, Mr. Paul Gunter, along with Mr. Kevin Kamps, of Beyond Nuclear (the Petitioner) submitted a petition under Title 10, "Energy," of the *Code of Federal Regulations* (10 C.F.R.) § 2.206, "Requests for action under this subpart," to the Executive Director for Operations of the U.S. Nuclear Regulatory Commission (NRC or the Commission) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11104A058).

The Petitioner requested that the NRC order the immediate suspension of the operating licenses of all General Electric (GE) boiling-water reactors (BWRs) that use the Mark I primary containment system. The Petitioner cited the Fukushima Dai-ichi accident in Japan as the rationale for and basis of the petition.

On April 19, 2011, the NRC acknowledged receipt of the April 13, 2011 petition. The NRC Petition Review Board (PRB) determined that Petitioner's request for immediate action is a general assertion without supporting facts. The PRB did not identify a significant safety concern from the information provided that would warrant the NRC to order the immediate suspension of the operating licenses of all GE BWRs with Mark I containments. On April 21, 2011, the NRC informed Petitioner of the PRB's decision about the immediate action (ADAMS Accession No. ML11140A078). Subsequently, more than 10,000 co-petitioners joined, supporting the petition. Some of the co-petitioners provided supplemental information.

On August 16, 2011, the NRC informed Petitioner of the PRB's initial recommendations to accept the petition for review in part (ADAMS Accession No. ML112340018). The NRC received from Petitioner, and co-petitioners, information on numerous and diverse issues that were not raised in Petitioner's April 13, 2011, letter or during a public meeting held on October 7, 2011.

On December 13, 2011, the NRC informed Petitioner of the PRB's final recommendations, accepting parts of the petition for review and rejecting the remaining parts of the petition (ADAMS Accession No. ML11339A077). Based on the NRC's timeline related to its Fukushima lessons-learned review, and because many of Petitioner's items accepted for review pertained to the Fukushima review, the NRC's review of the petition took longer than the standard of 120 days for reaching a decision on the petition.

The NRC sent a copy of the proposed Director's Decision to Petitioner and to the operating GE BWR licensees with Mark I containments for comment on October 27, 2014. The proposed director's decision is available in ADAMS under Accession No. ML14198A098. The NRC Staff did not receive any comments on the proposed director's decision.

## **II. DISCUSSION**

This section includes both the Petitioner's requests and the NRC's decisions. The NRC did not issue orders within 90 days of the petition as the Petitioner had requested, because we determined that the continued operation of operating reactors did not pose an imminent risk to public health and safety. The NRC also will not be issuing orders in the future based on the petition. The NRC will not be issuing orders because, as explained below, each of the Petitioner's requests has been addressed through other actions.

### **Request 1**

*Spent fuel pools (SFPs) elevated to the top of the reactor building outside*

*and above the rated containment structure without safety-related backup electric power systems to cool high-density storage of nuclear waste in the event of loss of grid power.*

*Provide emergency makeup water reliable source.*

*Install additional instrumentation (water level, temperature, and radiation monitoring) on all Mark I storage pools.*

### ***NRC Decision***

The NRC addressed the Petitioner's requests through Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," issued March 12, 2012 (ADAMS Accession No. ML12054A736). This order imposes requirements to maintain or restore SFP cooling capability. This strategy provides makeup water independent of offsite power and the normal emergency alternating current (ac) power sources (e.g., installed emergency diesel generators).

Regarding additional instrumentation for all Mark I spent fuel storage pools, the NRC has addressed this request through Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," issued on March 12, 2012 (ADAMS Accession No. ML12056A044).

In addition, the Petitioner's requests are being addressed through rulemaking (mitigation of beyond-design-basis events rulemaking, NRC-2011-0299). The rulemaking, in part, makes generically applicable the requirements of the mitigation strategies order, giving consideration to lessons learned and feedback from implementation of the order's requirements.

### **Request 2**

*Substandard Mark I pressure suppression containment system vulnerable to early failure under severe accident conditions including over-pressurization.*

### ***NRC Decision***

In 1972, Dr. S. H. Hanauer, Technical Advisor to the NRC's Executive Director for Operations, wrote a memorandum that raised several questions on the viability of pressure suppression containment concepts. As a result of these concerns, NRC published NUREG-0474, "A Technical Update on Pressure Suppression Type Containments in Use in U.S. Light Water Reactor Nuclear Power Plants." In Enclosure A of this NUREG, a response to each concern of Dr. Hanauer's Memorandum of September 20, 1972, was provided. In this NUREG, NRC

concluded that licensed Mark I BWR facilities can continue to operate safely, pending completion of the comprehensive Long-Term Program (LTP) evaluation.

The LTP was associated with the suppression pool hydrodynamic loads in BWR facilities with the Mark I containment design. In NUREG-0661, "Safety Evaluation Report, Mark I Containment Long-Term Program," NRC described the generic techniques for the definition of suppression pool hydrodynamic loads in a Mark I system and the related structural acceptance criteria. In the report, NRC Staff concluded that "the proposed structural acceptance criteria are consistent with the requirements of the applicable codes and standards and, in conjunction with the structural analysis techniques, will provide an adequate basis for establishing the margins of safety in the containment design." The NRC ordered each licensee on January 13, 1981, to evaluate hydrodynamic loads, and the licensee reflected this in Final Safety Analysis Report § 3.8 after completing the evaluation/implementation. Therefore, all GE Mark I BWRs were evaluated for the above hydrodynamic loads, and appropriate modifications, if required, were made to maintain the containment structural integrity.

The NRC finds that existing containment vent systems at BWRs with Mark I containments provide a capability to vent the containment under design-basis conditions. The NRC required licensees to enhance the capabilities of the vent system to withstand severe accident conditions through Order EA-12-050, "Order to Modify Licenses with Regard to Reliable Hardened Containment Vents," issued on March 12, 2012 (ADAMS Accession No. ML12054A694), and superseded by a modified Order EA-13-109, "Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable for Operation Under Severe Accident Conditions" (ADAMS Accession No. ML13143A334), issued on June 6, 2013. This order further enhances the reliability of the containment vent system, thereby protecting the containment during severe accident conditions. As a result, BWRs with Mark I containments do not pose an undue hazard to public health and safety, and can continue to operate.

### **Request 3**

*Reactor design in Japan has now dramatically failed to reliably and adequately mitigate and contain significant and mounting radiological releases to the atmosphere, ground water, and the ocean from multiple severe accidents in multiple GE BWR Mark I units.*

*There certainly is much at stake and the seismic issues need to be studied because there is a great deal of seismic activity around Augusta, GA; the Vogtle nuclear plant; and Charleston, SC.*

### ***NRC Decision***

The NRC Staff continues to conclude that the GE Mark I BWRs have been designed, built, and operated to safely withstand earthquakes likely to occur in their region and that the plants meet their current licensing basis. As part of the NRC post-Fukushima lessons-learned activities, the NRC is requiring all licensees to reevaluate seismic hazards at their sites. To this end, on March 12, 2012, the NRC issued a request for information under 10 C.F.R. § 50.54(f) (ADAMS Accession No. ML12053A340). Site seismic hazard reevaluation findings by the licensees in the central and eastern United States were submitted in March 2014, and are currently under NRC review. The NRC will take appropriate actions to ensure the continuous safe operation of all the plants, including Vogtle.

In addition, the Commission issued Order EA-12-049 (station blackout mitigation strategies), which requires mitigation strategies to protect against, among many other hazards, postulated seismic events. Such actions significantly enhance the margins of safety to the effects of beyond-design-basis external events at commercial operating reactors in the United States.

### **Request 4**

*Failure of the Mark I containment even with the hardened vent system at Fukushima Dai-ichi demonstrates the inadequacy in design to mitigate and contain a severe accident resulting from longer station blackout.*

### ***NRC Decision***

The Commission issued Order EA-12-049, which requires mitigation strategies to protect against, among many other hazards, an extended station blackout. Such actions significantly enhance the margins of safety to the effects of beyond-design-basis external events at commercial operating reactors in the United States.

This order requires a three-phase approach for mitigating beyond-design-basis external events. The initial phase requires the use of installed equipment and resources to maintain or restore core cooling, containment, and SFP cooling capabilities. The transition phase requires providing sufficient, portable, onsite equipment and consumables to maintain or restore these functions until they can be accomplished with resources brought from offsite. The final phase requires obtaining sufficient offsite resources to sustain those functions indefinitely. Order EA-12-049 requires the licensee to meet the following:

- (1) Licensees or construction permit (CP) holders shall develop, implement, and maintain guidance and strategies to maintain or restore core cooling,

containment, and SFP cooling capabilities following a beyond-design-basis external event.

- (2) These strategies must be capable of mitigating a simultaneous loss of all ac power and loss of normal access to the ultimate heat sink and have adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this order.
- (3) Licensees or CP holders must provide reasonable protection for the associated equipment from external events. Such protection must demonstrate that there is adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this order.
- (4) Licensees or CP holders must be capable of implementing the strategies in all modes.
- (5) Full compliance shall include procedures, guidance, and training, as well as the acquisition, staging, or installation of equipment needed for the strategies.

The NRC addressed the Petitioner's containment venting request through Order EA-12-050, "Order to Modify Licenses with Regard to Reliable Hardened Containment Vents," issued on March 12, 2012 (ADAMS Accession No. ML12054A694), and superseded by a modified Order EA-13-109, "Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable for Operation Under Severe Accident Conditions" (ADAMS Accession No. ML13143A334), issued on June 6, 2013.

Order EA-13-109 requires the licensees of BWRs with Mark I and Mark II containments to design and install a venting system that provides venting capability from the wetwell during severe accident conditions. Severe accident conditions include the elevated temperatures, pressures, radiation levels, and combustible gas concentrations, such as hydrogen and carbon monoxide, associated with accidents involving extensive core damage, including accidents involving a breach of the reactor vessel by molten core debris. Furthermore, the licensees of BWRs with Mark I and Mark II containments shall either (1) design and install a venting system that provides venting capability from the drywell under severe accident conditions, or (2) develop and implement a reliable containment venting strategy that makes it unlikely that a licensee would need to vent from the containment drywell during severe accident conditions.

#### **Request 5**

*Immediately revoke prior preapproval of the hardened vent system or direct torus vent system at each GE BWR Mark I unit under the provisions of 10 CFR 50.59, "Changes, Tests, and Experiments."*

### ***NRC Decision***

The NRC finds that existing containment vent systems at BWRs with Mark I containments provide a capability to vent the containment under design-basis circumstances, and then continued operation poses no undue risk to public health and safety. Furthermore, the NRC has required licensees to enhance this capability through Order EA-12-050, “Order to Modify Licenses with Regard to Reliable Hardened Containment Vents,” issued on March 12, 2012 (ADAMS Accession No. ML12054A694), and superseded by a modified Order EA-13-109, “Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable for Operation under Severe Accident Conditions” (ADAMS Accession No. ML13143A334), issued on June 6, 2013. The Petitioner’s request has been addressed by these actions. The NRC summarizes the pertinent requirements in these orders above, in response to the Petitioner’s Request 4.

### **Request 6**

*Immediately issue confirmatory action orders to all GE BWR Mark I units to promptly install safety-related backup electrical power (Class 1E) and additional backup direct current battery system to ensure reliable supply of power for the SFP cooling system.*

### ***NRC Decision***

The NRC has addressed this request through Order EA-12-049, “Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events,” issued March 12, 2012 (ADAMS Accession No. ML12054A736). This order imposes requirements to maintain or restore SFP cooling capability. This strategy provides makeup water independent of offsite power, normal emergency ac power sources (e.g., installed emergency diesel generators), or normal direct current power sources. This request is also being addressed through rulemaking (mitigation of beyond-design-basis events rulemaking, NRC-2011-0299). The rulemaking, in part, is making generically applicable the requirements of the mitigation strategies order, giving consideration to lessons learned and feedback from implementation of the order’s requirements.

### **Request 7**

*Illinois reactors are operating on river floodplains and the current situation in Missouri and Nebraska speaks volumes as to what this means in terms of flooding.*



### ***NRC Decision***

The NRC Staff continues to conclude that the GE Mark I BWRs have been designed, built, and operated to safely withstand flooding likely to occur at each site and meet their current licensing basis. Accordingly, the NRC has decided not to issue orders on flooding at this time. The NRC is instead addressing this issue through a 10 C.F.R. § 50.54(f) letter titled, “Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from The Fukushima Dai-ichi Accident” (ADAMS Accession No. ML12056A046), issued on March 12, 2012.

The reasons for this decision are set forth in the following documents. On September 9, 2011, the NRC Staff provided SECY-11-0124, “Recommended Actions to Be Taken Without Delay from the Near-Term Task Force Report,” to the Commission (ADAMS Accession No. ML11245A158). The document identified those actions from the Near-Term Task Force Report that should be taken without unnecessary delay. As part of the staff requirements memo for SECY-11-0124 (ADAMS Accession No. ML112911571) (October 18, 2011), the Commission approved the Staff’s proposed actions, including the development of three information requests under 10 C.F.R. § 50.54(f). The information collected will be used to support the NRC Staff’s evaluation of whether further regulatory action is needed regarding revisions to the existing flooding licensing basis for each plant.

### **Request 8**

*Provide an expedited hardened (dry cask) onsite storage by emptying the SFPs and converting the irradiated nuclear fuel that is more than 5 years cooled to dry casks. At Fukushima, three reactor systems were blown out and caused exposure of the fuel in the SFPs directly to the atmosphere.*

*The NRC should order TVA to eliminate the existing unsafe irradiated fuel storage system at Browns Ferry and move the fuel to hardened storage in concrete structures.*

### ***NRC Decision***

Contrary to the Petitioner’s statement, the SFPs at Fukushima Dai-ichi were found to be structurally intact following the accident and the fuel was still underwater, that is, not exposed to the atmosphere.

The NRC would further note that all operating U.S. nuclear power plants store some spent nuclear fuel in “spent fuel pools.” These pools are made of reinforced concrete several feet thick, with steel liners. The water is typically about 40 feet

(12 meters) deep, and serves both to shield the radiation and cool the spent fuel assemblies.

As the pools near capacity, licensees move some of the older spent fuel into “dry cask” storage. Fuel is typically cooled at least 5 years in the pool before transfer to casks. The NRC has authorized transfer as early as 3 years; the industry norm is about 10 years.

After the September 11, 2001, terrorist attacks, the NRC issued orders to plant operators requiring several measures aimed at mitigating the effects of a large fire, explosion, or accident that damages an SFP. These were meant to deal with the aftermath of a terrorist attack or plane crash; however, they would also be effective in responding to natural phenomena such as tornadoes, earthquakes, or tsunami. These mitigating measures include:

- (1) Controlling the configuration of fuel assemblies in the pool to enhance the ability to keep the fuel cool and recover from damage to the pool.
- (2) Establishing emergency spent fuel cooling capability.
- (3) Staging emergency response equipment nearby so it can be deployed quickly.

The NRC determined that SFPs and dry casks both provide adequate protection of the public health and safety and the environment. Therefore, there is no safety or security reason to mandate earlier transfer of fuel from pool to cask. In a Staff Requirements Memorandum dated May 23, 2014 (ADAMS Accession No. ML14143A360), the Commission directed the NRC staff, based on the staff’s recommendation, to stop working on possible regulatory actions that would require the expedited transfer of spent fuel to dry cask storage. As part of that Staff Requirements Memorandum, the Commission also directed the Staff to provide an assessment of limited term operational vulnerabilities associated with SFPs. The Staff completed that assessment and provided the results to the Commission on November 26, 2014, in SECY-14-0136 (ADAMS Accession No. ML14297A232). The Staff concluded that SFPs are safe and secure and that no additional regulatory action is necessary at this time.

The GE Mark I BWRs meet their current license requirements related to spent fuel storage and inventory. Dry cask storage is in use at Browns Ferry Nuclear Plant, along with SFP storage.

In conclusion, based on the NRC’s prior analyses of closely related issues, we conclude there is no need to issue an order requiring licensees to take the Petitioner’s requested actions.

## **Request 9**

*The intense rainfall accompanying the hurricane thoroughly saturated the*

*ground around Vermont Yankee, which has aggravated the existing problem of reactors' underground safety-related electrical cables that were never designed to withstand wet or underwater conditions. The NRC is aware of this problem. To my knowledge, no remedial action or even a complete inspection of every inch of such cables has been undertaken or is even being contemplated.*

### **NRC Decision**

During license renewal of the Vermont Yankee Nuclear Power Station, Entergy Nuclear Operations, Inc. (the Licensee), made the following commitments related to the electrical cables as described in the safety evaluation report NUREG-1907, Supplement 2 (ADAMS Accession No. ML110770495):

#### **Commitment 13**

Implement the Non-Environmental Qualification Inaccessible Medium-Voltage Cable Program as described in License Renewal Application Section B.1.17.

Inspections for water accumulation in manholes containing inaccessible low-voltage and medium-voltage cables with a license renewal intended function will be performed at least once every year. Additional condition-based inspections of these manholes will be performed based on: a) potentially high water table conditions, as indicated by high river level, and b) after periods of heavy rain. The inspection results are expected to indicate whether the inspection frequency should be modified.

Inaccessible low-voltage cables (400 V to 2 kilovolt [kV]) with a license renewal intended function are included in this program. Inaccessible low-voltage cables will be tested for degradation of the cable insulation prior to the period of extended operation and at least once every six years thereafter. A proven, commercially available test will be used for detecting deterioration due to wetting of the insulation system for inaccessible low-voltage cables.

#### **Commitment 43**

Establish and implement a program that will require testing of the two 13.8 kV cables from the two Vernon Hydro Station 13.8 kV switchgear buses to the 13.8 kV/69 kV step up transformers before the period of extended operation and at least once every 6 years after the initial test.

The NRC Inspection Report 05000271/2012008 dated April 20, 2012 (ADAMS Accession No. ML12103A406) discussed the implementation of Commitments 13 and 14 as noted below:

The inspectors reviewed the commitment completion review reports, manhole inspection results, and cable test results to verify that potential aging effects to inaccessible cables were being adequately managed. The inspectors reviewed tan

delta and insulation resistance test results to verify that cable testing frequencies were established based on cable performance. The inspectors verified that the cable testing program included medium and low voltage cables.

The inspectors also reviewed the manhole inspection results and determined that all of the manholes had been inspected and future work orders were designed to inspect the manholes on appropriate frequencies and at least once every year. The inspectors reviewed OP-PHEN-3127, "Natural Phenomena Operating Procedure," to verify that the manholes will be inspected under conditions of high river level or after heavy rain. The inspectors also interviewed the project manager to review any operating experience or implementation issues.

Commitment 43 applied the Commitment 13 cable testing program to the cables between Vermont Yankee and the Vernon Hydro Station. The inspectors reviewed the cable testing program to ensure that the cables between Vermont Yankee and Vernon Hydro station were included in the cable testing program, the cables had been tested satisfactorily, and the cable testing frequency was set at 6 years.

Based on the above, the Licensee has satisfied the commitments made during the license renewal application. The NRC finds that the Licensee's existing commitments address the risks identified by the Petitioner. In addition, by letter dated January 12, 2015 (ADAMS Accession No. ML15013A426), Entergy Nuclear Operations, Inc. provided certifications in accordance with 10 C.F.R. § 50.82(a)(1)(i) and (ii) that the Vermont Yankee Nuclear Power Station (VYNPS) had permanently ceased power operations on December 29, 2014 and that as of January 12, 2015, all fuel had been permanently removed from the reactor vessel and placed in the spent fuel pool. With the docketing of these certifications, the VYNPS 10 C.F.R. Part 50 license no longer authorizes operation of the reactor or emplacement of fuel in the reactor vessel.

When a nuclear power plant permanently ceases operations and the licensee defuels the reactor, the accident sequences that dominated the operating plant risk are no longer applicable. The primary remaining source of risk to the public is associated with potential accidents that involve the used fuel stored in the spent fuel pool. The NRC Staff recognizes that VYNPS will maintain mitigating strategies for the protection of spent fuel pool pursuant to Condition 3.N of its license. License Condition 3.N requires VYNPS to develop and maintain strategies and staff training to address large fires and explosions that include protection of the spent fuel pool. The operations staff at VYNPS will continue to receive training on mitigation strategies related to the protection of spent fuel.

Furthermore, the NRC would note that NRC Regulatory Guide 1.218, "Condition-Monitoring Techniques for Electric Cables Used in Nuclear Power Plants," published in April 2012, provides guidelines in monitoring the performance of electric cables used in nuclear power plants. Therefore, an order requiring additional actions by VYNPS is not needed at this time.

### **III. CONCLUSION**

The NRC has evaluated each of the Petitioner's requests. For the reasons stated above, the NRC will not be issuing an order requiring the additional actions specified in the Petitioner's requests.

As provided in 10 C.F.R. § 2.206(c), a copy of this Director's Decision will be filed with the Secretary of the Commission for the Commission to review. This Decision will constitute the final action of the Commission 25 days after the date of the Decision unless the Commission, on its own motion, institutes a review of the Decision within that time.

FOR THE NUCLEAR REGULATORY  
COMMISSION

Jennifer L. Uhle, Deputy Director  
Reactor Safety Programs  
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,  
this 15th day of January 2015.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION

William M. Dean, Director

In the Matter of

Docket No. 50-333  
(License No. DPR-059)

ENTERGY NUCLEAR  
OPERATIONS, INC.  
(James A. FitzPatrick Nuclear  
Power Plant)

October 17, 2014\*

By electronic mail dated July 25, 2013, as supplemented on November 13, 2013, Mr. David Lochbaum filed a petition under section 2.206, "Request for Action Under This Subpart," of Title 10 of the *Code of Federal Regulations*. Mr. Lochbaum filed the petition on behalf of Alliance for a Green Economy, Beyond Nuclear, Citizens Awareness Network, and the Union of Concerned Scientists (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13217A061).

The Petitioners requested that the U.S. Nuclear Regulatory Commission (NRC) take an enforcement action by imposing a regulatory requirement that all the condenser tubes be replaced at the James A. FitzPatrick Nuclear Power Plant (FitzPatrick) prior to the reactor restarting from its fall 2014 refueling outage.

As a basis for their petition, the Petitioners asserted that FitzPatrick is experiencing abnormally high occurrences of condenser tube failures. To repair the leaks, Entergy Nuclear Operations Inc. routinely reduces power, makes the repairs needed, and returns to full power. The Petitioners assert that these power excursions constitute a risk to public health and safety. Operating experience indicates that condenser tube leaks have contaminated the reactor coolant water

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\*This issuance was inadvertently omitted from the October 2014 Issuances and was reassigned an issuance number to maintain the consecutive numbering for this volume.

with impurities from the condenser cooling water and have caused extensive damage to nuclear power plant components.

In this Director's Decision, the Director of the Office of Nuclear Reactor Regulation (NRR) determined that the licensee's evaluation of condenser tube failures was thorough, but its corrective actions were not effective in reducing the unplanned power changes. The Director of NRR also determined that the NRC's evaluations of the Petitioners' concerns, including consideration of tube leaks, unplanned power changes, and potential primary coolant contamination, did not constitute any violations that were more than minor. Thus, the violations did not warrant the requested enforcement action. The NRC will continue its normal regulatory oversight of FitzPatrick to ensure its safe operation. Consequently, the Petitioners' request for the enforcement action was denied. Incidentally, the replacement of all condenser tubes was completed by the Licensee in the fall 2014 refueling outage.

## **DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206**

### **I. INTRODUCTION**

By electronic mail dated July 25, 2013, as supplemented on November 13, 2013, Mr. David Lochbaum filed a petition under section 2.206, "Request for Action Under This Subpart," of Title 10 of the *Code of Federal Regulations* on behalf of Alliance for a Green Economy, Beyond Nuclear, Citizens Awareness Network, and the Union of Concerned Scientists (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13217A061). The Petitioners requested that the U.S. Nuclear Regulatory Commission (NRC) take the following action:

Take enforcement action by imposing a regulatory requirement that all the condenser tubes be replaced at [the James A. FitzPatrick Nuclear Power Plant (FitzPatrick)] prior to the reactor restarting from its fall 2014 refueling outage.

On November 13, 2013, the Petitioners met with the NRC's petition review board by teleconference to clarify the bases for the petition. The transcript of this meeting was treated as a supplement to the petition and is available under ADAMS Accession No. ML14036A234 for inspection at the Commission's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, MD. Publicly available records will be accessible from the ADAMS Public Electronic Reading Room on the NRC's Web site at <http://www.nrc.gov/reading-rm/adams.html>. Persons

who do not have access to ADAMS or who encounter problems in accessing the documents stored in ADAMS should contact the NRC's Public Document Room (PDR) reference staff by telephone at 1-800-397-4209 or 301-415-4737 or by e-mail to [pdrr@nrc.gov](mailto:pdrr@nrc.gov).

In a letter dated February 12, 2014 (ADAMS Accession No. ML14034A028), the NRC informed the Petitioners that their request, which called for enforcement action, was accepted and that the issues in the petition were being referred to the Director of the Office of Nuclear Reactor Regulation for appropriate action.

The NRC issued a proposed director's decision (ADAMS Accession No. ML14127A338) on June 27, 2014 with a proposed determination on the petition. The NRC sent a copy of the proposed director's decision to the Petitioners and to FitzPatrick for comment on June 27, 2014. The comments and the NRC staff's response to them are included in this Director's Decision.

## II. DISCUSSION

As a basis for their petition, the Petitioners asserted the following:

- FitzPatrick is experiencing abnormally high occurrences of condenser tube failures. To repair these leaks, Entergy Nuclear Operations Inc. (Entergy) routinely reduces power, makes the repairs needed, and returns to full power. The petitioners state that these power excursions constitute a risk to public health and safety. The NRC's Reactor Oversight Process (ROP) also recognizes the elevated risk associated with unplanned power changes.
- The NRC team observed that Entergy did not properly consider FitzPatrick operating history, specifically the 4 years of outages, when projecting the expected condenser-tube life. Consequently, Entergy did not properly plan and design for condenser tube replacement before tube leakage, which has necessitated frequent downpowers for repair. Corrective actions include condenser-tube sleeving during the fall 2012 refueling outage and a planned complete replacement of all condenser tubes in the fall 2014 refueling outage.
- Operating experience indicates that condenser-tube leaks have contaminated the reactor coolant water with impurities from the condenser cooling water and have caused extensive damage to nuclear power plant components.
- Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities" (see <http://www.nrc.gov/reading-rm/doc-collections/cfr/part050/part050-appb.html>), requires that plant owners develop and maintain quality-assurance programs. This regulatory requirement explicitly states:



As used in this appendix, “quality assurance” comprises all those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service.

The NRC Staff has followed the condenser-tube leakage problems and the frequent power changes at FitzPatrick to make tube repairs. On January 21, 2013, Entergy reported to the NRC the occurrence of an “unplanned power change” performance indicator that crossed a threshold from green to white. Based on that report, the NRC assigned a white performance indicator action matrix input to the initiating-events cornerstone in the fourth quarter of 2012.

As a follow-up to the action matrix input, the NRC Staff performed a supplemental inspection at FitzPatrick to determine whether (1) the root and contributing causes for the risk-significant issues were understood, (2) the extent of condition and extent of cause for identified issues were understood, and (3) corrective actions undertaken by the Licensee were sufficient to address and prevent repetition of the root and contributing causes.

Entergy identified the root cause of the issue to be failure to include inner-diameter condenser-tube wear in any component or system monitoring plan. The NRC Staff determined that the root cause also included Entergy’s failure to incorporate applicable operating experience from the 1995 condenser-tube replacement in an appropriate system or program. The NRC Staff determined that the deficiency was minor because the review of the resulting extent of condition did not identify any potential safety concerns. As a result, Entergy has now incorporated in its corrective actions a condenser-tube monitoring and trending program, retubing the main condenser and revising the Corrective Action Review Board grading sheet for cause evaluations to better identify previous corrective actions that did not prevent repetition of tube failures. The NRC Staff has determined that the Entergy evaluation was thorough and that the interim corrective action implemented — namely, sleeving the outlet of the condenser tubes as a temporary measure until the condenser tubes could be replaced in 1995 with tubes of expected service life of 15 years — was a reasonable attempt to address the problem. However, this measure did not have the desired result of reducing the number of unplanned power changes. Therefore, the agency’s Supplemental Inspection 95001 program will remain open until corrective action to significantly reduce the number of unplanned power changes is implemented.

The Petitioners stated that Appendix B to 10 C.F.R. Part 50 requires that plant owners develop and maintain quality assurance programs. The main condenser is not a safety-related component and, therefore, is not directly addressed by FitzPatrick’s license, technical specifications, or Appendix B to 10 C.F.R. Part 50. Entergy documented that the risk consequences of condenser tube leaks are low. Condenser tube leaks are readily identified and can be isolated. Entergy also noted that severe tube leaks could result in chemistry and corrosion issues in

the reactor coolant system. The water chemistry of the reactor coolant feedwater and condensate systems is routinely monitored and procedures provide corrective actions for chemistry issues to protect the reactor and the fuel. The NRC Staff concluded that risk consequences and compliance concerns were appropriately documented.

### **III. CONCLUSION**

The Petitioners raised issues related to routine condenser tube leaks causing power reductions. Condenser tube leaks have caused coolant contamination which in turn has caused extensive damage to nuclear components of other plants. Entergy did not properly plan and design for condenser tube replacement, which has resulted in recurring condenser tube leaks. The Petitioners claim that, contrary to the criteria of the NRC's Appendix B to 10 C.F.R. Part 50, the owners of FitzPatrick have not developed and maintained adequate quality assurance for FitzPatrick condenser tubes. For these reasons the Petitioners requested that the NRC take an enforcement action by issuing an order to Entergy requiring that all the condenser tubes at FitzPatrick be replaced prior to restart from its fall 2014 refueling outage.

As discussed above, based upon its ROP, the NRC Staff assigned a White performance indicator to Entergy because of frequent unplanned power changes to repair the leaking tubes. In response to the White performance indicator, the NRC conducted a supplemental inspection under Inspection Procedure 95001. The NRC Staff concluded that the Licensee's evaluation of condenser-tube failures was thorough, but the corrective actions were not effective in reducing the unplanned power outages. The NRC Staff's evaluations, including consideration of tube leaks and potential primary coolant contamination, did not find any violations that are more than minor. Consequently the Petitioners' request for the enforcement action is denied.

The NRC Staff has stated above that the FitzPatrick condenser tubes are not safety-related items and are not subject to the requirements of the 10 C.F.R. Part 50, Appendix B quality assurance criteria.

Because the Licensee's corrective actions have not been sufficient to reduce unplanned power changes, the NRC Staff will keep the Supplemental Inspection 95001 open until corrective actions to significantly reduce the unplanned power changes are implemented. The NRC's inspection program and ROP will continue to monitor performance at FitzPatrick and will ensure that the health and safety of the public are protected.

As provided in 10 C.F.R. § 2.206(c), a copy of this Director's Decision will be filed with the Secretary of the Commission for the Commission to review. As provided by this regulation, the Decision will constitute the final action of the

Commission 25 days after the date of the Decision unless the Commission, on its own motion, institutes a review of the Decision within that time.

FOR THE NUCLEAR REGULATORY  
COMMISSION

William M. Dean, Director  
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,  
this 17th day of October 2014.

**COMMENTS RECEIVED FROM THE PETITIONER  
ON THE PROPOSED DIRECTOR'S DECISION  
IN THE LETTER DATED JULY 9, 2014**

On June 27, 2014, the U.S. Nuclear Regulatory Commission (NRC) sent a copy of the Proposed Director's Decision, for comments, to Petitioner Mr. David Lochbaum of Union of Concerned Scientists (Agencywide Documents Access and Management (ADAMS) Accession No. ML14247A335). By letter dated July 9, 2014 (ADAMS Accession No. ML14251A270), Mr. David Lochbaum provided his comments to the NRC on behalf of co-petitioners Alliance for a Green Economy, Beyond Nuclear, and the Union of Concerned Scientists. The NRC's response to the comments is provided below:

The NRC's Director's Decision has adequately addressed the issues restated in the petitioner's comments. The actions already taken by the NRC and described in the Director's Decision will ensure adequate protection of public health and safety, and, as discussed in the Director's Decision, the future actions described will ensure the continued future protection of public health and safety. The NRC has concluded that no other actions, beyond the actions described in the Director's Decision, are needed.

The NRC appreciates the petitioner's comments and thanks the petitioner for raising the concerns in the interest of protection of the health and safety of the American people.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Stephen G. Burns**, Chairman  
**Kristine L. Svinicki**  
**William C. Ostendorff**  
**Jeff Baran**

**In the Matter of**

**Docket Nos. 50-247-LR  
50-286-LR**

**ENTERGY NUCLEAR  
OPERATIONS, INC.  
(Indian Point, Units 2 and 3)**

**February 18, 2015**

**MEMORANDUM AND ORDER**

This proceeding concerns the application of Entergy Nuclear Operations, Inc. to renew the operating licenses of the Indian Point Nuclear Generating Units 2 and 3 for an additional 20 years. Following an evidentiary hearing, the Atomic Safety and Licensing Board issued Partial Initial Decision LBP-13-13, resolving nine contentions.<sup>1</sup> While we have before us a number of petitions for review of LBP-13-13, our decision today addresses only the State of New York's two petitions for review.<sup>2</sup> New York challenges LBP-13-13 to the extent it resolves NYS-12C, an environmental contention.<sup>3</sup> New York also challenges a subsequent

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<sup>1</sup> LBP-13-13, 78 NRC 246 (2013). The Board's decision addresses only contentions that the Board earlier designated as "Track 1" contentions, on which a hearing was held in October 2012. *See id.* at 275-76, 278-79. Several "Track 2" contentions remain pending before the Board and will be the subject of a later evidentiary hearing. *See id.*

<sup>2</sup> We also issue today an order granting review of the NRC Staff's and Entergy's appeals of Board decisions addressing contention NYS-35/36. *See* CLI-15-3, 81 NRC 217 (2015).

<sup>3</sup> State of New York Petition for Review of Atomic Safety and Licensing Board Decision LBP-13-13 with Respect to Consolidated Contention NYS-12C (Feb. 14, 2014) (New York Petition).

Board order declining to reconsider LBP-13-13 or to reopen the hearing record on NYS-12C.<sup>4</sup>

NYS-12C challenged the Indian Point severe accident mitigation alternatives (SAMA) analysis, contesting particular decontamination times and decontamination cost assumptions.<sup>5</sup> In LBP-13-13, the Board resolved NYS-12C in favor of the Staff.<sup>6</sup> New York seeks review of the Board's findings. Entergy and the Staff oppose New York's petitions. The State of Connecticut has filed a brief *amicus curiae* supporting New York's petition for review.<sup>7</sup>

We may, as a matter of discretion, grant review of a full or partial initial decision, giving due weight to the existence of a substantial question with respect to any of the considerations outlined in 10 C.F.R. § 2.341(b)(4). We find that the New York petitions raise at least one substantial question warranting further consideration of the decisions on NYS-12C. We therefore grant the New York petitions.<sup>8</sup>

New York, Entergy, and the Staff raise a number of complex technical and legal arguments regarding NYS-12C. To aid our review, we direct the parties to provide further briefing on the following questions. In answering the questions, the parties must not introduce any new documents or exhibits; all references shall be limited to submissions already in the record. References to affidavits and exhibits should include page citations.

- (1) The Board in LBP-13-13 stated that the "genesis" of the decontamination time values used in the Indian Point SAMA analysis can be traced to a 1984 report (NUREG/CR-3673) that concluded that a 90-day decontamination

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<sup>4</sup> See State of New York Petition for Review of Atomic Safety and Licensing Board's April 1, 2014 Decision Denying the State's Motion to Reopen the Record and for Reconsideration of the Board's November 27, 2013 Partial Initial Decision Concerning Consolidated Contention NYS-12C (Apr. 28, 2014) (New York Petition with Respect to Reopening); see also Order (Denying New York's Motion to Reopen the Record; Setting Deadline for New or Amended Contention) (Apr. 1, 2014) (unpublished).

<sup>5</sup> No party seeks review of the Board's resolution of NYS-16B, another SAMA analysis contention resolved in LBP-13-13. Contention 16B challenged population estimates; the Board resolved the contention in favor of the Staff. LBP-13-13, 78 NRC at 475-89.

<sup>6</sup> LBP-13-13, 78 NRC at 450-74, 544.

<sup>7</sup> See State of Connecticut's Motion for Leave to File Brief Amicus Curiae in Support of the State of New York's Petition for Review of the Atomic Safety and Licensing Board's Partial Initial Decision LBP-13-13 (Feb. 14, 2014); Amicus Brief of the Attorney General of Connecticut (Feb. 14, 2014). We will address in a future decision the question of Connecticut's participation as an *amicus curiae* under 10 C.F.R. § 2.315(d).

<sup>8</sup> Our decision on review will outline further our grounds for granting the petitions.

time period represents “an average time to complete decontamination efforts following the most severe reactor accident.”<sup>9</sup>

Address the underlying support and reasoning (if available) behind the report’s conclusion that a 90-day time period is an “average” period of time for completing decontamination for “the most severe type of reactor accident.”

- (2) Identify from the record any peer review or similar vetting of the NUREG-1150 values for the decontamination cost inputs for nonfarm land and property (CDNFRM) and the decontamination time inputs (TIMDEC) used in the MACCS2 computer code.
- (3) Providing references to the record, discuss the underlying reasons behind the Staff and Entergy experts’ opinion that the NUREG-1150 CDNFRM and TIMDEC values continue to reflect reasonable estimates for severe accident decontamination times and costs today, including for the heavier (DF of 15) decontamination effort.
- (4) Discuss the appropriateness of performing sensitivity analyses to account for uncertainties in the estimated decontamination times and nonfarm decontamination costs, including what might be reasonable CDNFRM and TIMDEC inputs to use in sensitivity analyses for the Indian Point SAMA analysis.
- (5) Would it be appropriate to treat decontamination times and decontamination costs (and related decontamination factors) from an uncertainty analysis standpoint, using a range of values — e.g., smaller values for smaller release accident categories and larger values for the larger release categories? Why or why not?
- (6) Discuss whether, and, if so, how, the SAMA analysis should account for the possibility of potential decontamination times longer than 1 year.
- (7) Discuss whether the Indian Point analysis contains conservatisms that bound or otherwise compensate for the uncertainty in the decontamination times and nonfarm decontamination costs inputs used in the analysis.
- (8) The Indian Point SAMA analysis states that the methodology for cleaning up a nuclear weapons accident that was described in a 1996 Sandia National Laboratory study is “not relevant to clean-up following” a

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<sup>9</sup> See LBP-13-13, 78 NRC at 469 (referencing Ex. NRC000058, “Economic Risks of Nuclear Power Reactor Accidents,” NUREG/CR-3673 (May 1984)).



nuclear reactor accident.<sup>10</sup> Nonetheless, the SAMA analysis goes on to describe a comparison of decontamination cost values derived from the study with the decontamination cost values used in the Indian Point analysis. Address to what extent (if any) the comparison to the weapons accident study explains or otherwise substantiates the decontamination cost parameters used in the Indian Point analysis.

Initial briefs shall not exceed 40 pages, exclusive of title page, table of contents, or table of authorities, and shall be filed within 40 calendar days of the date of this Order. Reply briefs shall not exceed 20 pages, exclusive of title page, table of contents, or table of authorities, and may be filed within 30 calendar days of the initial briefs' filing. In accordance with 10 C.F.R. § 2.315(d), the State of Connecticut may file an *amicus* brief, not to exceed 20 pages, exclusive of title page, table of contents, or table of authorities. Connecticut may file its brief within the time allowed to the party whose position the brief will support.

IT IS SO ORDERED.<sup>11</sup>

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 8th day of February 2015.

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<sup>10</sup> See Ex. NYS001331, "Final Report, Generic Environmental Impact Statement for License Renewal of Nuclear Plants," NUREG-1437, Supplement 38, Vol. 3, regarding Indian Point Nuclear Generating Unit Nos. 2 and 3 (Dec. 2010), App. G at G-23 (referencing Ex. NYS000249, "Site Restoration: Estimation of Attributable Costs from Plutonium-Dispersal Accidents," SAND96-0957 (May 1996)).

<sup>11</sup> Chairman Burns did not participate in this matter.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Stephen G. Burns**, Chairman  
**Kristine L. Svinicki**  
**William C. Ostendorff**  
**Jeff Baran**

**In the Matter of**

**Docket Nos. 50-247-LR  
50-286-LR**

**ENTERGY NUCLEAR  
OPERATIONS, INC.  
(Indian Point, Units 2 and 3)**

**February 18, 2015**

**MEMORANDUM AND ORDER**

This proceeding concerns the application of Entergy Nuclear Operations, Inc. to renew the operating licenses of the Indian Point Nuclear Generating Units 2 and 3 for an additional 20 years. The Atomic Safety and Licensing Board recently issued Partial Initial Decision LBP-13-13.<sup>1</sup> We have before us several petitions for review of LBP-13-13 and associated Board decisions. Our decision today addresses only the NRC Staff's and Entergy's requests for review of decisions regarding Contention NYS-35/36, an environmental contention challenging the Indian Point severe accident mitigation alternatives (SAMA) analysis.<sup>2</sup> Specifically, Entergy

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<sup>1</sup> LBP-13-13, 78 NRC 246 (2013). The Board's decision addresses only contentions that the Board earlier designated as "Track 1" contentions, on which a hearing was held in October 2012. *See id.* at 275-76, 278-79. Several "Track 2" contentions remain pending before the Board and will be the subject of a later evidentiary hearing. *See id.*

<sup>2</sup> *See* Applicant's Petition for Review of Board Decisions Regarding NYS-8 (Electrical Transformers), CW-EC-3A (Environmental Justice), and NYS-35/36 (SAMA Cost Estimates) (Feb. 14, 2014) at 3, 43-60 (Entergy Petition); NRC Staff's Petition for Review of LBP-13-13 in Part (Contentions  
(Continued)

and the Staff seek review of LBP-11-17, the Board's decision dismissing NYS-35/36, and LBP-10-13, the Board's decision admitting the contention.<sup>3</sup>

NYS-35/36 raised legal and policy questions going to the completeness of the SAMA analysis cost-benefit results and the adequacy of the SAMA analysis conclusions. In LBP-11-17, the Board granted New York's motion for summary disposition of NYS-35/36, agreeing with New York that the SAMA analysis in the Indian Point Final Supplemental Environmental Impact Statement (FSEIS) is deficient as a matter of law.<sup>4</sup> Entergy and the Staff now seek review of the Board's decisions on NYS-35/36. New York opposes these requests.<sup>5</sup>

We find that the Staff and Entergy petitions each raise at least one substantial question warranting further consideration of the Board's decisions on NYS-35/36. We therefore grant the Entergy and Staff petitions insofar as they challenge the Board's decisions in LBP-11-17 and LBP-10-13.<sup>6</sup>

To aid our review, we request briefing on the following questions. Because the Board in LBP-11-17 found the FSEIS deficient and the Staff is responsible for the FSEIS analysis, we direct our questions below to the NRC Staff.

- (1) The Indian Point SAMA analysis concludes that "risk can be further reduced in a cost-beneficial manner through the implementation of the identified, cost-beneficial SAMAs," and that "[g]iven the potential for

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NYS-8 and CW-EC-3A), and LBP-11-17 (Contention NYS 35/36) (Feb. 14, 2014) at 41-59 (Staff Petition). We also issue today a companion order granting review of the State of New York's petitions associated with NYS-12C, another SAMA analysis contention. *See* CLI-15-2, 81 NRC 213 (2015).

<sup>3</sup> *See* LBP-11-17, 74 NRC 11 (2011); LBP-10-13, 71 NRC 673 (2010).

<sup>4</sup> *See* LBP-11-17, 74 NRC at 25-27.

<sup>5</sup> *See* State of New York's Answer to Entergy and Staff Petitions for Review of Atomic Safety and Licensing Board Decisions LBP-08-13 and LBP-13-13 with Respect to Contention NYS-8 and for Interlocutory Review of LBP-10-13 and LBP-11-17 with Respect to Contention NYS-35/36 (Mar. 25, 2014) at 37-64.

<sup>6</sup> *See* Entergy Petition at 43-60; Staff Petition at 41-59. Of note, the Staff recently — after filing its petition — concluded that it will supplement the FSEIS SAMA analysis. *See, e.g.,* NRC Staff's 36th Status Report in Response to the Atomic Safety and Licensing Board's Order of February 16, 2012 (Feb. 2, 2015), at 2-3. The Staff stated that the supplement will address Entergy's May 2013 submission of engineering project cost estimates for the mitigation alternatives identified in the FSEIS as potentially cost-beneficial. *See* Dacimo, Fred F., Entergy, Letter to NRC Document Control Desk, NL-13-075, License Renewal Application — Completed Engineering Project Cost Estimates for SAMAs Previously Identified as Potentially Cost-Beneficial (May 6, 2013) (ADAMS Accession No. ML13127A459). The core legal and policy questions raised by NYS-35/36 can, however, be addressed now. Our decision on review will elaborate further on our grounds for granting the petitions. The Staff and Entergy petitions for review before us also contest the Board's resolution of Contentions CW-EC-3A (environmental justice) and NYS-8 (transformers). We will address these claims in a future decision, based upon the briefs and the existing adjudicatory record.

cost-beneficial risk reduction . . . further evaluation of these SAMAs by Entergy is warranted.”<sup>7</sup>

Does the Staff have a process in place to follow up with the licensee to determine which “potentially cost-beneficial” mitigation alternatives ultimately were found by the licensee to be cost-beneficial, if any, and which alternatives, if any, the licensee implemented? If not, explain why follow-up by the Staff is unwarranted.

- (2) The SAMA analysis concludes that “any potentially cost-beneficial SAMAs that do not relate to 10 C.F.R. Part 54 requirements would be considered, to the extent necessary or appropriate, under the agency’s oversight of a facility’s current operating license in accordance with 10 CFR Part 50 requirements.”<sup>8</sup>

Under what circumstances, if any, would the Staff judge a “potentially cost-beneficial” mitigation alternative to warrant further NRC consideration outside of the license renewal review, either via a backfit analysis under 10 C.F.R. § 50.109 or as part of another process? For example, is there any level of reduction in risk metric values — e.g., core damage frequency or large early release frequency — that is or ought to be considered to determine whether a potentially cost-beneficial mitigation alternative warrants additional NRC consideration under Part 50?

- (3) The Staff states that it does not require license renewal applicants to “finalize” their “SAMA calculations” by including “engineering project costs” in their analyses.<sup>9</sup>

What level of uncertainty does the Staff consider acceptable for the implementation cost portion of the cost-benefit analysis, and why?

- (4) The Staff states that even if the NRC had authority to require implementation of mitigation alternatives for license renewal, “there is no reason to require such SAMAs for environmental protection purposes” because the Generic Environmental Impact Statement (GEIS) for reactor license renewal has already found the “probability-weighted consequences of . . .

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<sup>7</sup> See Ex. NYS00133I, “Final Report, Generic Environmental Impact Statement for License Renewal of Nuclear Plants,” NUREG-1437, Supplement 38, Vol. 3, regarding Indian Point Nuclear Generating Unit Nos. 2 and 3 (Dec. 2010), App. G at G-49 (FSEIS). The FSEIS is divided into multiple exhibits: NYS00133A-NYS00133J.

<sup>8</sup> See Ex. NYS00133C, FSEIS, Vol. 1, Main Report at 5-11.

<sup>9</sup> See Ex. NYS00133I, FSEIS, Vol. 3, App. G at 47-48.

severe accidents” to be “SMALL” for all plants, and Indian Point Units 2 and 3 fall within “these generic determinations.”<sup>10</sup>

Given that the “SMALL” probability-weighted impacts finding applies generically to all plants, why does the Staff expect a SAMA analysis to be a “comprehensive, systematic effort to identify and evaluate [ ] potential plant enhancements to mitigate” severe accidents?<sup>11</sup>

The Staff’s initial brief shall not exceed 20 pages, exclusive of title page, table of contents, or table of authorities, and shall be filed within 40 calendar days of the date of this order. Entergy and New York may file reply briefs, not to exceed 20 pages, exclusive of title page, table of contents, or table of authorities. Reply briefs are due within 40 calendar days of the initial brief’s filing.

The parties must not introduce any new documents or exhibits; all references shall be limited to submissions already in the record. References to affidavits and exhibits should include page citations.

IT IS SO ORDERED.<sup>12</sup>

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 18th day of February 2015.

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<sup>10</sup> See Staff Petition at 51 n.187.

<sup>11</sup> See Ex. NYS000220, “Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Supp. 1: Operating License Renewal,” NUREG-1555, Supp. 1 (Oct. 1999), at 5.1.1-7 to 5.1.1-8.

<sup>12</sup> Chairman Burns did not participate in this matter.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Stephen G. Burns**, Chairman  
**Kristine L. Svinicki**  
**William C. Ostendorff**  
**Jeff Baran**

**In the Matter of**

**DTE ELECTRIC COMPANY**  
**(Fermi Nuclear Power Plant,**  
**Unit 3)**

**Docket No. 52-033-COL**

**DTE ELECTRIC COMPANY**  
**(Fermi Nuclear Power Plant,**  
**Unit 2)**

**Docket No. 50-341-LR**

**DUKE ENERGY CAROLINAS, LLC**  
**(William States Lee III Nuclear**  
**Station, Units 1 and 2)**

**Docket Nos. 52-018-COL**  
**52-019-COL**

**ENTERGY NUCLEAR**  
**OPERATIONS, INC.**  
**(Indian Point, Units 2 and 3)**

**Docket Nos. 50-247-LR**  
**50-286-LR**

**FIRSTENERGY NUCLEAR**  
**OPERATING COMPANY**  
**(Davis-Besse Nuclear Power**  
**Station, Unit 1)**

**Docket No. 50-346-LR**

**FLORIDA POWER & LIGHT**  
**COMPANY**  
**(Turkey Point Nuclear Generating**  
**Plant, Units 6 and 7)**

**Docket Nos. 52-040-COL**  
**52-041-COL**

LUMINANT GENERATION COMPANY, LLC (Comanche Peak Nuclear Power Plant, Units 3 and 4)	Docket Nos. 52-034-COL 52-035-COL
NEXTERA ENERGY SEABROOK, LLC (Seabrook Station, Unit 1)	Docket No. 50-443-LR
NUCLEAR INNOVATION NORTH AMERICA LLC (South Texas Project, Units 3 and 4)	Docket Nos. 52-012-COL 52-013-COL
PACIFIC GAS AND ELECTRIC COMPANY (Diablo Canyon Nuclear Power Plant, Units 1 and 2)	Docket Nos. 50-275-LR 50-323-LR
PROGRESS ENERGY FLORIDA, INC. (Levy County Nuclear Power Plant, Units 1 and 2)	Docket Nos. 52-029-COL 52-030-COL
STP NUCLEAR OPERATING COMPANY (South Texas Project, Units 1 and 2)	Docket Nos. 50-498-LR 50-499-LR
TENNESSEE VALLEY AUTHORITY (Bellefonte Nuclear Power Plant, Units 3 and 4)	Docket Nos. 52-014-COL 52-015-COL
TENNESSEE VALLEY AUTHORITY (Sequoyah Nuclear Plant, Units 1 and 2)	Docket Nos. 50-327-LR 50-328-LR
TENNESSEE VALLEY AUTHORITY (Watts Bar Nuclear Plant, Unit 2)	Docket No. 50-391-OL
UNION ELECTRIC COMPANY (Callaway Plant, Unit 1)	Docket No. 50-483-LR

**VIRGINIA ELECTRIC AND  
POWER COMPANY  
d/b/a DOMINION VIRGINIA  
POWER and OLD DOMINION  
ELECTRIC COOPERATIVE  
(North Anna Power Station,  
Unit 3)**

**Docket No. 52-017-COL**

**February 26, 2015**

**ATOMIC ENERGY ACT: CONTINUED STORAGE RULE;  
LICENSING; NUCLEAR REGULATORY COMMISSION  
AUTHORITY**

The Commission is not required, under the Atomic Energy Act of 1954, as amended, to make predictive findings regarding the technical feasibility of spent fuel disposal as part of its reactor licensing decisions.

**MEMORANDUM AND ORDER**

Several environmental organizations in the captioned matters (collectively, Petitioners) have requested that we suspend final reactor licensing decisions pending our issuance of a “waste confidence safety decision.”<sup>1</sup> Petitioners also have submitted companion filings proposing a new or amended waste confidence safety contention, together with related procedural motions to reopen the record in several of the captioned proceedings.<sup>2</sup> For the reasons set forth below, we deny

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<sup>1</sup> See, e.g., Petition to Suspend Final Decisions in All Pending Reactor Licensing Proceedings Pending Issuance of Waste Confidence Safety Findings (Sept. 29, 2014) (errata Oct. 1, 2014; amended and corrected petition Oct. 6, 2014 (Petition). Citations to the Petition in today’s decision will reference the corrected Petition filed in the *Callaway* license renewal matter. A full list of the filings associated with this decision is set forth in the Appendix.

<sup>2</sup> See, e.g., Missouri Coalition for the Environment’s Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Relicensing Proceeding at Callaway 1 Nuclear Power Plant (Sept. 29, 2014) (Motion; filed in the Callaway license renewal docket). In some proceedings, petitioners also filed motions to reopen the record. See, e.g., Motion to Reopen the Record for Callaway Nuclear Power Plant (Sept. 29, 2014) (Motion to Reopen; filed in the Callaway license renewal docket). Intervenors in the *Levy County* combined license proceeding filed a motion to reopen, but subsequently withdrew their motion. See Intervenors’ Unopposed Motion to Withdraw Their Motion to Reopen the Record (Oct. 2, 2014); Order (Dismissing Environmental Waste Confidence Contention) (Oct. 1, 2014) (unpublished). With the withdrawal of this motion, nine motions to reopen remain pending before us. In the *Indian Point* license renewal proceeding,  
(Continued)



the suspension petitions, decline to admit the related contention, and deny the motions to reopen.

Petitioners primarily assert that the Atomic Energy Act of 1954, as amended (the Act), requires the NRC, as a precondition to issuing or renewing operating licenses for nuclear power plants, to make definitive findings concerning the technical feasibility of a repository for the disposal of spent nuclear fuel. We rejected a nearly identical argument in 1977 and, though much of the regulatory framework has changed in the intervening years, our reading of the Act has not.<sup>3</sup>

Our conclusion that a suspension is not warranted finds support not only in our interpretation of the Act itself, but also in the regulatory authority that Congress has provided to the agency to protect public health and safety. Indeed, our confidence in the safety and technical feasibility of systems for the storage and disposal of spent fuel has only increased since the late 1970s, as demonstrated by our expanded regulatory scheme and the ongoing licensing of such systems, as well as the efforts that are under way — both in the United States and abroad — to develop repositories for the disposal of spent fuel. Thus, today we not only address Petitioners' concerns, but we also take the opportunity to confirm the continued validity of our determinations regarding the technical feasibility of safe spent fuel storage and ultimate disposal in a repository.

## I. BACKGROUND

Recently, we approved a final rule and generic environmental impact statement, issued in accordance with the National Environmental Policy Act (NEPA) and the Administrative Procedure Act, to address the environmental impacts associated with the storage of spent nuclear fuel after the end of a reactor's license term (the Continued Storage Rule).<sup>4</sup> Following the publication of the Continued Storage Rule and supporting generic environmental impact statement (Continued Storage

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Riverkeeper filed a substantively identical suspension petition together with a motion transmitting a new contention a few days after the initial suspension petitions were filed. Petition to Suspend Final Decision in Indian Point Relicensing Proceeding Pending Issuance of Waste Confidence Safety Findings (Oct. 3, 2014); Riverkeeper Consolidated Motion for Leave to File a New Contention and New Contention RK-10 Concerning the Absence of Required Waste Confidence Safety Findings (Oct. 3, 2014).

<sup>3</sup> See Natural Resources Defense Council, Denial of Petition for Rulemaking, 42 Fed. Reg. 34,391, 34,393 (July 5, 1977), *aff'd*, *Natural Resources Defense Council, Inc. v. NRC*, 582 F.2d 166 (2d Cir. 1978) (NRDC PRM Denial).

<sup>4</sup> Final Rule: "Continued Storage of Spent Nuclear Fuel," 79 Fed. Reg. 56,238 (Sept. 19, 2014) (Continued Storage Rule); NUREG-2157, "Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel," Vols. 1 & 2 (Sept. 2014) (ADAMS Accession Nos. ML14196A105 and ML14196A107) (Continued Storage GEIS).

GEIS), Petitioners filed substantively identical petitions to suspend final licensing decisions, related motions requesting the admission of new — or, in one instance, amended — contentions in the captioned matters, and, in several proceedings, motions to reopen the proceedings to consider the proposed contentions.<sup>5</sup>

Exercising our inherent supervisory authority over agency proceedings, we took review of the petitions and motions ourselves and set a briefing schedule.<sup>6</sup> All answers oppose the suspension petitions and admission of the accompanying contention.<sup>7</sup> Petitioners filed a consolidated reply.<sup>8</sup>

Petitioners claim that we cannot satisfy our statutory responsibilities under the Atomic Energy Act and that we no longer have a lawful basis for issuing initial and renewed licenses for nuclear power reactors.<sup>9</sup> They assert that we must, therefore, suspend final licensing decisions unless and until we make a “safety finding” associated with disposal.<sup>10</sup> Petitioners ask us to admit the following contention:

The NRC lacks a lawful basis under the Atomic Energy Act . . . for issuing or renewing an operating license in this proceeding because it has not made currently valid findings of confidence or reasonable assurance that the hundreds of tons of highly radioactive spent fuel that will be generated during any reactor’s 40-year license term or 20-year license renewal term can be safely disposed of in a repository. The NRC must make these predictive safety findings in every reactor

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<sup>5</sup> See, e.g., Petition, and Motion to Reopen.

<sup>6</sup> CLI-14-9, 80 NRC 147 (2014).

<sup>7</sup> See, e.g., NRC Staff Consolidated Answer to Petitions to Suspend Final Reactor Licensing Decisions, Motions to Admit a New Contention, and Motions to Reopen the Record (Oct. 31, 2014); Entergy’s Combined Answer to Riverkeeper’s Proposed New Contention RK-10 and Petition to Suspend Final License Renewal Decision Pending Issuance of Waste Confidence “Safety” Findings (Oct. 31, 2014); Tennessee Valley Authority’s Answer Opposing Petition to Suspend Final Decisions in All Pending Reactor Licensing Proceedings Pending Issuance of Waste Confidence Safety Findings and Motions for Leave to File New Contention (Oct. 31, 2014); Tennessee Valley Authority’s Answer to Motion to Reopen the Record for Sequoyah Nuclear Power Plant and Motion to Reopen the Record for Bellefonte Nuclear Power Plant (Oct. 31, 2014) (TVA Answer to Motions to Reopen).

<sup>8</sup> Petitioners’ and Intervenors’ Consolidated Reply to Answers to Petitions to Suspend Final Reactor Licensing Decisions, Motions to Admit a New Contention, and Motions to Reopen the Record (Nov. 7, 2014) (Reply). In addition, the Nuclear Energy Institute filed an unopposed motion for leave to file a brief *amicus curiae* opposing the Petition. Nuclear Energy Institute, Inc.’s Motion for Leave to File Amicus Curiae Brief (Oct. 31, 2014); Amicus Curiae Brief of the Nuclear Energy Institute, Inc. in Response to Suspension Petitions and Waste Confidence Safety Contentions (Oct. 31, 2014). Our rule governing *amicus curiae* participation does not contemplate a brief under the current circumstances. See 10 C.F.R. § 2.315(d) (providing for *amicus* filings at our discretion under 10 C.F.R. § 2.341 or *sua sponte*). We, nonetheless, have considered the Nuclear Energy Institute’s views as a matter of discretion. See, e.g., *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-13-9, 78 NRC 551, 556 n.17 (2013).

<sup>9</sup> See, e.g., Motion at 3.

<sup>10</sup> See, e.g., Petition at 8 (unnumbered).

licensing decision in order to fulfill its statutory obligation under the [Act] to protect public health and safety from the risks posed by irradiated reactor fuel generated during the reactor's license term.<sup>11</sup>

Petitioners' contention, which comes on the heels of our issuance of the Continued Storage Rule, relies in large part on the fact that, unlike prior versions of the Rule, the Continued Storage Rule is no longer supported by specific "findings" concerning, among other things, reasonable assurance of the feasibility of a repository. To provide a more complete understanding of the context of Petitioners' argument, we provide a brief history of our "waste confidence" proceedings.<sup>12</sup>

In 1976, the Natural Resources Defense Council (NRDC) filed a petition requesting that we conduct a rulemaking to determine whether spent fuel "can be generated in nuclear power reactors and subsequently disposed of without undue risk to the public health and safety."<sup>13</sup> NRDC argued that, without this determination, we should refrain from making final decisions on "pending or future requests for operating licenses."<sup>14</sup> We denied NRDC's petition and found that, as a matter of statutory interpretation, the Atomic Energy Act did not require us to make the requested finding.<sup>15</sup> In the denial, we noted the NRC's obligations with respect to spent fuel storage and disposal at the time of a reactor licensing decision. Specifically, we explained that, at the time a license is issued, we must "be assured that the wastes generated by licensed power reactors can be safely handled and stored as they are generated."<sup>16</sup> As part of the reactor licensing process, we noted, an applicant must submit information to allow the NRC to "assure that the design provides for safe methods for interim storage of spent nuclear fuel."<sup>17</sup> Given the focus during the licensing process on the safety of licensed operations, we determined that the text of the Atomic Energy Act (combined with Congress's understanding of the state of the development of a repository) did not require us to make, as a precondition to licensing, an express

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<sup>11</sup> Motion at 3-4 (citations omitted).

<sup>12</sup> A complete history of the prior waste confidence proceedings can be found in Chapter 1 of the Continued Storage GEIS.

<sup>13</sup> NRDC PRM Denial, 42 Fed. Reg. at 34,391.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> *Id.* Today, this assurance is demonstrated by compliance with our regulations that govern the safe storage of spent fuel. *See, e.g.*, Domestic Licensing of Production and Utilization Facilities, 10 C.F.R. Part 50 (2014) and General License for Storage of Spent Fuel at Power Reactor Sites, 10 C.F.R. Part 72, Subpart K (2014), which grants a general license to all Part 50 and Part 52 reactor licensees to store spent fuel in an independent spent fuel storage installation.

<sup>17</sup> NRDC PRM Denial, 42 Fed. Reg. at 34,391.

determination that spent fuel generated during operation could be disposed of safely.<sup>18</sup>

The denial also included a separate statement of policy.<sup>19</sup> In that discussion, which Petitioners reference throughout their filings, we stated that we would not continue to license reactors if we “did not have reasonable confidence that . . . [spent fuel] can and will in due course be disposed of safely.”<sup>20</sup> We explained that our “implicit” finding that methods of safe permanent storage were available could be “readily distinguished” from the type of safety findings that the agency is called upon to make during the course of reactor licensing under the Atomic Energy Act and that any finding in this regard “would not have to be a definitive conclusion that permanent disposal of high-level wastes can be accomplished safely at the present time.”<sup>21</sup>

NRDC sought judicial review of the petition denial. The Court of Appeals for the Second Circuit affirmed the denial and endorsed our conclusion that the Atomic Energy Act does not, as a prerequisite to licensing, require a finding of reasonable assurance that “highly hazardous and long-lived radioactive materials can be disposed of safely.”<sup>22</sup> The court concluded that, by seeking to require an express finding concerning safe disposal prior to licensing, “NRDC simply reads too much into the [Atomic Energy Act] . . . . We are satisfied that Congress did not intend such a condition.”<sup>23</sup>

In addition to recognizing that the text of the Atomic Energy Act does not mandate such a specific finding, the court relied on Congress’s decades-long tacit approval of nuclear power plant licensing even in the absence of a disposal site.<sup>24</sup> Further, the court explained, if NRDC’s view of the Atomic Energy Act were correct, it would be “incredible that AEC and its successor NRC would have been violating the [Act] for almost twenty years with no criticism or statutory amendment by Congress, which has been kept well informed of [disposal] developments.”<sup>25</sup> Accordingly, the court quoted favorably that it was “fair to read this history as a *[d]e facto* acquiescence in and ratification of the Commission’s licensing procedure by Congress.”<sup>26</sup>

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<sup>18</sup> *Id.* at 34,391-93.

<sup>19</sup> *Id.* at 34,393-94.

<sup>20</sup> *Id.* at 34,393.

<sup>21</sup> *Id.*

<sup>22</sup> *NRDC*, 582 F.2d at 171.

<sup>23</sup> *Id.*

<sup>24</sup> *Id.* at 173-74. The court found Congress’s silence in the face of ongoing reactor licensing “deafening.” *Id.* at 171.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* at 172 (quoting *Power Reactor Development Co. v. International Union of Electrical, Radio & Machine Workers*, 367 U.S. 396, 409 (1961)).

The court did not rest its decision solely on the legislative history of the Act or on tacit congressional approval of reactor licensing absent safety findings for a repository. “[I]f there were any doubt over the intent of Congress” not to require a safety finding on spent fuel disposal, explained the court, it was “persuaded that the matter was laid to rest by enactment of the Energy Reorganization Act of 1974.”<sup>27</sup> The court noted that, in that act, “Congress expressly recognized and impliedly approved NRC’s regulatory scheme and practice under which the safety of interim storage of [spent fuel] at commercial nuclear power reactor sites has been determined separately from the safety of . . . permanent storage facilities which have not, as yet, been established.”<sup>28</sup> Since the passage of the Energy Reorganization Act of 1974 as well as the Second Circuit’s decision in *NRDC v. NRC*, Congress has had numerous opportunities to consider our interpretation of the Atomic Energy Act with respect to a disposal safety finding at the time of reactor licensing. But in each case, Congress has left intact both this agency’s and the court’s interpretation.<sup>29</sup>

Since 1984, we have completed four rulemaking proceedings that analyzed the environmental impacts of the continued storage of spent fuel after the end of a reactor’s license term (the “waste confidence” and “continued storage” proceedings).<sup>30</sup> The first rulemaking, the 1984 waste confidence proceeding, was prompted by a remand from the Court of Appeals for the District of Columbia Circuit in *Minnesota v. NRC*.<sup>31</sup> In that case, the petitioners challenged the NRC’s approval of amendments to the Prairie Island and Vermont Yankee nuclear power plant operating licenses to allow for the use of higher-density spent-fuel-storage racks in the reactors’ spent fuel pools.<sup>32</sup> The court observed that the Second Circuit

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<sup>27</sup> *Id.* at 174 (citations omitted).

<sup>28</sup> *Id.* The court observed that, in considering passage of the 1974 legislation, Congress heard testimony from scientists and other representatives of groups “urg[ing] Congress, unsuccessfully, to halt further commercial power plant licensing pending resolution of the waste disposal issue.” *Id.* at 171 n.9, 174-75 (citations omitted).

<sup>29</sup> See, e.g., Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425, 96 Stat. 2201 (1982); Energy Policy Act of 2005, Pub. L. 109-58, 119 Stat. 594 (2005).

<sup>30</sup> Final Waste Confidence Decision, 49 Fed. Reg. 34,658 (Aug. 31, 1984) (1984 Waste Confidence Decision); Requirements for Licensee Actions Regarding the Disposition of Spent Fuel upon Expiration of Reactor Operating Licenses, 49 Fed. Reg. 34,688 (Aug. 31, 1984) (1984 Temporary Storage Rule); Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation, 55 Fed. Reg. 38,472 (Sept. 18, 1990) (1990 Temporary Storage Rule); Waste Confidence Decision Review, 55 Fed. Reg. 38,474 (Sept. 18, 1990) (1990 Waste Confidence Decision); Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation, 75 Fed. Reg. 81,032 (Dec. 23, 2010) (2010 Temporary Storage Rule); Waste Confidence Decision Update, 75 Fed. Reg. 81,037 (Dec. 23, 2010) (2010 Waste Confidence Decision); Continued Storage GEIS; and Continued Storage Rule.

<sup>31</sup> *Minnesota v. NRC*, 602 F.2d 412 (D.C. Cir. 1979).

<sup>32</sup> *Id.* at 412.

had recently ruled in *NRDC v. NRC* that “Congress did not intend in enacting the Atomic Energy Act to require a demonstration that nuclear wastes could safely be disposed of before licensing of nuclear plants was permitted,” and it did not disagree with that result.<sup>33</sup> Referring to the language in the policy statement accompanying the denial of the petition for rulemaking, the court directed the NRC to determine “whether there is reasonable assurance that an off-site storage solution will be available by [the end of a reactor’s license term], and if not, whether there is reasonable assurance that the fuel can be stored safely at the sites beyond those dates.”<sup>34</sup>

In 1984, we published our first Waste Confidence Decision and Temporary Storage Rule. The Waste Confidence Decision included “findings,” expressed in terms of “reasonable assurance,” that, among other things, a repository was technically feasible, one could be open by 2007-2009, and the spent fuel could be safely stored for 30 years after the end of a reactor’s license term.<sup>35</sup> In 1990, we revisited the Decision and Temporary Storage Rule and updated the findings to reflect a new expected date for a repository to become available (“the first quarter of the twenty-first century”) and to include a 30-year license renewal term in our safe-storage analysis.<sup>36</sup> In 2010, we issued another update that removed the anticipated date for repository availability (explaining instead that a repository would be available “when necessary”) and expanded the safe-storage analysis time frame from 30 years after the end of the reactor’s license term to 60 years after the end of the reactor’s license term.<sup>37</sup>

Several states, an Indian Tribe, and environmental organizations (some of whom are Petitioners here) filed suit before the Court of Appeals for the District of Columbia Circuit challenging the 2010 update to the Decision and Temporary Storage Rule. In 2012, in *New York v. NRC*, the court vacated and remanded the decision and rule, and found that we had not satisfied our obligations under NEPA with respect to three issues: (1) we did not consider the environmental impacts of a repository never becoming available; (2) our analysis of spent fuel

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<sup>33</sup> *Id.* at 417 (citing *NRDC*, 582 F.2d at 166).

<sup>34</sup> *Id.* at 418. In reaching this decision, the court recognized the long-term nature of the concerns associated with spent fuel storage and disposal when it declined to vacate the license amendments that were the subject of the case, noting that doing so “would effectively shut down the plants.” *Id.* Moreover, its decision was predicated on the context of the particular license amendments at issue — to allow high-density spent fuel storage; in fact, the court acknowledged the Second Circuit’s ruling in *NRDC v. NRC* and did not disagree with that result. *See id.* at 417.

<sup>35</sup> 1984 Waste Confidence Decision, 49 Fed. Reg. at 34,659-60; 1984 Temporary Storage Rule, 49 Fed. Reg. at 34,688.

<sup>36</sup> *See, e.g.*, 1990 Temporary Storage Rule, 55 Fed. Reg. at 38,473; 1990 Waste Confidence Decision, 55 Fed. Reg. at 38,503-04.

<sup>37</sup> *See, e.g.*, 2010 Temporary Storage Rule, 75 Fed. Reg. at 81,037; 2010 Waste Confidence Decision, 75 Fed. Reg. at 81,038.

pool leaks was not forward-looking; and (3) we had not sufficiently considered the consequences of spent fuel pool fires.<sup>38</sup> The court did not specifically address any issues arising under the Atomic Energy Act.

Following the court's decision in *New York*, we suspended all final decisions for licenses that relied on the Waste Confidence Decision and Temporary Storage Rule.<sup>39</sup> Shortly thereafter we directed the NRC Staff to prepare a generic environmental impact statement to support an updated rule and address the deficiencies that the court identified.<sup>40</sup> We approved the final Continued Storage GEIS and Rule, now known as the Continued Storage Rule, in September 2014.<sup>41</sup> Although it did not include the discrete findings made in the waste confidence proceedings, and although it did not express our conclusions in terms of "reasonable assurance," the Continued Storage GEIS contains a comprehensive discussion supporting our unqualified conclusion that both safe storage and disposal in a repository are technically feasible.<sup>42</sup>

Thus, while much has changed since we last addressed the specific issue raised in Petitioners' contention, much has stayed the same. In each of our waste confidence proceedings, as well as in the recently concluded continued storage proceeding, we determined that deep geologic disposal of spent nuclear fuel is technically feasible.<sup>43</sup> Similarly, throughout our rulemakings conducted over the past 30 years, neither we nor the courts have questioned our initial conclusion that the Atomic Energy Act does not require the explicit "reasonable assurance" finding requested by Petitioners. And of course, our licensing has proceeded on the basis of these well-settled premises.

## II. DISCUSSION

With this background in mind, we turn to the petitions at hand. Petitioners claim a deficiency in our ability to satisfy our basic licensing responsibilities under the Atomic Energy Act, which Petitioners believe results in the loss of

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<sup>38</sup> *New York v. NRC*, 681 F.3d 471, 473, 481-82 (D.C. Cir. 2012).

<sup>39</sup> *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63, 66-67 (2011).

<sup>40</sup> Staff Requirements — COMSECY-12-0016 — Approach for Addressing Policy Issues Resulting from Court Decision to Vacate Waste Confidence Decision and Rule (Sept. 6, 2012) (ADAMS Accession No. ML12250A032).

<sup>41</sup> Staff Requirements — Affirmation Session 10:00 a.m., Tuesday, August 26, 2014, Commissioners' Conference Room, One White Flint North, Rockville, Maryland (Open to Public Attendance) (Aug. 26, 2014) (ADAMS Accession No. ML14237A092).

<sup>42</sup> See generally Continued Storage GEIS, App. B.

<sup>43</sup> Compare 1984 Waste Confidence Decision, 49 Fed. Reg. at 34,659, with 1990 Temporary Storage Rule, 55 Fed. Reg. at 38,472, and with Continued Storage GEIS § B.2.1.

our “lawful basis for licensing or relicensing nuclear reactors.”<sup>44</sup> This claim is distinguishable from those raised in the suspension petitions that we have considered in recent years. Following the events of September 11, 2001, and again following the accident at Fukushima Dai-ichi, petitioners asserted that our actions were insufficient to satisfy our general obligation under the Atomic Energy Act to protect public health and safety.<sup>45</sup> Here, on the other hand, Petitioners claim that we have an obligation under the Atomic Energy Act to make explicit findings regarding the safety of spent fuel disposal as a prerequisite to our reactor licensing decisions.<sup>46</sup> As such, our usual framework for considering suspension requests is not applicable to the case at hand. Instead, exercising our inherent supervisory authority over agency proceedings, we consider Petitioners’ claims regarding the scope of our obligations under the Atomic Energy Act. As discussed below, we find Petitioners’ Atomic Energy Act claims to be without merit, and we therefore deny the petitions and the companion proposed contention and motions to reopen.<sup>47</sup>

Together with the Energy Reorganization Act of 1974, the Atomic Energy Act provides the basis for our authority to regulate the use of special nuclear material in facilities like nuclear power reactors.<sup>48</sup> We can issue nuclear power reactor licenses to applicants only upon a finding that “the utilization . . . of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public.”<sup>49</sup> An applicant

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<sup>44</sup> Reply at 11.

<sup>45</sup> See, e.g., *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-26, 54 NRC 376, 380 (2001); *Union Electric Co.* (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141, 151 (2011).

<sup>46</sup> Reply at 11. As Petitioners acknowledge, “the Petition is *not* a motion for a stay of the effectiveness of a decision pursuant to 10 C.F.R. § 2.342 or any other kind of request for equitable relief.” *Id.* (emphasis in original). See generally 10 C.F.R. § 2.342 (governing stays of the actions or decisions of a presiding officer pending filing of a petition for review).

<sup>47</sup> Because Petitioners’ Atomic Energy Act claim fails, they have not raised an issue material to findings that the NRC must make to support final decisions in the captioned matters and they are unable to satisfy our contention admissibility standards or meet the criteria to reopen a closed record. See 10 C.F.R. §§ 2.309(f)(1) and 2.326. We therefore decline to admit Petitioners’ proposed contention and deny their motions to reopen. Moreover, we deny as moot Blue Ridge Environmental Defense League’s motions to reopen in the *Sequoyah* and *Bellefonte* proceedings because those proceedings remain open. See TVA Answer to Motion to Reopen at 1.

<sup>48</sup> Atomic Energy Act of 1954, 42 U.S.C. §§ 2011-2297h-13 (2012) and Energy Reorganization Act of 1974, 42 U.S.C. §§ 5801-5891 (2012).

<sup>49</sup> Atomic Energy Act § 182a, 42 U.S.C. § 2232 (2012).

As we noted in the Continued Storage GEIS, Congress “authorized and directed the NRC to issue regulations establishing requirements for providing adequate protection to public health and safety and common defense and security (see Atomic Energy Act [§] 161b) . . . [U]nder current law, the  
(Continued)



demonstrates its ability to meet these standards, and thus its entitlement to a license, by submitting a license application that satisfies our licensing criteria.<sup>50</sup> If a power reactor license applicant is unable to meet our regulatory requirements or if we find that the proposed use of special nuclear material will not be in accord with the common defense and security or will not provide adequate protection of public health and safety, then we will not issue a license.<sup>51</sup>

Petitioners argue that part of this analysis must include a “safety” or “waste confidence” finding regarding the technical feasibility of a deep geologic repository for the disposal of spent fuel generated at nuclear power plants.<sup>52</sup> Petitioners contend that without such a finding we are unable to make the required finding of adequate protection under the Atomic Energy Act and must, therefore, refrain from issuing licenses until this finding is made.<sup>53</sup> Further, Petitioners argue, this safety finding must be supported by a separate NEPA analysis of the environmental impacts of spent fuel disposal — either in the form of an environmental impact statement or an environmental assessment.<sup>54</sup>

#### **A. Petitioners’ Atomic Energy Act Claims**

Petitioners argue that the NRC’s historic practice, the plain language of the Atomic Energy Act, and relevant case law support their claims. We disagree. At no time have we, Congress, or the courts articulated the view that the Atomic Energy Act requires a “finding” or “predictive safety findings” regarding the disposal of spent fuel in a repository as a prerequisite to issuing a nuclear reactor license. We see no reason to alter our long-standing interpretation of the Atomic Energy Act.

Our interpretation of the agency’s obligations under the Atomic Energy Act with respect to spent fuel disposal began with our 1977 denial of NRDC’s petition for rulemaking.<sup>55</sup> We found then that the Atomic Energy Act does not require us

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NRC will issue a nuclear power plant or materials license (including a license authorizing storage of spent fuel) when the NRC determines that a license applicant has met the NRC’s regulatory standards for issuance of a license, addressing adequate protection of public health and safety and common defense and security, and the NRC has no reason to doubt that issuance of the license would provide adequate protection.” Continued Storage GEIS § 1.6.2.1.

<sup>50</sup> See, e.g., 10 C.F.R. Parts 50, 52, and 54.

<sup>51</sup> See, e.g., *Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1007 (1973) (“Unless the safety findings prescribed by the Atomic Energy Act and the regulations can be made, the reactor does not obtain a license — no matter how badly it is needed.”).

<sup>52</sup> Motion at 3-4.

<sup>53</sup> Petition at 2-3 (unnumbered).

<sup>54</sup> Motion to Reopen at 4. Among other things, Petitioners argue that this NEPA analysis must consider the costs of spent fuel storage and disposal. *Id.*

<sup>55</sup> NRDC PRM Denial, 42 Fed. Reg. at 34,391-92.

to make a finding regarding spent fuel disposal as part of our reactor licensing decisions.<sup>56</sup> And the Second Circuit endorsed our construction of the Act:

[W]e hold that NRC is not required to conduct the rulemaking proceeding requested by NRDC or to withhold action on pending or future applications for nuclear power reactor operating licenses until it makes a determination that high-level radioactive wastes can be permanently disposed of safely.<sup>57</sup>

Both our denial of the petition for rulemaking and the court’s affirmance of this decision were grounded in the language of Atomic Energy Act sections 103, 161, and 182 — the very sections relied upon here by Petitioners. As the court expressly concluded in *NRDC*, we find that Petitioners read “too much into the [Act].”<sup>58</sup>

Section 103d prohibits the agency from issuing a license if doing so “would be inimical to the common defense and security or the health and safety of the public.”<sup>59</sup> Petitioners claim that the “plain language” of this section conflicts with the interpretation of the Atomic Energy Act that we adopted in the denial of NRDC’s petition for rulemaking. Specifically, they take issue with our conclusion that “the statutory findings required by section 103 apply specifically to the ‘proposed activities’ and ‘activities under such licenses’” but do not apply to disposal activities that might result from the operation of a licensed facility.<sup>60</sup> Section 103 does not contemplate consideration of spent fuel disposal in the NRC’s licensing decisions, and we decline to infer from Congress’s silence an affirmative obligation to the contrary.<sup>61</sup>

The same is true of the other Atomic Energy Act provisions upon which Petitioners rely. Section 161 establishes the general scope of the NRC’s authority, yet nowhere does it discuss spent fuel disposal.<sup>62</sup> Similarly, section 182 specifies

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<sup>56</sup> *Id.*

<sup>57</sup> *NRDC*, 582 F.2d at 175.

<sup>58</sup> *Id.* at 171.

<sup>59</sup> Atomic Energy Act, § 103, 42 U.S.C. § 2133 (2012).

<sup>60</sup> Motion at 6-7; NRDC PRM Denial, 42 Fed. Reg. at 34,391.

<sup>61</sup> See *NRDC*, 582 F.2d at 170-71. Petitioners also rely on the concurring opinion of Judge Tamm from *Minnesota v. NRC*. In his concurrence, Judge Tamm noted his “belief that section 102(2)(C) of [NEPA] and section 103(d) [of the Act] . . . mandate the determination that the Commission identified in” the NRDC PRM Denial. *Minnesota*, 602 F.2d at 419 (Tamm, J., concurring). But the majority did not express this view, and a concurring opinion, by its nature, does not carry the force of law, except in very narrow circumstances not applicable here. See generally *United States v. Duvall*, 740 F.3d 604, 605 (D.C. Cir. 2013). Had a majority of the Court in *Minnesota* agreed with Judge Tamm’s expansive view of our Atomic Energy Act obligations, these views would have been reflected in the majority opinion.

<sup>62</sup> Atomic Energy Act, § 161, 42 U.S.C. § 2201 (2012).

the information that must be provided by an applicant for a license with no reference to spent fuel disposal.<sup>63</sup> Thus, the text of the Atomic Energy Act does not compel the conclusion that we are required to include “findings” regarding spent fuel disposal in our reactor licensing decisions, and we decline to interpret it otherwise. And, in light of our interpretation, the related NRC regulations do not require information about the eventual disposal of the spent fuel that would be generated by the reactor.<sup>64</sup>

Moreover, as the Second Circuit explained in *NRDC*, the conclusion that the Atomic Energy Act does not require “safety findings” is further supported by the legislative history of the Act and subsequent congressional action. For example, in 1959, Congress held hearings regarding the disposal of spent nuclear fuel and, at that time, Congress “was made aware of the fact that the problem of permanent disposal of high-level waste had not been solved.”<sup>65</sup> But Congress did not restrict or modify the NRC’s licensing authority. Further, Congress later approved a continuation of the licensing approach in the Atomic Energy Act when it transferred the licensing functions of the Atomic Energy Commission to us via the Energy Reorganization Act of 1974.<sup>66</sup> Had Congress believed that our licensing activities required the finding sought by Petitioners, it could have enacted legislation consistent with this understanding at any time between 1954 and today.<sup>67</sup> That Congress has maintained this course despite our rejection of *NRDC*’s interpretation of the Atomic Energy Act in the denial of the petition for rulemaking, the Second Circuit’s endorsement of our construction of the Act in *NRDC*, and the numerous opportunities for legislative clarification provides further confirmation of the propriety of our interpretation of the Act.<sup>68</sup>

Petitioners rely heavily upon our statement, expressed as part of the policy discussion included in the denial of *NRDC*’s petition for rulemaking, that we would not continue to license reactors if we “did not have reasonable confidence that . . . [spent fuel] can and will in due course be disposed of safely.”<sup>69</sup> They assert that this statement should guide our interpretation of the Act and that any

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<sup>63</sup> Atomic Energy Act, § 182, 42 U.S.C. § 2232 (2012).

<sup>64</sup> *See, e.g., id.*; 10 C.F.R. Parts 50, 52, and 54 (2014).

<sup>65</sup> *NRDC PRM Denial*, 42 Fed. Reg. at 34,392 (citing “Industrial Radioactive Waste Disposal,” Hearings Before the JCAE Special Subcommittee on Radiation, Jan. 29-30, Feb. 2-3, and July 29, 1959, 86th Cong., 1st Sess. (1959)).

<sup>66</sup> Energy Reorganization Act of 1974, Pub. L. 93-438, 88 Stat. 1233 (1974).

<sup>67</sup> *See, e.g.*, Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425, 96 Stat. 2201 (1982); Energy Policy Act of 2005, Pub. L. 109-58, 119 Stat. 594 (2005).

<sup>68</sup> Indeed, in recent years, numerous congressional hearings over the funding of the Yucca Mountain repository have highlighted the absence of a national consensus on siting a repository.

<sup>69</sup> *NRDC PRM Denial*, 42 Fed. Reg. at 34,393.

acquiescence by Congress in our interpretation was conditioned on its existence.<sup>70</sup> But in the NRDC PRM Denial we expressly distinguished findings of the kind contemplated by the Atomic Energy Act and the NRC's licensing regulations from the more generalized conclusion in the policy statement.<sup>71</sup> As we explained at the time:

Even if, contrary to the Commission's view, some kind of prior finding on waste disposal safety were required under the statutory scheme, such a finding would not have to be a definitive conclusion that permanent disposal of high-level wastes can be accomplished safely at the present time. There is no question that prior to authorizing operation of a reactor the Commission must find pursuant to section 182 that hazards which become fully mature with start-up will be dealt with safely from the beginning. *But the quality of this reactor safety finding can be readily distinguished from the quality of findings regarding impacts on public health and safety which will not mature until much later, if ever.* The hazards associated with permanent disposal will become acute only at some relatively distant time when it might be no longer feasible to store radioactive wastes in facilities subject to surveillance.<sup>72</sup>

It was only after this discussion that we added: "The Commission would not continue to license reactors if it did not have reasonable confidence that the wastes can and will in due course be disposed of safely."<sup>73</sup> Moreover, we pointed out that the program for siting and developing a geologic repository was not within the NRC's statutory responsibilities under the Atomic Energy Act, another reason rendering an explicit safety finding on spent fuel disposal inappropriate.<sup>74</sup>

When considered within the context of our denial of the petition for rulemaking, it is clear that the statement at issue was nothing more than what it purported to be: a statement of our policy regarding the licensing of nuclear power plants and our confidence in the availability of a disposal solution.<sup>75</sup> This policy has always existed independent of our legal conclusion that no obligation exists under the Atomic Energy Act to make predictive findings regarding spent fuel disposal as part of our reactor licensing decisions.

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<sup>70</sup> See, e.g., Reply at 7.

<sup>71</sup> NRDC PRM Denial, 42 Fed. Reg. at 34,393.

<sup>72</sup> *Id.* (emphasis added).

<sup>73</sup> *Id.*

<sup>74</sup> In this regard, we observed that the Energy Research and Development Administration (the Department of Energy's predecessor agency) was responsible for the development of a high-level waste repository; the NRC's statutory responsibilities "to insure that permanent disposal of high-level radioactive wastes will be accomplished safely" were, and still are, limited to licensing the repository. *Id.*

<sup>75</sup> *Id.*

Petitioners also misapprehend the relevant case law. Specifically, Petitioners misread the Second Circuit’s opinion in *NRDC v. NRC*, the only court decision to have directly addressed the issue. Overlooking the express holding that endorsed our interpretation of the Act,<sup>76</sup> Petitioners instead quote the court’s characterization of our policy and practice: “[The] NRC maintains that . . . its long-continued regulatory practice of issuing operating licenses, with an implied finding of reasonable assurance that safe permanent disposal of [spent nuclear fuel] can be available when needed, is in accord with the intent of Congress underlying the [Atomic Energy Act] and [Energy Reorganization Act].”<sup>77</sup> But that description neither constitutes the court’s holding nor reflects an admission concerning our interpretation of our statutory obligations. Rather, it reflects our view that our practice was consistent with the conclusion that a specific finding of repository feasibility was not a prerequisite under the Atomic Energy Act to reactor licensing. And the court agreed: “Congress expressly recognized and impliedly approved NRC’s regulatory scheme and practice under which the safety of interim storage of high-level wastes at commercial nuclear power reactor sites has been determined separately from the safety of Government-owned permanent storage [disposal] facilities which have not, as yet, been established.”<sup>78</sup>

Petitioners also rely on two subsequent decisions by the D.C. Circuit, *New York v. NRC* and *Minnesota v. NRC*. But in neither of these cases did the court find a statutory obligation on the part of the NRC to prepare “waste confidence” safety findings prior to or as part of our reactor licensing decisions. In *New York*, the court did not consider Atomic Energy Act issues. Instead, the remand was based solely on the court’s finding that we did not satisfy our obligations under NEPA.<sup>79</sup>

In *Minnesota*, the court remanded for our consideration the question “whether there is reasonable assurance that an off-site storage solution will be available by . . . the expiration of the plants’ operating licenses, and if not, whether there is reasonable assurance that the [spent] fuel can be stored safely at the sites beyond those dates.”<sup>80</sup> Further, as distinct from the concurrence, the court majority refrained from identifying an obligation to make findings under the Atomic Energy Act. In that regard, the court expressly declined to “set aside or

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<sup>76</sup>*NRDC*, 582 F.2d at 175 (“[W]e hold that NRC is not required to conduct the rulemaking proceeding requested by NRDC or to withhold action on pending or future applications for nuclear power reactor operating licenses until it makes a determination that high-level radioactive wastes can be permanently disposed of safely.”).

<sup>77</sup>*Id.* at 170.

<sup>78</sup>*Id.* at 174.

<sup>79</sup>*New York*, 681 F.3d at 471, 483.

<sup>80</sup>*Minnesota*, 602 F.2d at 418.

stay the challenged license amendments,”<sup>81</sup> thus confirming that the court did not view the amendments to be contingent upon any additional safety determination under the Atomic Energy Act.

To be sure, our “findings” in the initial waste confidence proceeding likely caused some confusion. We understand that because of how they were framed, they could have been, and likely were, interpreted by some as safety findings made under and compelled by the Atomic Energy Act. That we responded to the *Minnesota* remand as we did, however, does not mean that the particular form of our response was compelled by the Atomic Energy Act. Rather, the formal “findings” in the initial waste confidence proceeding resulted from our use of a hybrid rulemaking proceeding, which combined elements of a formal “on the record” proceeding with the more common “notice and comment” rulemaking widely used today.<sup>82</sup> Formal rulemakings often result in “findings,” such as the ones we made in our first waste confidence proceeding.<sup>83</sup> Moreover, that approach made sense at the time, which was long before our framework for regulating the safe storage and disposal of spent fuel had matured into its current state, and long before we had comprehensively evaluated the environmental impacts of the storage of spent nuclear fuel for an extended time frame — a task we now have completed in the Continued Storage GEIS.

Throughout their motions, Petitioners ascribe significance to our failure to use the term “reasonable assurance” to describe the extent of our consideration of the technical feasibility of disposal.<sup>84</sup> But as the technical agency entrusted by Congress to make determinations of this sort, we have concluded — without qualification — that a geologic repository is technically feasible.<sup>85</sup> As we acknowledged in the Continued Storage GEIS, the uncertainty in spent fuel disposal lies not with the technical feasibility of long-term storage and disposal, but with the political and societal factors that continue to delay the construction of a repository.<sup>86</sup> We recognized this uncertainty in the Continued Storage GEIS by analyzing the possibility that a repository will never become available.<sup>87</sup> Our decision today is consistent with our long-standing conclusion.

Finally, it bears repeating that our recently completed Continued Storage GEIS considers the issues raised by Petitioners. Many of the groups petitioning us now provided essentially identical comments as part of our recently completed

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<sup>81</sup> *Id.* at 413.

<sup>82</sup> *See* 1984 Waste Confidence Decision, 49 Fed. Reg. at 34,658-60.

<sup>83</sup> *See id.*

<sup>84</sup> *See, e.g.*, Reply at 9-10.

<sup>85</sup> Continued Storage GEIS § B.2.1.

<sup>86</sup> *Id.*

<sup>87</sup> *See, e.g., id.* § 1.8.2.

Continued Storage proceeding.<sup>88</sup> We responded to Petitioners' comments in the final GEIS and nothing has changed since then that would cause us to question the technical feasibility of disposal in a repository — safe geologic disposal is achievable with currently available technology.<sup>89</sup> Our analysis in the Continued Storage GEIS builds on decades of experience and multiple rulemaking proceedings.<sup>90</sup> Specifically, our conclusion finds support in ongoing research in the United States and abroad, along with the ability to characterize and quantitatively assess the capabilities of geologic and engineered barriers, experience gained from the Staff's review of the Department of Energy's construction authorization application for a repository at Yucca Mountain, disposal activities at the Waste Isolation Pilot Plant, and continued progress toward a repository in other countries.<sup>91</sup> Indeed, contrary to the situation that accompanied the issuance of the initial Waste Confidence Decision, our regulatory framework now includes specific standards and requirements for licensing the storage of spent fuel and, in the case of Yucca Mountain, standards for licensing a repository.<sup>92</sup>

Since we deny Petitioners' petition to suspend and related motions, we need not address the related NEPA issue raised in the motions.<sup>93</sup> Nevertheless, we do so to provide additional clarity regarding the scope of our NEPA responsibilities. NEPA requires us to consider the environmental impacts of major agency actions, such as the issuance of an initial or renewed nuclear power reactor license. In some cases, we have addressed environmental impacts generically.<sup>94</sup> The courts have consistently found generic analyses of the environmental impacts of continued storage and disposal in the context of our reactor licensing proceedings to be acceptable.<sup>95</sup>

Petitioners contend that their requested "safety decision" regarding the feasibility of a repository would constitute a federal action that would require us to prepare a separate NEPA analysis to support our conclusion that spent fuel dis-

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<sup>88</sup> See, e.g., Corrected comments of "Environmental Organizations on Draft Waste Confidence Generic Environmental Impact Statement and Proposed Waste Confidence Rule and Petition to Revise and Integrate All Safety and Environmental Regulations Related to Spent Fuel Storage and Disposal," at 14, 16 (Jan. 7, 2014) (ADAMS Accession No. ML14024A297).

<sup>89</sup> We responded to the concerns raised by Petitioners in Appendix D of the Continued Storage GEIS. See, e.g., Continued Storage GEIS §§ D.2.1.2, D.2.4.1, and B.2 (discussing the technical feasibility of disposal in a repository).

<sup>90</sup> *Id.* § B.2.

<sup>91</sup> See generally *id.* at B-2 to B-5.

<sup>92</sup> See, e.g., 10 C.F.R. Parts 60, 63, and 72.

<sup>93</sup> Motion at 12-14.

<sup>94</sup> See, e.g., NUREG-1437, Revision 1, Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants — Final Report (June 2013) (ADAMS Accession No. ML13107A023).

<sup>95</sup> See, e.g., *New York*, 681 F.3d at 480 (citing *Baltimore Gas & Electric Co. v. Natural Resources Defense Council, Inc.*, 462 U.S. 87, 100, 103 (1983)) and *Minnesota*, 602 F.2d at 416-17.

posal is technically feasible.<sup>96</sup> Petitioners further assert that this separate analysis was “required by the Court of Appeals in *New York*.”<sup>97</sup> We disagree. We find nothing in the court’s decision to support Petitioners’ assertion. Nonetheless, any finding we have made, whether express or implied, does not require its own environmental analysis; it is simply a confirmation of what Congress and the courts have previously understood — that we believe it is safe to proceed with reactor licensing because it is ultimately possible to dispose of spent nuclear fuel safely.<sup>98</sup> And of course, each reactor licensing decision will have to be made in light of the full panoply of reasonably foreseeable environmental impacts that can fairly be attributed to the proposed action.<sup>99</sup>

In light of the foregoing, we find that Petitioners have not demonstrated a legal basis for their contention. It follows that Petitioners have not stated a valid contention that satisfies our contention admissibility criteria in 10 C.F.R. § 2.309, nor have they satisfied the criteria to reopen a closed record in 10 C.F.R. § 2.326.<sup>100</sup>

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<sup>96</sup> Motion at 13.

<sup>97</sup> *Id.* at 14.

<sup>98</sup> In this vein, Petitioners misapprehend our statement in the Continued Storage GEIS that “in this GEIS and Rule, the NRC is not making a safety determination under the Atomic Energy Act . . . to allow for the continued storage of spent fuel. [The Atomic Energy Act] safety determinations would be made as part of individual licensing actions.” See Motion at 14 n.54 (citing Continued Storage GEIS at D-9). This commitment does not deviate from our long-held view that the [Act] does not require findings regarding spent fuel disposal at the time of reactor or storage facility licensing. We intended only to correct the misimpression that safety findings for the purposes of making final licensing decisions were to be found in our NEPA rulemaking. We therefore noted that these safety findings would be made in future licensing actions as necessary — for example, in the licensing of spent fuel storage facilities after the end of a reactor’s license term. The Atomic Energy Act “safety determinations” to which we referred in the Continued Storage GEIS and Rule were not those that Petitioners claim to be required here for spent fuel disposal — they were our well-known determinations that are made as part of final licensing decisions. Continued Storage GEIS at D-9.

<sup>99</sup> Petitioners additionally argue that we must prepare a cost-benefit analysis that considers the “costs of spent fuel storage and disposal” as part of their requested NEPA analysis. Motion to Reopen at 4. In response to comments on the draft Continued Storage GEIS and Rule regarding the cost of continued storage, the Staff added additional information to the Continued Storage GEIS to ensure that NRC decisionmakers, applicants, licensees, and the public would have sufficient information to appropriately consider the costs of continued storage in NEPA analyses for future licensing actions. See generally Continued Storage GEIS, Ch. 2. Here, we need not expand upon the disclosure of cost information found in the GEIS. To the extent required by NEPA, the Staff will, as appropriate, consider the cost information contained in Chapter 2 of the GEIS as part of the cost-benefit analyses prepared in conjunction with NEPA reviews for individual licensing proceedings.

<sup>100</sup> Petitioners, Applicants, and the Staff present numerous arguments regarding the procedural propriety of the petition and motions now before us. Because we find that the suspension petition and new contention fail on the merits, and we consider — and take action on — the petition and motions in our supervisory capacity, we need not address these procedural issues. See, e.g., *Callaway*, CLI-11-5, 74 NRC at 158 n.65.



## **B. Additional Considerations Concerning the Issuance of Licenses**

For the reasons discussed above, we do not interpret the Atomic Energy Act to require us to make safety findings regarding the technical feasibility of a repository as a prerequisite to our reactor licensing decisions. We are nonetheless aware of the public's concerns about the safety issues associated with the waste generated by the facilities that we license. For this reason, we stress that our ongoing efforts to ensure adequate protection of the public health and safety are not circumscribed by a narrow conception of what the law requires or a stagnant approach to regulation. Accordingly, we set forth below the considerations that guide our analysis of these issues and our conclusion that licensing nuclear plants will not endanger the public health and safety.

As an initial matter, the disposal question is inextricably linked to the question of the technical feasibility of safe storage pending disposal. As we acknowledged in the Continued Storage GEIS, the time frames we considered, including one that contemplates indefinite storage, depend on the continued technical feasibility of safely storing spent fuel as it ages.<sup>101</sup> Our regulations, including those in 10 C.F.R. Parts 50, 52, and 72, establish stringent safety requirements that apply to the construction and operation of reactor spent fuel pools and independent spent fuel storage installations.<sup>102</sup> Even after the end of a reactor's license term, these storage facilities will continue to be subject to our regulations governing spent fuel storage, which ensure that these safety requirements remain in place for as long as the fuel is stored.<sup>103</sup> For example, 10 C.F.R. § 50.54(bb), which requires licensees to submit for NRC approval their plans to manage spent fuel after the permanent cessation of reactor operation; and 10 C.F.R. Part 50, Appendix A, Criterion 61, which requires that spent fuel storage systems be designed to assure adequate safety under normal and postulated accident conditions, directly relate to the safe storage of spent fuel after a reactor has stopped operating.

Spent fuel can be stored safely in spent fuel pools or independent spent fuel storage installations licensed under the Atomic Energy Act. Indeed, we recently concluded in our Continued Storage rulemaking that the indefinite storage of spent fuel in dry casks, if it becomes necessary, is technically feasible.<sup>104</sup> As reflected in the Continued Storage GEIS, several characteristics of dry cask storage systems

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<sup>101</sup> Continued Storage GEIS §§ B.2 and B.3.

<sup>102</sup> *See, e.g., id.* § D.2.4.1, at D-28 to D-32.

<sup>103</sup> *Id.*

<sup>104</sup> In accordance with the direction of the court of appeals, we analyzed a scenario where a repository never becomes available. *New York*, 681 F.3d at 479. As part of this analysis, we determined that it is technically feasible to store spent fuel indefinitely, should it become necessary to do so. Continued Storage GEIS § B.3.

ensure that these systems can safely store spent fuel; among others, these systems are massive, passive, and inherently robust.<sup>105</sup>

Further, our regulatory process is dynamic: we continue to revise and refine our regulatory regime as our technical knowledge and experience grow.<sup>106</sup> Thus, we rely both upon our ability to ensure that licensees conform to existing regulations and upon our comprehensive regulatory scheme that takes into account the length of time during which, and the conditions under which, the storage of spent fuel will occur. For example, in our waste confidence proceedings, we assessed the technical feasibility of geologic disposal, along with the continued storage of spent fuel pending the availability of a repository. As early as 1990, however, we recognized that the length of the continued storage period could be significantly longer than the specific time periods originally reflected in the Temporary Storage Rule.<sup>107</sup> But we did not examine the safety or environmental consequences of storing fuel for longer time frames because we assumed that the Department of Energy would have a deep geologic repository available within those time frames.<sup>108</sup> We revisited this assumption as a consequence of the remand in *New York v. NRC*, and we now have analyzed the impacts of spent fuel storage over much longer time frames.<sup>109</sup> We expect that our regulatory process will not be static and will continue to evolve in the future.

Disposal in a deep geologic repository remains the option that Congress has selected for addressing the problem of spent nuclear fuel, and we have neither a mandate nor a reason to question this determination. For the reasons stated in the Continued Storage GEIS, we believe that a geologic repository is technically feasible and that, with sufficient political and societal commitment, a repository can become available within 25-35 years.<sup>110</sup> But we have no crystal ball. We recognize, as we did in 1977, that the hazards associated with spent fuel could become acute at some distant time. We also recognize, as we must, that our statutory mission only confers upon us the authority to license, and not to construct, a permanent repository.<sup>111</sup> Thus, our statutory obligation to ensure

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<sup>105</sup> *Id.*

<sup>106</sup> See, e.g., Final Rule: “License and Certificate of Compliance Terms,” 76 Fed. Reg. 8873 (Feb. 16, 2011) (extending the maximum possible length of licenses issued under 10 C.F.R. Part 72 from 20 years to 40 years).

<sup>107</sup> In our 1990 Waste Confidence Decision, we noted that “[a]lthough the Commission does not dispute the statement that dry spent fuel storage is safe and environmentally acceptable for a period of 100 years, the Commission does not find it necessary to make that specific finding in this proceeding.” 1990 Waste Confidence Decision, 55 Fed. Reg. at 38,473.

<sup>108</sup> See *id.* at 38,482.

<sup>109</sup> See, e.g., Continued Storage GEIS, Chs. 4 and 5.

<sup>110</sup> *Id.* § B.2.

<sup>111</sup> The Nuclear Waste Policy Act assigned the responsibility for constructing and operating a  
(Continued)

the adequate protection of public health and safety encompasses an ongoing responsibility to regulate the continued storage of spent fuel, with or without a repository. Our long history with these issues (including our ability to adapt our regulatory processes based upon changing circumstances) continues to support our conclusion that safe, permanent disposal of spent nuclear fuel is technically feasible and that spent fuel can be safely stored until a repository is available, or indefinitely should such storage become necessary.

Congress has entrusted this agency to ensure adequate protection of public health and safety by granting us the authority to condition licenses and to enforce our regulations. In our view, licensing production and utilization facilities now and relying upon our overall regulatory regime to address both ongoing safe storage and the construction of a repository in the future do not constitute an abdication of our statutory obligations. Rather, we understand these actions to be precisely what Congress intended when it both authorized the NRC to issue licenses for nuclear power plants and granted the agency broad regulatory and enforcement authority to protect the public health and safety and common defense and security.

### III. CONCLUSION

In light of these considerations, and in light of our determination that the Atomic Energy Act does not require us to make the “waste confidence safety finding” that Petitioners propose, we decline to suspend final licensing decisions in the captioned proceedings. We therefore *deny* Petitioners’ suspension requests and *deny* Petitioners’ associated motions for leave to file new contentions and to reopen the record.

IT IS SO ORDERED.

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 26th day of February 2015.

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repository to the Department of Energy, not the NRC. *See, e.g.*, Nuclear Waste Policy Act of 1982, § 114, 42 U.S.C. § 10134 (2012).

## APPENDIX

### PETITIONS AND MOTIONS

1. Served in all captioned proceedings except *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3): Petition to Suspend Final Decisions in All Pending Reactor Licensing Proceedings Pending Issuance of Waste Confidence Safety Findings (Sept. 29, 2014); Errata to Petition to Suspend Final Decisions in All Pending Reactor Licensing Proceedings Pending Issuance of Waste Confidence Safety Findings (Oct. 1, 2014); and Petition to Suspend Final Decisions in All Pending Reactor Licensing Proceedings Pending Issuance of Waste Confidence Safety Findings — Amended and Corrected (Oct. 6, 2014).
2. *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3): Intervenor’s Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Combined Operating Licensing Proceeding for Fermi 3 Nuclear Power Plant (Sept. 29, 2014).
3. *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 2): Petitioners’ Motion for Leave to Amend and Supplement Contention 3 Concerning the Absence of Required Waste Confidence Safety Findings in the Relicensing Proceeding for Fermi 2 Nuclear Power Plant (Sept. 29, 2014).
4. *Duke Energy Carolinas, LLC* (William States Lee III Nuclear Station, Units 1 and 2): Petitioner’s Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Licensing Proceeding at William States Lee III Nuclear Power Plant (Sept. 29, 2014).
5. *Duke Energy Carolinas, LLC* (William States Lee III Nuclear Station, Units 1 and 2): Motion to Reopen the Record for William States Lee III Nuclear Power Plant (Sept. 29, 2014).
6. *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3): Petition to Suspend Final Decision in Indian Point Relicensing Proceeding Pending Issuance of Waste Confidence Safety Findings (Oct. 3, 2014).
7. *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3): Riverkeeper Consolidated Motion for Leave to File a New Contention and New Contention RK-10 Concerning the Absence of Required Waste Confidence Safety Findings (Oct. 3, 2014).
8. *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station,

Unit 1): Intervenors' Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Relicensing Proceeding for Davis-Besse Nuclear Power Station (Sept. 29, 2014).

9. *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7): Intervenors' Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Licensing Proceeding at Turkey Point Nuclear Power Plant (Sept. 29, 2014).
10. *Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4): Motion to Reopen the Record for Comanche Peak Units 3 & 4 Nuclear Power Plant (Sept. 29, 2014).
11. *Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4): Petitioners' Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Licensing Proceeding at Comanche Peak Units 3 & 4 (Sept. 29, 2014).
12. *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1): Shadis, Raymond, Friends of the Coast and New England Coalition, Letter to Administrative Judges (Sept. 29, 2014).
13. *Nuclear Innovation North America LLC* (South Texas Project, Units 3 and 4): Motion to Reopen the Record for South Texas Project 3 & 4 Nuclear Power Plant (Sept. 29, 2014).
14. *Nuclear Innovation North America LLC* (South Texas Project, Units 3 and 4): Petitioners' Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Licensing Proceeding at South Texas Project Units 3 & 4 Nuclear Power Plant (Sept. 29, 2014).
15. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2): San Luis Obispo Mothers for Peace Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings (Sept. 29, 2014).
16. *Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2): Ecology Party of Florida and Nuclear Information and Resource Services' Motion to Reopen the Record (Sept. 29, 2014).
17. *Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2): Ecology Party of Florida and Nuclear Information and Resource Services' Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings (Sept. 29, 2014).

18. *Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2): Intervenor's Unopposed Motion to Withdraw Their Motion to Reopen the Record (Oct. 2, 2014).
19. *STP Nuclear Operating Co.* (South Texas Project, Units 1 and 2): Motion to Reopen the Record for South Texas Project Units 1 & 2 Nuclear Power Plant (Sept. 29, 2014).
20. *STP Nuclear Operating Co.* (South Texas Project, Units 1 and 2): Petitioners' Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Relicensing Proceeding at South Texas Project Electric Generating Statio[sic] Units 1 and 2 (Sept. 29, 2014).
21. *Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4): Motion to Reopen the Record for Bellefonte Nuclear Power Plant (Sept. 29, 2014).
22. *Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4): Intervenor's Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Licensing Proceeding at Bellefonte Nuclear Power Plant (Sept. 29, 2014).
23. *Tennessee Valley Authority* (Sequoyah Nuclear Plant, Units 1 and 2): Motion to Reopen the Record for Sequoyah Nuclear Power Plant (Sept. 29, 2014).
24. *Tennessee Valley Authority* (Sequoyah Nuclear Plant, Units 1 and 2): Intervenor's Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Re-Licensing Proceeding at Sequoyah Nuclear Power Plant (Sept. 29, 2014).
25. *Tennessee Valley Authority* (Watts Bar Nuclear Plant, Unit 2): Southern Alliance for Clean Energy's Motion to Reopen the Record (Sept. 29, 2014).
26. *Tennessee Valley Authority* (Watts Bar Nuclear Plant, Unit 2): Southern Alliance for Clean Energy's Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings (Sept. 29, 2014).
27. *Union Electric Co.* (Callaway Plant, Unit 1): Motion to Reopen the Record for Callaway Nuclear Power Plant (Sept. 29, 2014).
28. *Union Electric Co.* (Callaway Plant, Unit 1): Missouri Coalition for the Environment's Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Relicensing Proceeding at Callaway 1 Nuclear Power Plant (Sept. 29, 2014).

29. *Virginia Electric and Power Co. d/b/a Dominion Virginia Power and Old Dominion Electric Cooperative* (North Anna Power Station, Unit 3): Motion to Reopen the Record for North Anna Nuclear Power Plant (Sept. 29, 2014).
30. *Virginia Electric and Power Co. d/b/a Dominion Virginia Power and Old Dominion Electric Cooperative* (North Anna Power Station, Unit 3): Petitioner's Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Licensing Proceeding at North Anna Nuclear Power Plant (Sept. 29, 2014).

### RESPONSIVE PLEADINGS

1. Served in all captioned proceedings: NRC Staff Consolidated Answer to Petitions to Suspend Final Reactor Licensing Decisions, Motions to Admit a New Contention, and Motions to Reopen the Record (Oct. 31, 2014).
2. Served in all captioned proceedings: Nuclear Energy Institute, Inc.'s Motion for Leave to File Amicus Curiae Brief; Amicus Curiae Brief of the Nuclear Energy Institute, Inc. in Response to Suspension Petitions and Waste Confidence Safety Contentions (Oct. 31, 2014).
3. Served in all captioned proceedings: Petitioners' and Intervenors' Consolidated Reply to Answers to Petitions to Suspend Final Reactor Licensing Decisions, Motions to Admit a New Contention, and Motions to Reopen the Record (Nov. 7, 2014).
4. *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3): Applicant's Opposition to Petition to Suspend Final Decisions and Proposed New Continued Storage Contention (Oct. 31, 2014).
5. *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 2): Applicant's Opposition to Petition to Suspend Final Decisions and Proposed New Continued Storage Contention (Oct. 31, 2014).
6. *Duke Energy Carolinas, LLC* (William States Lee III Nuclear Station, Units 1 and 2): Duke Energy's Answer Opposing Petition to Suspend Licensing Proceedings, Related Contention and Motion to Reopen (Oct. 31, 2014).
7. *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3): Entergy's Combined Answer to Riverkeeper's Proposed New Contention RK-10 and Petition to Suspend Final License Renewal Decision Pending Issuance of Waste Confidence "Safety" Findings (Oct. 31, 2014).
8. *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1): FirstEnergy Nuclear Operating Company Combined Response to

Proposed Contention and Petition to Suspend Related to Alleged Need for Issuance of Waste Confidence Safety Findings (Oct. 31, 2014).

9. *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7): FPL's Answer Opposing Petition to Suspend Licensing Proceedings and Related Contention (Oct. 31, 2014).
10. *Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4): Luminant Combined Response to Proposed Contention and Petition to Suspend Related to Alleged Need for Issuance of Waste Confidence Safety Findings (Oct. 31, 2014).
11. *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1): NextEra's Answer Opposing Petition to Suspend Licensing Proceedings (Oct. 31, 2014).
12. *Nuclear Innovation North America LLC* (South Texas Project, Units 3 and 4): Nuclear Innovation North America LLC Combined Response to Proposed Contention and Petition to Suspend Related to Alleged Need for Issuance of Waste Confidence Safety Findings (Oct. 31, 2014).
13. *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2): Applicant's Opposition to Petition to Suspend Final Decisions and Proposed New Continued Storage Contention (Oct. 31, 2014).
14. *Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2): Answer of Progress Energy Florida, Inc. Opposing Petition to Suspend Licensing Proceedings and Related Contention (Oct. 31, 2014).
15. *STP Nuclear Operating Co.* (South Texas Project, Units 1 and 2): STP Nuclear Operating Company Combined Response to Proposed Contention and Petition to Suspend Related to Alleged Need for Issuance of Waste Confidence Safety Findings (Oct. 31, 2014).
16. *Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4; Sequoyah Nuclear Plant, Units 1 and 2): Tennessee Valley Authority's Answer to Motion to Reopen the Record for Sequoyah Nuclear Power Plant and Motion to Reopen the Record for Bellefonte Nuclear Power Plant (Oct. 31, 2014).
17. *Tennessee Valley Authority* (Watts Bar Nuclear Plant, Unit 2): Tennessee Valley Authority's Answer Opposing Southern Alliance for Clean Energy's Motion to Reopen the Record (Oct. 31, 2014).
18. *Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4; Sequoyah Nuclear Plant, Units 1 and 2; Watts Bar Nuclear Plant, Unit 2): Tennessee Valley Authority's Answer Opposing Petition to Suspend Final



Decisions in All Pending Reactor Licensing Proceedings Pending Issuance of Waste Confidence Safety Findings and Motions for Leave to File New Contention (Oct. 31, 2014).

19. *Union Electric Co.* (Callaway Plant, Unit 1): Ameren's Answer Opposing Petition to Suspend Licensing Proceedings, Related Contention and Motion to Reopen (Oct. 31, 2014).
20. *Virginia Electric and Power Co. d/b/a Dominion Virginia Power and Old Dominion Electric Cooperative* (North Anna Power Station, Unit 3): Dominion's Answer Opposing Petition to Suspend Licensing Proceedings, Related Contention and Motion to Reopen (Oct. 31, 2014).

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Ronald M. Spritzer**, Chairman  
**Dr. Gary Arnold**  
**Nicholas G. Trikouros**

**In the Matter of**

**Docket No. 50-341-LR**  
**(ASLBP No. 14-933-01-LR-BD01)**

**DTE ELECTRIC COMPANY**  
**(Fermi Nuclear Power Plant,**  
**Unit 2)**

**February 6, 2015**

DTE Electric Company seeks to renew for 20 years its license for the Fermi Nuclear Power Plant, Unit 2 (Fermi 2). Two sets of petitioners — Don't Waste Michigan, Citizens Environment Alliance of Southwestern Ontario, and Beyond Nuclear (Joint Petitioners) and Citizens' Resistance at Fermi 2 (CRAFT) — challenge the application and request a hearing. This Order concludes that Joint Petitioners and CRAFT have standing and have each proffered at least one admissible contention. The Board grants their hearing requests with respect to three contentions. The Joint Petitioners' admissible contention concerns DTE's failure to include in its Severe Accident Mitigation Alternatives (SAMA) analysis the impact that a severe accident at Fermi 2 would have on the operation of the proposed nearby Fermi 3. CRAFT's admissible contentions allege negative impacts on tribal hunting and fishing near Fermi 2 and assert that Canadians living within 50 miles of the site were excluded from the SAMA analysis.

**RULES OF PRACTICE: STANDING**

An organization may demonstrate standing to challenge a reactor license

renewal application by providing declarations from members who reside within 50 miles of the reactor site.

**REGULATIONS: INTERPRETATION (10 C.F.R. § 51.71(d))**

Section 51.71(d) requires the Draft Environmental Impact Statement to discuss important qualitative factors. Although this section applies to the Draft Environmental Impact Statement, it is instructive in evaluating the adequacy of the applicant's Environmental Report.

**NATIONAL ENVIRONMENTAL POLICY ACT: SEVERE  
ACCIDENT MITIGATION ALTERNATIVES**

Under 10 C.F.R. § 51.71(d), a SAMA analysis, like other parts of the NRC's NEPA document, should take into account important qualitative considerations or factors that cannot be quantified. But a contention challenging a deficiency in the SAMA analysis is not admissible unless petitioners can show that the deficiency, if corrected, would plausibly tip the cost-benefit balance in favor of implementing one or more mitigation alternatives.

**RULES OF PRACTICE: CHALLENGE TO COMMISSION  
REGULATIONS**

The Environmental Review need not contain environmental analysis of the "Category 1" issues identified in Appendix B to Subpart A of 10 C.F.R. Part 51. Category 1 issues are not subject to challenge in a relicensing proceeding, absent a waiver under 10 C.F.R. § 2.335, because they involve environmental effects that have been addressed generically for all reactors.

**NATIONAL ENVIRONMENTAL POLICY ACT: SEVERE  
ACCIDENT MITIGATION ALTERNATIVES**

The SAMA analysis does not need to consider spent fuel accidents because these accidents are a Category 1 issue.

**NATIONAL ENVIRONMENTAL POLICY ACT: SPENT FUEL  
STORAGE AND DISPOSAL**

Contentions challenging the lack of site-specific environmental analysis of the storage and disposal of spent nuclear fuel are moot because the Commission has adopted a Continued Storage Rule and a generic environmental impact statement

analyzing the impacts of the storage and disposal of spent nuclear fuel. *See* 10 C.F.R. § 51.23.

#### **ATOMIC ENERGY ACT: SPENT FUEL STORAGE AND DISPOSAL**

Contentions challenging the lack of site-specific safety analysis of the storage and disposal of spent nuclear fuel are not admissible before a Licensing Board Panel because the Commission has exercised its authority to consolidate and review the pending safety-related issues.

#### **RULES OF PRACTICE: CHALLENGE TO COMMISSION REGULATIONS**

The Commission has resolved by regulation the adequacy of certified plant designs. Although a party may petition the Commission for permission to challenge a particular design, that party must make a showing of “special circumstances.”

#### **NATIONAL ENVIRONMENTAL POLICY ACT: SEVERE ACCIDENT MITIGATION ALTERNATIVES**

Petitioners cannot use the license renewal proceedings to challenge the adequacy of an earlier SAMA analysis for a different reactor.

#### **REGULATIONS: INTERPRETATION (10 C.F.R. § 51.28(a)(5))**

The NRC Staff, not the applicant, has the duty under section 51.28(a)(5) to notify affected tribes of the license renewal application.

#### **RULES OF PRACTICE: NOTIFICATION**

Publication in the *Federal Register* is legally sufficient notice to all affected people of the NRC’s scoping process and the opportunity to challenge the license renewal application.

#### **NATIONAL ENVIRONMENTAL POLICY ACT: ENVIRONMENTAL JUSTICE**

Under the NRC’s NEPA regulations, impacts to subsistence consumption must be evaluated as part of the site-specific Environmental Justice analysis.

**RULES OF PRACTICE: REPLY BRIEFS**

Although a reply brief must not be used to raise entirely new arguments, a board may consider information in a reply that legitimately amplifies an issue presented in the original petition.

**RULES OF PRACTICE: PRO SE PLEADINGS**

Pleadings submitted by *pro se* petitioners are afforded greater leniency than petitions drafted with the assistance of counsel.

**RULES OF PRACTICE: INCORPORATIONS BY REFERENCE**

A party may not rely on wholesale incorporation by reference of another party's arguments because arguments must be contained within the pleadings.

**LICENSE RENEWAL PROCEEDINGS: SCOPE**

Compliance with NRC's ongoing enforcement programs is part of the current licensing basis, and thus not within the scope of a license renewal proceeding.

**NATIONAL ENVIRONMENTAL POLICY ACT: SEVERE ACCIDENT MITIGATION ALTERNATIVES**

To challenge the adequacy of the SAMA analysis, petitioners must point to a specific error or deficiency in the analysis and provide support to show that fixing the error or deficiency would change the outcome of the cost-benefit analysis.

**REGULATIONS: INTERPRETATION (10 C.F.R. § 54.29(a)(1))**

Reasonable assurance of safety for aging management plans requires a case-by-case determination of safety instead of a fixed level of assurance.

**RULES OF PRACTICE: STANDARD OF PROOF**

Petitioners have the "burden of going forward" at the initial stage of the proceeding, which requires the petitioner to support contentions with factual allegations or expert testimony.

**NATIONAL ENVIRONMENTAL POLICY ACT: SEVERE  
ACCIDENT MITIGATION ALTERNATIVES**

In calculating the costs of a severe accident, the SAMA analysis must include all populations within 50 miles of the licensed power reactor, regardless of international borders.

**LICENSE RENEWAL PROCEEDINGS: SCOPE**

A challenge to the adequacy of the emergency plan itself is not within the scope of a license renewal proceeding.

**LICENSE RENEWAL PROCEEDINGS: SCOPE**

Claims of past and current mismanagement — such as those involving operational history, quality assurance, quality control, management competence, and human factors — are outside the scope of the license renewal proceeding.

**NATIONAL ENVIRONMENTAL POLICY ACT: SEVERE  
ACCIDENT MITIGATION ALTERNATIVES**

The SAMA analysis does not need to consider public health because it is a Category 1 issue.

**NATIONAL ENVIRONMENTAL POLICY ACT: ENVIRONMENTAL  
REPORT**

Contentions based on alleged “new and significant information” must provide a reasoned basis for how the new information might plausibly change the analysis in the environmental report.

**RULES OF PRACTICE: CHALLENGE TO REGULATIONS**

Contentions challenging the adequacy of another agency’s regulations are not admissible.

**NATIONAL ENVIRONMENTAL POLICY ACT: SPENT FUEL  
STORAGE AND DISPOSAL**

The generic environmental impact statement for spent fuel pools covers both normal operations and potential accidents, so neither issue requires site-specific analysis.

**MEMORANDUM AND ORDER**  
**(Ruling on Petitions to Intervene and Requests for a Hearing)**

**I. INTRODUCTION**

Before the Board are two petitions to intervene and requests for a hearing. The first petition was filed on August 18, 2014, by Don't Waste Michigan, Citizens Environment Alliance of Southwestern Ontario, and Beyond Nuclear (Joint Petitioners).<sup>1</sup> The second petition was filed on the same date by Citizens' Resistance at Fermi 2 (CRAFT).<sup>2</sup>

In this decision, we address the Petitioners' standing to intervene and the admissibility of the Petitioners' proffered contentions. We find that the Petitioners have established representational standing to intervene in this proceeding. We admit Joint Petitioners' Contention 4 in part (we have designated the admissible part as Contention JP4B). We also admit CRAFT Contentions 2 and 8, as narrowed by the Board.<sup>3</sup> The Board concludes that the remainder of the proffered contentions are inadmissible. Because Joint Petitioners and CRAFT have standing and have each proffered at least one admissible contention, they have satisfied the necessary prerequisites for the Board to grant their hearing requests.<sup>4</sup>

**II. BACKGROUND**

This proceeding concerns DTE's April 24, 2014 application to renew its operating license (LRA) for the Fermi Nuclear Power Plant, Unit 2 (Fermi 2) for an additional 20 years from the current expiration date of March 20, 2025.<sup>5</sup> Fermi 2 is a boiling-water reactor (BWR) designed by General Electric and is located near Frenchtown Township in Monroe County, Michigan.<sup>6</sup> The Staff accepted the LRA for review, and published a *Federal Register* Notice on June 18, 2014,

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<sup>1</sup> Petition for Leave to Intervene and Request for Hearing of Don't Waste Michigan, Citizens Environment Alliance of Southwestern Ontario, and Beyond Nuclear (Aug. 18, 2014) [hereinafter "Joint Petition"].

<sup>2</sup> Citizens' Resistance at Fermi 2 (CRAFT) Petition for Leave to Intervene and Request for a Public Hearing upon DTE Electric's Request of 20-Year License Extension for the Enrico Fermi 2 Nuclear Reactor (Aug. 18, 2014) [hereinafter "CRAFT Petition"].

<sup>3</sup> Judge Arnold agrees with this decision, except for the admission of CRAFT's Contention 2. His separate views dissenting from the admission of that contention are attached.

<sup>4</sup> See 10 C.F.R. § 2.309(a), (f)(1).

<sup>5</sup> Letter from J. Todd Conner, Site Vice President, to Document Control Desk, U.S. Nuclear Regulatory Commission (Apr. 24, 2014) (ADAMS Accession No. ML14121A532). The LRA is available at ADAMS Package No. ML14121A554. LRA at 1-1.

<sup>6</sup> LRA at 1-7 to 1-8.

providing a Notice of Opportunity for Hearing.<sup>7</sup> In response, Joint Petitioners proposed four contentions.<sup>8</sup> CRAFT's separate petition to intervene and request for a hearing includes an additional fourteen contentions.<sup>9</sup> The Board was appointed on August 28.<sup>10</sup> Both the Applicant and the Staff have filed answers opposing the petitions to intervene and requests for a hearing.<sup>11</sup> The Board held oral argument on November 20 in Monroe, Michigan, concerning contention admissibility.<sup>12</sup>

### **III. PETITIONERS' STANDING TO PARTICIPATE IN THIS PROCEEDING**

#### **A. Legal Requirements for Standing**

A petitioner's participation in a licensing proceeding requires a demonstration of standing. This requirement is derived from section 189a of the Atomic Energy Act of 1954 (AEA),<sup>13</sup> which instructs the Nuclear Regulatory Commission (NRC) to provide a hearing "upon the request of any person whose interest may be affected by the proceeding."<sup>14</sup> When assessing whether an individual or organization has set forth a sufficient interest, the Commission has applied judicial concepts of standing, under which the petitioner must allege "a concrete and particularized injury that is fairly traceable to the challenged action and is

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<sup>7</sup> DTE Electric Company; Fermi 2, License renewal application; opportunity to request a hearing and to petition for leave to intervene, 79 Fed. Reg. 34,787 (June 18, 2014).

<sup>8</sup> Joint Petition at 6-54; *see also* Intervenors' Combined Reply in Support of Petition for Leave to Intervene and Request for Hearing of Don't Waste Michigan, Citizens Environment Alliance of Southwestern Ontario and Beyond Nuclear (Sept. 19, 2014) [hereinafter "Joint Reply"].

<sup>9</sup> CRAFT Petition at 4-36; *see also* Combined Reply of Citizens' Resistance at Fermi 2 (CRAFT) to NRC Staff and DTE Electric Co. Answers to Craft's Petition (Sept. 19, 2014) [hereinafter "CRAFT Reply"].

<sup>10</sup> DTE Electric Company; Establishment of Atomic Safety and Licensing Board, 79 Fed. Reg. 53,082 (Sept. 5, 2014). Subsequently, a Notice of Board Reconstitution was issued, substituting Judge Gary S. Arnold to serve on the Board in place of Judge Paul B. Abramson. DTE Electric Company (Fermi Nuclear Power Plant, Unit 2); Notice of Atomic Safety and Licensing Board Reconstitution, 79 Fed. Reg. 59,867 (Oct. 3, 2014).

<sup>11</sup> DTE Electric Co. Answer Opposing Petitions to Intervene and Requests for Hearing (Sept. 12, 2014) [hereinafter "DTE Answer"]; NRC Staff's Answer to Petition for Leave to Intervene and Request for Hearing of Don't Waste Michigan, Citizens Environment Alliance of Southwestern Ontario, and Beyond Nuclear (Sept. 12, 2014) [hereinafter "Staff Answer to Joint Petition"]; NRC Staff's Answer to Citizens' Resistance at Fermi 2 (CRAFT) Petition for Leave to Intervene and Request for Public Hearing (Sept. 12, 2014) [hereinafter "Staff Answer to CRAFT Petition"].

<sup>12</sup> Transcript of Oral Argument in the Matter of Fermi Nuclear Power Plant, Unit 2 (Nov. 20, 2014) [hereinafter "Tr."].

<sup>13</sup> 42 U.S.C. § 2011 *et seq.* (1954).

<sup>14</sup> *Id.* § 2239(a)(1)(A).



likely to be redressed by a favorable decision.”<sup>15</sup> For nuclear reactor licensing proceedings, the Commission has adopted a proximity presumption that allows a petitioner living within 50 miles of the reactor to establish standing without the need to make an individualized showing of injury, causation, and redressability.<sup>16</sup>

When, as here, an organization petitions to intervene in a proceeding, it must establish either organizational or representational standing. To demonstrate organizational standing, the petitioner must show a discrete injury to the organization itself.<sup>17</sup> Where an organization seeks representational standing, it must show that at least one of its members would be affected by the proceeding and identify that member by name and address. Moreover, the organization must show that the members would have standing to intervene in their own right, and that the identified members have authorized the organization to request a hearing on their behalf.<sup>18</sup> In addition, the interests that the representative organization seeks to protect must be germane to its own purpose, and neither the asserted claim nor the required relief must require an individual member to participate in the organization’s legal action.<sup>19</sup>

## **B. Licensing Board’s Ruling on Petitioners’ Standing**

The Staff agrees that Joint Petitioners and CRAFT have demonstrated representational standing.<sup>20</sup> DTE did not address the standing of either Joint Petitioners or CRAFT. Although a licensing board has the obligation to independently assess petitioners’ standing,<sup>21</sup> we have no difficulty concluding that the requirements for representational standing are met in this case. Both Joint Petitioners<sup>22</sup> and

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<sup>15</sup> *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993) (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992)).

<sup>16</sup> *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915-17 (2009).

<sup>17</sup> See *Consumers Energy Co.* (Palisades Nuclear Plant), CLI-07-18, 65 NRC 399, 411-12 (2007).

<sup>18</sup> See *id.*; *Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 72 (1994) (citing *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-535, 9 NRC 377, 389-400 (1979)) (“An organization seeking representational standing on behalf of its members may meet the ‘injury-in-fact’ requirement by demonstrating that at least one of its members, who has authorized the organization to represent his or her interest, will be injured by the possible outcome of the proceeding.”).

<sup>19</sup> *Palisades*, CLI-07-18, 65 NRC at 409.

<sup>20</sup> Staff Answer to Joint Petition at 2-3; Staff Answer to CRAFT Petition at 2-4.

<sup>21</sup> See 10 C.F.R. § 2.309(d)(2); *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 and 3), LBP-08-21, 68 NRC 554, 559 (2008).

<sup>22</sup> See Organizational and Individual Declarations in Support of Joint Petition (Aug. 14, 2014) (providing declarations of George Steinman and Shirley Steinman (Beyond Nuclear); Derek Coronado

(Continued)

CRAFT<sup>23</sup> have provided declarations from members asserting that they reside within 50 miles of the Fermi 2 site. These members thus have standing under the Commission's 50-mile proximity presumption.<sup>24</sup> And Joint Petitioners and CRAFT have established representational standing by showing that the identified members have authorized the organization to request a hearing on their behalf,<sup>25</sup> that the interests that the representative organization seeks to protect are germane to its own purpose, and that neither the asserted claim nor the required relief requires an individual member to participate in the proceeding.<sup>26</sup>

#### IV. STANDARDS FOR ADMISSIBILITY OF CONTENTIONS

##### A. General Requirements

In order to participate as a party in this proceeding, a petitioner for intervention must not only establish standing, but must also proffer at least one admissible contention that meets the requirements of 10 C.F.R. § 2.309(f).<sup>27</sup> An admissible contention must: (i) provide a specific statement of the legal or factual issue sought to be raised; (ii) provide a brief explanation of the basis for the contention; (iii) demonstrate that the issue raised is within the scope of the proceeding; (iv) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (v) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents, that support the petitioner's position and upon which the petitioner intends to rely at the hearing; and (vi) provide sufficient information to show that a genuine dispute exists in regard to a material issue of law or fact, including references to specific portions of the application that the petitioner disputes, or, in the case when the application is alleged to be deficient, the identification of such deficiencies and supporting reasons for this belief.<sup>28</sup>

The purpose of section 2.309(f)(1) is to "focus litigation on concrete issues and

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and Richard Coronado (Citizens Environment Alliance of Southwestern Ontario); Leonard Mandeville, Marcee Meyers, and Michael Keegan (Don't Waste Michigan)).

<sup>23</sup> See Declaration of Authorized Officer of CRAFT in Support of Petition to Intervene in Docket No. 50-341 LRA, 2014-0109 (Aug. 18, 2014) (providing declarations, among others, of Jessie Pauline Collins, James DeBussey, Gloria F. Eggleston, and Kenneth Fink) [hereinafter "CRAFT Declarations"].

<sup>24</sup> See *Calvert Cliffs*, CLI-09-20, 70 NRC at 916-17 (explaining that petitioners living within 50 miles of a reactor are presumed to have standing).

<sup>25</sup> See *Gore*, CLI-94-12, 40 NRC at 72 (citing *Allens Creek*, ALAB-535, 9 NRC at 389-400).

<sup>26</sup> See *Palisades*, CLI-07-18, 65 NRC at 409.

<sup>27</sup> See 10 C.F.R. § 2.309(a).

<sup>28</sup> 10 C.F.R. § 2.309(f)(1).

result in a clearer and more focused record for decision.”<sup>29</sup> The Commission has stated that it “should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing.”<sup>30</sup> The Commission has emphasized that the rules on contention admissibility are “strict by design.”<sup>31</sup> Further, contentions challenging applicable statutory requirements or Commission regulations are not admissible in agency adjudications.<sup>32</sup> Petitioners must comply with all of these requirements.

Several of the contentions we address below are contentions of omission. A contention of omission claims that “the application fails to contain information on a relevant matter as required by law . . . and [provides] the supporting reasons for the petitioner’s belief.”<sup>33</sup> To satisfy section 2.309(f)(1)(i)-(ii), the contention of omission on a matter related to the National Environmental Policy Act (NEPA) must describe the information that should have been included in an applicant’s Environmental Report (ER) and provide the legal basis that requires the omitted information to be included. The petitioner must also demonstrate that the contention is within the scope of the proceeding.<sup>34</sup>

Section 2.309(f)(1)(v) requires the petitioner to provide a concise statement of the alleged facts that support its position and upon which the petitioner intends to rely at the hearing. However, “the pleading requirements of 10 C.F.R. § 2.309(f)(1)(v), calling for a recitation of facts or expert opinion supporting the issue raised, are inapplicable to a contention of omission beyond identifying the regulatively required missing information.”<sup>35</sup> Thus, for a contention of omission, the petitioner’s burden is to identify the omission and the supporting reasons for the petitioners’ belief that the application “fails to contain information on a relevant matter as required by law.”<sup>36</sup> The facts relied on need not show that the facility cannot be safely operated, but only that the application is incomplete. If an applicant cures the omission, the contention will become moot unless revised by Intervenors.<sup>37</sup>

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<sup>29</sup> Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

<sup>30</sup> *Id.*

<sup>31</sup> *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 213 (2003) (citing *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358-59 (2001); *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334-35 (1999)).

<sup>32</sup> 10 C.F.R. § 2.335(a).

<sup>33</sup> *Id.* § 2.309(f)(1)(vi).

<sup>34</sup> *Id.* § 2.309(f)(1)(iii).

<sup>35</sup> *Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 317 (2008) (quoting *Pa’ina Hawaii, LLC*, LBP-06-12, 63 NRC 403, 414 (2006)).

<sup>36</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>37</sup> *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383 (2002); *North Anna*, LBP-08-15, 68 NRC at 317.

Finally, if the contention makes a *prima facie* allegation that the application omits information required by law, “it necessarily presents a genuine dispute with the Applicant on a material issue in compliance with 10 C.F.R. § 2.309(f)(1)(vi) [and] . . . raises an issue plainly material to an essential finding of regulatory compliance needed for license issuance” in accordance with section 2.309(f)(1)(iv).<sup>38</sup>

## B. License Renewal

To evaluate a license renewal application for a nuclear power reactor, the NRC reviews (1) the management of aging effects and time-limited aging analysis of particular safety-related functions of the plant’s systems, structures, and components pursuant to 10 C.F.R. Part 54, to satisfy the NRC’s obligations under the AEA, and (2) the environmental impacts and alternatives to the proposed action in accordance with 10 C.F.R. Part 51, to satisfy the NRC’s obligations under NEPA.<sup>39</sup>

As part of their daily responsibilities, current licensees — including those applying for a renewed license — must comply with the NRC’s ongoing regulatory process. That process ensures that the current licensing basis (CLB) of an operating plant remains acceptably safe.<sup>40</sup> The Commission has limited its license renewal safety review to the matters specified in 10 C.F.R. Part 54, which focus on the management of aging for certain systems, structures, and components, and the review of time-limited aging analyses.<sup>41</sup> To meet those regulations, applicants must “demonstrate how their programs will be effective in managing the effects of aging during the proposed period of extended operation,” at a “detailed . . . ‘component and structure level,’ rather than at a more generalized ‘system level.’”<sup>42</sup> Thus, the Commission distinguishes between aging management issues, reviewed at the time of license renewal, and operational issues, reviewed at all times as part of the CLB.<sup>43</sup> Accordingly, contentions on aging management issues are appropriate for a license renewal proceeding, whereas contentions on operational issues are outside the scope of such a proceeding.

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<sup>38</sup> *Pa’ina*, LBP-06-12, 63 NRC at 414.

<sup>39</sup> See *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-11-17, 74 NRC 11, 20-22 (footnotes omitted), *interlocutory review denied*, CLI-11-14, 74 NRC 801, 803 (2011).

<sup>40</sup> Nuclear Power Plant License Renewal, 56 Fed. Reg. 64,943, 64,946 (1991); see 10 C.F.R. § 54.3(a) (defining “current licensing basis”).

<sup>41</sup> *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 7-8 (2001); *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-26, 56 NRC 358, 363 (2002).

<sup>42</sup> *Turkey Point*, CLI-01-17, 54 NRC at 8.

<sup>43</sup> *Id.* at 10 (“Adjudicatory hearings in individual license renewal proceedings will share the same scope of issues as our NRC Staff review, for our hearing process (like our Staff’s review) necessarily examines only the questions our safety rules make pertinent.”)

As with safety contentions, the NRC's regulations limit NEPA contentions in a license renewal proceeding. The ER for the license renewal stage need not contain environmental analysis of the "Category 1" issues identified in Appendix B to Subpart A of 10 C.F.R. Part 51.<sup>44</sup> Category 1 issues are not subject to challenge in a relicensing proceeding, absent a waiver under 10 C.F.R. § 2.335, because they "involve environmental effects that are essentially similar for all plants [and] need not be assessed repeatedly on a site-specific basis."<sup>45</sup> But the ER must analyze the environmental impacts of the renewal on matters identified as "Category 2" issues in Appendix B.<sup>46</sup> Category 2 issues are reviewed on a site-specific basis because they have not been determined to be "essentially similar" for all plants.<sup>47</sup> Therefore, challenges relating to these issues are properly part of a license renewal proceeding.

### C. SAMA Contentions

Joint Petitioners and CRAFT allege (among other things) that DTE failed to perform an adequate analysis of severe accident mitigation alternatives (SAMAs). A SAMA review identifies and assesses possible changes — such as improvements in hardware, training, or procedures — that could cost-effectively mitigate the environmental impacts that would otherwise flow from a potential severe accident.<sup>48</sup> Under the NRC's environmental regulations for license renewal, applicants must provide a SAMA analysis if the Staff has not yet previously considered severe accident mitigation alternatives for the applicant's plant in an environmental impact statement (EIS) or related supplement, or in an environmental assessment. The SAMAs must be considered as part of the ER and, ultimately, as part of the Staff's supplemental EIS for a power reactor license renewal.<sup>49</sup> Furthermore, NEPA review in license renewal proceedings, which is conducted pursuant to Part 51, is not limited to aging management-related issues.<sup>50</sup> SAMAs fall within Category 2 and must therefore be addressed on a site-specific basis.<sup>51</sup>

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<sup>44</sup> 10 C.F.R. § 51.53(c)(3)(i).

<sup>45</sup> *Turkey Point*, CLI-01-17, 54 NRC at 11.

<sup>46</sup> 10 C.F.R. § 51.53(c)(3)(ii). The ER must also "contain a consideration of alternatives for reducing adverse impacts, as required by [10 C.F.R. § 51.45(c)], for all Category 2 license renewal issues in [Appendix B]." *Id.* § 51.53(c)(3)(iii).

<sup>47</sup> 10 C.F.R. Part 51, Subpart A, App. B, n.2.

<sup>48</sup> *Indian Point*, LBP-11-17, 74 NRC at 21 (citing *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-17, 56 NRC 1, 5 (2002)).

<sup>49</sup> *Id.* (citing 10 C.F.R. § 51.53(c)(3)(ii)(L)).

<sup>50</sup> *Id.* at 20-22 (footnotes omitted; emphasis added); see *Turkey Point*, CLI-01-17, 54 NRC at 13 ("The Commission's AEA review under Part 54 does not compromise or limit NEPA.").

<sup>51</sup> *Indian Point*, LBP-11-17, 74 NRC at 21 (citing 10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1).

Thus petitioners may challenge the adequacy of the SAMA analysis prepared for a license renewal proceeding.

The Commission has stressed, however, that “[u]nless it looks genuinely plausible that inclusion of an additional factor or use of other assumptions and models may change the cost-benefit conclusions for the SAMA candidates evaluated, no purpose would be served to further refine the SAMA analysis.”<sup>52</sup> A petitioner need not “rerun the Applicant’s own cost-benefit calculations.”<sup>53</sup> But a petitioner must do more than merely suggest that additional factors be evaluated or that different analytical techniques be used:

Given the quantitative nature of the SAMA analysis, where the analysis rests largely on selected inputs, it may always be possible to conceive of alternative and more conservative inputs, whose use in the analysis could result in greater estimated accident consequences. But the proper question is not whether there are plausible alternative choices for use in the analysis, but whether the analysis that was done is reasonable under NEPA. . . . A contention proposing alternative inputs or methodologies must present some factual or expert basis for why the proposed changes in the analysis are warranted (e.g., why the inputs or methodology used is unreasonable, and the proposed changes or methodology would be more appropriate). Otherwise, there is no genuine material dispute with the SAMA analysis that was done, only a proposal for an alternative NEPA analysis that may be no more accurate or meaningful.<sup>54</sup>

The Board must exercise its judgment in determining if it is credible that an alternative analysis would alter the cost-benefit ratio. The Commission has “recognize[d] that SAMA analysis issues can present difficult judgment calls at the contention admissibility stage.”<sup>55</sup>

## **V. BOARD ANALYSIS AND RULINGS ON PETITIONERS’ CONTENTIONS**

### **A. Joint Petitioners’ Contentions**

#### **1. JPI — Inadequate SAMA Analysis of Mark I BWR Vulnerabilities**

Joint Petitioners state in Contention 1 that:

The Applicant’s Fermi 2 Environmental Report fails to accurately and thoroughly

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<sup>52</sup> *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 323 (2012).

<sup>53</sup> *Id.* at 329 (citation omitted).

<sup>54</sup> *Id.* at 323-24.

<sup>55</sup> *Id.* at 323.

conduct Severe Accident Mitigation Alternatives (SAMA) analysis to the long-recognized and unaddressed design vulnerability of the General Electric Mark I Boiling Water Reactor pressure suppression containment system and the environmental consequences of a to-be-anticipated severe accident post-Fukushima Daiichi.<sup>56</sup>

Although this summary paragraph does not directly challenge DTE's evaluation of any particular SAMA, Joint Petitioners' explanation of the basis of the contention does identify a specific SAMA they contend DTE failed to evaluate adequately. Joint Petitioners contend that DTE's SAMA analysis errs in rejecting SAMA 123, "engineered external high-capacity filters on hardened containment vents," as a cost-beneficial SAMA.<sup>57</sup> DTE considered containment vents with engineered filters in its SAMA analysis but concluded that the estimated benefit of \$1.1 million did not justify the \$40 million cost.<sup>58</sup> Joint Petitioners do not dispute DTE's \$40 million cost estimate. But they do dispute DTE's evaluation of the benefits of installing engineered external high-capacity filters on hardened containment vents.<sup>59</sup>

Boards may reformulate contentions to "eliminate extraneous issues or to consolidate issues for a more efficient proceeding."<sup>60</sup> Thus, the Board will narrow this contention to focus on the specific SAMA that Joint Petitioners contend was improperly evaluated in the ER.

As evidence of vulnerabilities in the Mark I containment system, Joint Petitioners point to the Fukushima Daiichi meltdowns (which also involved Mark I systems),<sup>61</sup> statements by NRC officials in the 1970s and 1980s discussing safety issues with the Mark I containment system,<sup>62</sup> and a Staff Commission Paper from

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<sup>56</sup> Joint Petition at 6.

<sup>57</sup> *Id.* at 7-8.

<sup>58</sup> DTE Answer at 11-12 (citing DTE Electric Co., Applicant's Environmental Report at D-137 (Apr. 24, 2014) [hereinafter "ER"]); Staff Answer to Joint Petition at 14-15.

<sup>59</sup> Joint Petition at 8, 14-17.

<sup>60</sup> *Crow Butte Resources, Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 552 (2009) (quoting *Shaw AREVA MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-08-11, 67 NRC 460, 482 (2008) (emphasis omitted)); *Pennsylvania Power & Light Co.* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-79-6, 9 NRC 291, 295-96 (1979).

<sup>61</sup> Joint Petition at 11.

<sup>62</sup> *Id.* at 11-12 (citing Memo of Stephen H. Hanauer, U.S. Atomic Energy Commission, at 2 (Sept. 20, 1972); Office of Nuclear Reactor Regulation, "Technical Update on Pressure Suppression Type Containment in Use in Light Water Reactor Nuclear Power Plants," NUREG-0474, at 13 (July 1978); Brian Jordan, Denton Urges Industry to Settle Doubts About Mark I Containment, Inside N.R.C. (June 9, 1986).

2012 recommending vents with engineered filters as a defense-in-depth strategy.<sup>63</sup> The Staff Commission Paper stated:

The vast majority of Mark I and Mark II severe accident sequences would benefit from a containment vent, (whether the vent includes an engineered filter or not) and the addition of an engineered filter reduces the release of radioactive materials should a severe accident occur. A comparison of only the quantifiable costs and benefits of the proposed modifications, if considered safety enhancements, would not, by themselves, demonstrate that the benefits exceed the associated costs. However, when qualitative factors such as the importance of containment systems within the NRC's defense-in-depth philosophy are considered, as is consistent with Commission direction, a decision to require the installation of engineered filtered vent systems is justified.<sup>64</sup>

Joint Petitioners contend that “the radiological consequences to the environment as a result of venting containment during a severe accident post-fuel damage without an external engineered filtration system are not thoroughly or adequately analyzed in the Applicant’s SAMA” report.<sup>65</sup> Joint Petitioners state that “[t]he fact that the likelihood of an impact may not be easily quantifiable is not an excuse for failing to address it in an EIS.”<sup>66</sup> The NRC’s NEPA regulations, they note, direct that “to the extent there are important qualitative considerations or factors that cannot be quantified, these considerations or factors will be discussed in qualitative terms.”<sup>67</sup>

To show the benefit of SAMA 123, Joint Petitioners cite a report by the National Academy of Sciences (NAS) concluding that the costs of the Fukushima Daiichi meltdowns were 33 times larger than NRC’s estimate for a meltdown at a similar nuclear power plant in Pennsylvania (Peach Bottom).<sup>68</sup> The NAS committee concluded “that severe accidents such as occurred in the Fukushima Daiichi plant can have large costs and other consequences that are not considered in [the] USNRC backfit analyses” for the installation of filtered vents at nuclear plants in the United States.<sup>69</sup> Joint Petitioners contend that NEPA requires DTE

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<sup>63</sup> *Id.* at 13 (citing R. William Borchardt, Executive Director for Operations, Consideration of Additional Requirements for Containment Venting Systems for Boiling Water Reactors with Mark I and Mark II Containments, SECY-12-0157, at 2 (Nov. 26, 2012)).

<sup>64</sup> SECY-12-0157, at 2.

<sup>65</sup> Joint Petition at 22.

<sup>66</sup> *Id.* at 6.

<sup>67</sup> *Id.* (citing 10 C.F.R. § 51.71(d)).

<sup>68</sup> *Id.* at 22-23 (citing Nuclear and Radiation Studies Board, National Academy of Sciences, Lessons Learned from the Fukushima Nuclear Accident for Improving Safety of U.S. Nuclear Plants, Summary at L-2 (National Academies Press 2014) [hereinafter “NAS Report”]).

<sup>69</sup> *Id.* at 24 (quoting the NAS Report at L-2).



to incorporate the NAS conclusions in its analysis of the filtered vents SAMA for Fermi 2.<sup>70</sup>

DTE and the Staff argue that Joint Petitioners have not pointed to any specific error in DTE's cost-benefit analysis,<sup>71</sup> and both maintain that JP1 raises a safety issue that is outside the scope of the license renewal proceeding because it does not involve aging management issues.<sup>72</sup> The Staff also states that the model used in the ER accounts for large, uncontrolled releases,<sup>73</sup> and asserts that Joint Petitioners can raise compliance issues only under 10 C.F.R. § 2.206, which would allow them to petition NRC to take an enforcement action.<sup>74</sup>

In their reply, Joint Petitioners emphasized their argument that DTE underestimated the benefit of installing containment vents with engineered filters because the company did not consider the "qualitative benefits" discussed in the 2012 Commission Paper, such as defense in depth and reducing the chance of human error (which can be difficult to estimate in a model).<sup>75</sup> And given that section 2.206 petitions very rarely lead to enforcement actions, they argue that this provision does not provide a meaningful opportunity to challenge the facility's safety features.<sup>76</sup>

At oral argument, Joint Petitioners confirmed that their primary concern is DTE's failure to consider the qualitative benefits of installing the engineered filters, analysis of which they contend is required by 10 C.F.R. § 51.71(d).<sup>77</sup> On its face, section 51.71(d) applies to the DEIS, not the ER. DTE and the Staff acknowledged, however, that section 51.71(d) is instructive in evaluating the adequacy of the ER.<sup>78</sup> Staff counsel observed that "at this point of the proceeding the ER somewhat stands in for the staff's EIS" and that the requirements for the EIS are "a good instruction point for figuring out what should be in the environmental report."<sup>79</sup> We agree. "[T]he regulations in [Part 51] implement . . . Section 102(2) of the National Environmental Policy Act of 1969, as amended."<sup>80</sup> The provision that governs the content of the ER, 10 C.F.R. § 51.45, is thus one of

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<sup>70</sup> *Id.*

<sup>71</sup> DTE Answer at 10-11; Staff Answer to Joint Petition at 19.

<sup>72</sup> DTE Answer at 11 (citing *Turkey Point*, CLI-01-17, 54 NRC at 6-13); Staff Answer to Joint Petition at 20 (citing *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 453-56 (2010)).

<sup>73</sup> Staff Answer to Joint Petition at 16-17.

<sup>74</sup> *Id.* at 22 (citing *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 437 (2011)).

<sup>75</sup> Joint Reply at 4-8.

<sup>76</sup> *Id.* at 13-16.

<sup>77</sup> See Tr. at 29-30.

<sup>78</sup> Tr. at 42 (DTE), 57 (Staff).

<sup>79</sup> Tr. at 57.

<sup>80</sup> 10 C.F.R. § 51.1.

the agency's regulations implementing NEPA § 102(2). And "the environmental considerations that the ER must discuss are equivalent to, and in most instances verbatim restatements of, the environmental considerations that NEPA requires the agency to describe in detail in the EIS."<sup>81</sup> Thus, we must determine if the ER complies with the section 51.71(d) requirement to discuss in qualitative terms factors or considerations that cannot be readily quantified.

DTE acknowledged that its analysis of SAMA 123 does not include any analysis of the qualitative benefits of vents with engineered filters discussed in the 2012 Commission Paper.<sup>82</sup> Thus, Joint Petitioners have identified a deficiency in DTE's evaluation of SAMA 123. But, as DTE stated, the Board must determine whether that deficiency, if corrected, would plausibly tip the cost-benefit balance in favor of installation of the engineered vents. We conclude that such a result is implausible given DTE's estimate, on the basis of the costs and benefits it did quantify, that the benefits would be only a small fraction of the costs of installing the engineered vents. Notably, Joint Petitioners have not disputed either DTE's cost estimate or its estimate of the benefits that could be readily quantified. Although qualitative factors (i.e., factors that cannot be readily quantified) might be sufficient to tip the balance if the quantified costs and benefits were reasonably close, here the quantified costs and benefits are too far apart for the Board to conclude that such a result is genuinely plausible. Thus, Contention JP1 fails to present a "genuine material dispute with the SAMA analysis that was done, only a proposal for an alternative NEPA analysis that may be no more accurate or meaningful."<sup>83</sup>

The Board therefore will not admit Contention JP1.

## **2. JP2 — *Inadequate Consideration of Densely Packed Spent Fuel Pools***

Joint Petitioners contend that:

The Environmental Report for Fermi 2 does not satisfy the National Environmental Policy Act ("NEPA") or 10 C.F.R. § 51.45(c) because it does not consider a range of mitigation measures to mitigate the risk of catastrophic fires in the densely packed, closed-frame spent fuel storage pools at Fermi 2.<sup>84</sup>

Joint Petitioners argue that DTE failed to consider mitigation measures to reduce

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<sup>81</sup> See *Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-09-16, 70 NRC 227, 262, *aff'd*, CLI-09-22, 70 NRC 932 (2009).

<sup>82</sup> Tr. at 38.

<sup>83</sup> *Seabrook*, CLI-12-5, 75 NRC at 324.

<sup>84</sup> Joint Petition at 26.

the risk of fire from Fermi 2's spent fuel pools, particularly dry cask storage.<sup>85</sup> Joint Petitioners allege that Fermi 2 faces a higher risk of fire because of densely packed pools and the plant's current inability to move that spent fuel to dry storage.<sup>86</sup> They contend that a potential fire would be a severe accident, and is therefore a Category 2 issue.<sup>87</sup>

In response, the Staff argues that storage of spent fuel is a Category 1 issue that cannot be adjudicated without a waiver.<sup>88</sup> The Staff notes that Joint Petitioners did not seek a waiver and argue that they would be ineligible for a waiver in any event because safety issues concerning spent fuel storage are not unique to Fermi 2.<sup>89</sup> DTE agrees that spent fuel storage is a Category 1 issue for which no discussion of mitigation alternatives is necessary.<sup>90</sup>

Although Joint Petitioners maintain in their reply that accidents caused by spent fuel should be considered in DTE's SAMA analysis,<sup>91</sup> the Commission has explained that these accidents are a Category 1 issue that already has been considered generically.<sup>92</sup> Thus, JP2 is inadmissible. No discussion of mitigation alternatives for Category 1 issues is necessary because the Commission has already generically concluded "that additional site-specific mitigation alternatives are unlikely to be beneficial."<sup>93</sup> For spent fuel pools specifically, the Commission explained that, because the probability of a spent fuel pool accident causing significant harm is remote, there is no need for applicants to assess spent fuel pool accident mitigation alternatives as part of license renewal.<sup>94</sup>

Accordingly, the Board may not admit Contention JP2.

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<sup>85</sup> *Id.* at 26-29.

<sup>86</sup> *Id.* at 30-31.

<sup>87</sup> *Id.* at 29.

<sup>88</sup> Staff Answer to Joint Petition at 23-25.

<sup>89</sup> *Id.* at 31.

<sup>90</sup> DTE Answer at 14.

<sup>91</sup> Joint Reply at 21.

<sup>92</sup> *Pilgrim*, CLI-10-14, 71 NRC at 471 ("License renewal applicants need not provide site-specific analyses of environmental impacts of subjects identified as 'Category 1' issues."); *Turkey Point*, CLI-01-17, 54 NRC at 23 ("[L]icense renewal provisions cover environmental issues relating to onsite spent fuel storage generically. All such issues, including accident risk, fall outside the scope of license renewal proceedings.") (footnote omitted).

<sup>93</sup> *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 21 (2007) (quoting *Turkey Point*, CLI-01-17, 54 NRC at 21-22) (footnote omitted).

<sup>94</sup> *Id.*; see Waste Confidence Directorate, Office of Nuclear Material Safety and Safeguards, "Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel," NUREG-2157, at 4-85 to 4-88 (2014) (ADAMS Accession No. ML14196A105).

**3. JP3 — Lack of Site-Specific Safety and Environmental Findings Regarding Storage and Disposal of Spent Fuel**

Joint Petitioners allege:

The Environmental Report for Fermi 2 does not satisfy the Atomic Energy Act or NEPA because (1) it does not make any site-specific safety and environmental findings regarding the storage and ultimate disposal of the spent fuel that will be generated during the license renewal term and (2) the NRC has no valid generic findings on which the Environmental Report could rely.<sup>95</sup>

On August 26, 2014, after a 2-year rulemaking process, the Commission adopted<sup>96</sup> (1) a generic environmental impact statement (“GEIS”) to identify and analyze the environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors;<sup>97</sup> and (2) associated revisions to the Temporary Storage Rule in 10 C.F.R. § 51.23 (now designated the “Continued Storage Rule”).<sup>98</sup> In light of these actions, the Commission lifted its suspension on final licensing decisions.<sup>99</sup> The Commission directed the Licensing Boards, including this one, to reject pending waste confidence contentions.<sup>100</sup> On September 19, 2014, the NRC published the new Continued Storage Rule and accompanying GEIS, which became effective on October 20, 2014.<sup>101</sup>

Accordingly, JP3 is moot and will not be admitted.<sup>102</sup>

**4. JP4 — Common-Mode Failures and/or Mutually Exacerbating Catastrophes**

JP4 is entitled “Insufficient Severe Accident Mitigation Analysis (SAMA) of potential Fermi 2 and 3 common-mode failures and mutually exacerbating

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<sup>95</sup> Joint Petition at 33.

<sup>96</sup> *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 75 (2014).

<sup>97</sup> Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel, 79 Fed. Reg. 56,263 (Sept. 19, 2014).

<sup>98</sup> Continued Storage of Spent Nuclear Fuel, 79 Fed. Reg. 56,238 (Sept. 19, 2014).

<sup>99</sup> *Calvert Cliffs*, CLI-14-8, 80 NRC at 77.

<sup>100</sup> *Id.* at 79.

<sup>101</sup> Continued Storage Rule, 79 Fed. Reg. at 56,238.

<sup>102</sup> Joint Petitioners’ moved to amend Contention 3 to include safety issues concerning spent fuel storage, but the Commission has exercised its authority to consolidate and review the pending safety-related issues. *See* CLI-14-9, 80 NRC 147, 149-50 (2014); Petitioners’ Motion for Leave to Amend and Supplement Contention 3 Concerning the Absence of Required Waste Confidence Safety Findings in the Relicensing Proceeding for Fermi 2 Nuclear Power Plant (Sept. 29, 2014).

catastrophes.”<sup>103</sup> Contention 4 thus combines Joint Petitioners’ concerns with “common-mode failures” and “mutually exacerbating catastrophes.” These two issues are best evaluated as separate contentions.<sup>104</sup> We shall therefore designate the first issue, “common-mode failures,” as Contention JP4A. The second issue, concerning “mutually exacerbating catastrophes,” we designate Contention JP4B.

*a. JP4A — Common-Mode Failures*

Contention JP4A concerns the potential for “common-mode failures” that would simultaneously impact Fermi Units 2 and 3. Joint Petitioners argue that:

Fermi 2 and Fermi 3’s safety and environmental risks due to common mode failures, and the potential for mutually initiating/exacerbating radiological catastrophes, involving the common Transmission Corridor (TC) shared by both units’ reactors and pools, have been inadequately addressed in DTE’s Fermi 2 License Renewal Application (LRA) and Environmental Report (ER). Also, the cumulative impacts associated with the proposed new Fermi 3 reactor cannot be excluded from DTE’s Fermi 2 LRA and ER as “remote” or “speculative,” for it is DTE’s own proposal, and is advanced in the Fermi 3 COLA proceeding. Such environmental and safety analysis is required on this unique local problem specific to Fermi 2 and 3. It can, and must, be dealt with in Severe Accident Mitigation Alternatives (SAMA) analyses, and must be treated as Category 2 Issues in NRC’s forthcoming Draft Supplemental Environmental Impact Statement, as required by NEPA and the AEA.<sup>105</sup>

Joint Petitioners contend that DTE’s SAMA analysis does not sufficiently consider the likelihood that Fermi Units 2 and 3, which share the same transmission corridor, would lose power at the same time because an earthquake, tornado, fire, or other event knocked out power to both units.<sup>106</sup> They maintain that such a “common-mode failure” could result in severe accidents at both units. They further argue that the cumulative impacts arising from severe accidents at both plants are not speculative and thus should have been considered in DTE’s SAMA analysis.<sup>107</sup> Joint Petitioners point to Mr. Farouk Baxter’s limited ap-

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<sup>103</sup> Joint Petition at 35.

<sup>104</sup> See 10 C.F.R. § 2.309(f)(1)(i) (requiring that a contention identify the specific issue of law or fact to be controverted); *Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-10-9, 71 NRC 493, 510-11 (2010) (dividing a contention that raised two distinct issues into separate contentions).

<sup>105</sup> Joint Petition at 35.

<sup>106</sup> *Id.* at 35-38.

<sup>107</sup> *Id.* at 40.

pearance statement in the Fermi 3 proceeding, where he alleged that the shared transmission corridor made both units vulnerable to single-failure events.<sup>108</sup>

DTE replies that Fermi 3 was included as a future project in its cumulative impact analysis,<sup>109</sup> and argues that the shared transmission corridor is an “offsite” transmission line excluded from its environmental impact analysis by regulation.<sup>110</sup> DTE states that it considered a number of different SAMAs related to the loss of offsite power or diesel generators, but it concluded that none of those SAMAs was cost-beneficial.<sup>111</sup>

The Staff argues that DTE is not required explicitly to include Fermi 3 in its analysis of mitigation alternatives for Fermi 2, and also notes that DTE separately reviewed SAMAs for Fermi 3.<sup>112</sup> The Staff also asserts that any potential accidents caused by spent fuel pools are Category 1 issues excluded from the proceeding.<sup>113</sup>

In their reply, Joint Petitioners clarify that “while the risk of a spent fuel pool (SFP) accident cannot be subjected, in and of itself, to SAMA analysis, as a *cumulative effect of a common-mode failure that affects the TC*, Petitioners believe it can be considered as a given within the analysis itself.”<sup>114</sup> They also argue that under NEPA, DTE cannot unduly narrow the scope of the project to avoid considering whether a severe accident at one plant increases the probability of a severe accident at a nearby plant.<sup>115</sup>

Contention JP4A challenges the adequacy of DTE’s SAMA analysis. Because the SAMA analysis is a Category 2 issue, its adequacy is within the scope of this proceeding. Contention JP4A identifies a specific defect in DTE’s SAMA analysis: the failure to evaluate the possibility of a “common-mode failure” in the form of a transmission line failure that would lead to nearly simultaneous severe accidents at both Fermi 2 and Fermi 3. Joint Petitioners maintain that the costs averted by SAMAs that would reduce the likelihood of a transmission line failure should include the total costs resulting from severe accidents at both plants (i.e., the cumulative impact of severe accidents at both plants), and not just the costs from a severe accident at Fermi 2, which is all that DTE considered in its SAMA analysis. Joint Petitioners claim that, because DTE failed to evaluate the full cost of a transmission line failure in its SAMA analysis, DTE’s SAMA analysis

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<sup>108</sup> *Id.* at 46-48 (quoting Farouk D. Baxter, Limited Statement for ASLB Hearing on Proposed Fermi New Reactor, *Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), Docket No. 052-033-COL (Oct. 21, 2013) (ADAMS Accession No. ML13294A355)).

<sup>109</sup> DTE Answer at 20-21 (citing ER at 3-288).

<sup>110</sup> *Id.* at 20 (citing 10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1, n.4).

<sup>111</sup> *Id.* at 21.

<sup>112</sup> Staff Answer to Joint Petition at 46-47.

<sup>113</sup> *Id.* at 40.

<sup>114</sup> Joint Reply at 24 (emphasis in original).

<sup>115</sup> *Id.* at 27-28.

understates the benefits from adopting SAMAs that would reduce the likelihood of a transmission line failure. This is a Category 2 issue.

The Fermi 3 FEIS included a separate SAMA analysis for that proposed facility, and that separate Fermi 3 SAMA analysis is not open to challenge in this proceeding. But, to the extent Contention JP4A may be read to question the Fermi 3 SAMA analysis, we may narrow the contention to eliminate any such implication.<sup>116</sup> So construed, Contention JP4A challenges the failure to evaluate in the Fermi 2 SAMA analysis the full benefits of mitigation that they maintain would benefit both plants by reducing the likelihood of a transmission line failure. Among other things, Joint Petitioners identify SAMA 026, burying offsite power lines, as a mitigation measure that would reduce the likelihood of a transmission line failure affecting both Fermi 2 and Fermi 3, and which would thus reduce the likelihood of a severe accident at both plants.<sup>117</sup> DTE concluded that this SAMA would not be cost-beneficial for Fermi 2 because it would provide an “Internal and External Benefit” of \$345,255, while the estimated cost is “>\$1,000,000.”<sup>118</sup> But, according to Joint Petitioners, DTE’s SAMA analysis considers only the benefit this SAMA would provide for Fermi 2. DTE failed to determine whether burying the power lines in the transmission corridor would be cost-beneficial if the analysis included the reduced risk of a severe accident at Fermi 3 as well as at Fermi 2. Joint Petitioners maintain that DTE must provide a complete SAMA analysis that fully evaluates the costs and benefits of SAMA 026, and that without such an analysis the NRC cannot accurately determine whether that mitigation measure would actually be cost-beneficial.

As we have explained, an admissible SAMA contention must do more than identify additional issues that could be incorporated into the SAMA analysis. It must be genuinely plausible that revising the SAMA analysis in the manner suggested would change the outcome so that one or more of the SAMA candidates that DTE evaluated and rejected would become cost-beneficial.<sup>119</sup> Even assuming that an event affecting the common transmission corridor caused a loss of offsite power for both plants, we think it highly unlikely that the result would be a complete loss of all power at Fermi 2 and 3. Both plants have backup diesel generators that provide replacement power in the event of a loss of offsite power. Joint Petitioners’ scenario assumes that all the backup diesel generators at both

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<sup>116</sup>The Board may reformulate contentions to “eliminate extraneous issues or to consolidate issues for a more efficient proceeding.” *Crow Butte*, CLI-09-12, 69 NRC at 552 (quoting *Shaw AREVA MOX Services*, LBP-08-11, 67 NRC at 482); *Susquehanna*, LBP-79-6, 9 NRC at 295-96.

<sup>117</sup>Joint Petition at 49. We assume, although it is not entirely clear from DTE’s SAMA analysis, that SAMA 026 contemplates burying the entire transmission line corridor, including the power lines in the corridor that serve Fermi 3 as well as those that serve Fermi 2. ER at D-112.

<sup>118</sup>ER at D-133.

<sup>119</sup>*Seabrook*, CLI-12-5, 75 NRC at 322-24.

Fermi 2 and Fermi 3 would fail when the plants lose offsite power, resulting in severe accidents at both plants. To support the plausibility of this failure scenario, Joint Petitioners cite the statement of David Lochbaum of the Union of Concerned Scientists, who refers generally to “elevated safety risks during the early break-in phase with new atomic reactors,” as well as to “age-related degradation of systems, structures, and components” at older reactors.<sup>120</sup> Joint Petitioners further state that “it was revealed in 2006 that the Fermi 2 atomic reactor ha[d] unreliable emergency diesel generators . . . due to faulty testing procedures, for two decades (1986 to 2006).”<sup>121</sup>

Joint Petitioners acknowledge, however, that Fermi 3 will be an Economic Simplified Boiling Water Reactor (ESBWR), which relies on gravity to maintain circulation in the event of a complete loss of power.<sup>122</sup> The ESBWR can maintain circulation without offsite power and without power from backup diesel generators for up to 72 hours,<sup>123</sup> which would provide sufficient time for the safe shutdown of the plant. Thus, under its certified design, the ESBWR could maintain circulation long enough to permit safe shutdown of the reactor even if it were to lose offsite power and all of its backup generators failed to operate.<sup>124</sup>

To counter this argument, Joint Petitioners cite a statement from Dr. Edwin Lyman of the Union of Concerned Scientists, contending that “the ‘passive’ safety systems used by the ESBWR design are based on largely unproven technologies and are more complex and problematic than represented by GE-Hitachi in its public relations materials.”<sup>125</sup> Whatever the merits of Dr. Lyman’s argument may be, we may not consider it because, as Joint Petitioners acknowledge, the Commission certified the ESBWR design on September 16, 2014.<sup>126</sup> Thus, the Commission has resolved by regulation the adequacy of the ESBWR design. Although Joint Petitioners deny that they are challenging the ESBWR design,<sup>127</sup> the opinion of Dr. Lyman on which they rely plainly takes issue with the adequacy of the passive safety systems included in the design. A licensing board may not

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<sup>120</sup> Joint Petition at 41 (citing David Lochbaum, *Nuclear Plant Risk Studies: Failing the Grade* at 9 (2000), available at [http://www.ucsusa.org/assets/documents/nuclear\\_power/nuc.risk.pdf](http://www.ucsusa.org/assets/documents/nuclear_power/nuc.risk.pdf)).

<sup>121</sup> *Id.* at 42.

<sup>122</sup> *Id.* at 48.

<sup>123</sup> Tr. at 123 (citing GE-Hitachi Nuclear Energy, ESBWR Design Control Document, 26A6642BP Rev. 10, at 15.5.5.3 (2014) (ADAMS Accession No. ML14100A547)).

<sup>124</sup> *Id.*; 10 C.F.R. Part 52, App. E (“Design Certification Rule for the ESBWR Design”).

<sup>125</sup> Joint Petition at 48 (quoting Declaration of Dr. Edwin S. Lyman ¶¶4-5 (October 31, 2008), *Exelon Nuclear Texas Holdings, LLC* (Victoria County Station, Units 1 and 2), Docket Nos. 52-031 COL and 52-032 COL (ADAMS Accession No. ML083090806)).

<sup>126</sup> Joint Reply at 23.

<sup>127</sup> *Id.*



ordinarily consider the validity of or a challenge to a Commission regulation.<sup>128</sup> Although a party may petition the Commission for permission to challenge a rule, that party must make a showing of “special circumstances.”<sup>129</sup> Those special circumstances required to obtain a waiver have been described as a prima facie showing that application of a rule in a particular way would not serve the purposes for which the rule was adopted.<sup>130</sup> Joint Petitioners have attempted no such showing here.

Given that the certified ESBWR design is intended to preclude the catastrophic scenario posited by Contention JP4A and that Joint Petitioners may not dispute before the Board the Commission’s design certification, the Board concludes that Contention JP4A is inadmissible.

*b. JP4B — Mutually Exacerbating Catastrophes*

Contention JP4B concerns an emergency at Fermi 2 or 3 that would require the evacuation of both units. Joint Petitioners state:

A large-scale radioactivity release from Fermi 2’s reactor and/or HLRW storage pool, and/or from Fermi 3’s reactor and/or HLRW storage pool, could well lead to the evacuation of the entire Fermi nuclear power plant site — of the workforces for both plants, and even of emergency responders (such as firefighters, or military personnel) brought in from offsite to deal with a disaster. This possibility was contemplated by Tokyo Electric Power Company (TEPCO) during the darkest hours of the Fukushima Daiichi nuclear crisis and catastrophe in mid-March, 2011. In fact, Japanese Prime Minister Naoto Kan had to personally intervene in the middle of the night to prevent such a wholesale surrender, retreat, and abandonment of the multiple melting down reactors, and the nearby storage pools containing many hundreds of tons of irradiated fuel, themselves at risk of catching fire.<sup>131</sup>

This issue concerns a different scenario from that posited in Contention JP4A. Here, Joint Petitioners emphasize the potential for a severe accident at *either*

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<sup>128</sup> 10 C.F.R. § 2.335(a) (“[N]o rule or regulation of the Commission, or any provision thereof, concerning the licensing of production and utilization facilities . . . is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding.”).

<sup>129</sup> 10 C.F.R. § 2.335(b). To obtain waiver of a rule, it is not enough merely to allege special circumstances. The special circumstances must be set forth with particularity and supported by an affidavit or other proof. *Id.*; see *Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 206-07 (2013).

<sup>130</sup> See *Limerick*, CLI-13-7, 78 NRC at 207-09; *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 559-60 (2005); *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), LBP-78-37, 8 NRC 575, 584-85 (1978).

<sup>131</sup> Joint Petition at 38.

Fermi 2 *or* Fermi 3 to bring about an evacuation of the entire Fermi site due to releases of radioactive material, rather than a transmission line failure causing simultaneous severe accidents at both plants. Joint Petitioners note that during the Fukushima accident, the fission product release from one unit interfered with actions to maintain safe operations at other units.<sup>132</sup> Joint Petitioners maintain that this provides evidence that a severe accident at one unit can affect operation of other units at the same site, and that DTE should have considered that effect in its SAMA analysis.

Insofar as Joint Petitioners' second scenario concerns SAMAs that would reduce the likelihood of a severe accident at Fermi 2 or its consequences, it is within the scope of this proceeding. We recognize, as stated previously, that the adequacy of the Fermi 3 SAMA analysis is not before this Board. But we may consider Joint Petitioners' argument that, as part of the Fermi 2 SAMA analysis, DTE should have considered the possibility that a fission product release from Fermi 2 would adversely impact the operation of Fermi 3, thereby increasing the total costs resulting from a release from Unit 2. According to Joint Petitioners, DTE should have evaluated the adverse impacts on the operation of Fermi 3 as costs averted by SAMAs that would reduce the risk of a severe accident at Fermi 2 or the consequences of such an accident. Including such averted costs in the Fermi 2 SAMA analysis, Joint Petitioners argue, would increase the likelihood that mitigation measures for Fermi 2 would be cost-beneficial.

As noted above, the Board may reformulate contentions to "eliminate extraneous issues or to consolidate issues for a more efficient proceeding."<sup>133</sup> Thus, we may reformulate the aspect of JP4 that concerns sitewide impacts of a fission product release to make clear that we will consider Joint Petitioners' argument only insofar as it concerns the adequacy of the SAMA analysis for Fermi 2. As so restated, the contention is:

The Fermi 2 Severe Accident Mitigation Alternatives analysis fails to evaluate the impact that a severe accident at Fermi 2 would have on the operation of the proposed nearby Fermi 3.

We shall designate this Contention JP4B.

This contention satisfies the requirement of section 2.309(f)(1) that Joint Petitioners provide a specific statement of the issue of fact or law to be raised or controverted. Also, Joint Petitioners have provided an explanation of the basis of the contention, as required by section 2.309(f)(1)(ii). Joint Petitioners maintain

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<sup>132</sup> *Id.* (citing Martin Fackler, *Japan Weighed Evacuating Tokyo in Nuclear Crisis*, N.Y. Times, February 27, 2012, at A1).

<sup>133</sup> *Crow Butte*, CLI-09-12, 69 NRC at 552 (quoting *Shaw AREVA MOX Services*, LBP-08-11, 67 NRC at 482); *Susquehanna*, LBP-79-6, 9 NRC at 295-96.

that the construction and operation of Fermi 3 is a foreseeable future event, but the influence of Unit 3 upon severe accident consequences has been omitted from the Fermi 2 SAMA analysis:

Fermi 3 is a Combined Operating License “proposal” actively pending before the Nuclear Regulatory Commission, and that at this point the Commission must consider that it is more likely than not that Fermi 3 will be built and operated during the 2025-2045 period of the Fermi 2 license extension. In light of the . . . proximity of the two nuclear plants to one another, DTE must be required to comply fully with the . . . “hard look” imposed by NEPA, by accounting for these facts, risks and possibilities in the planning documents.<sup>134</sup>

Joint Petitioners argue “that under both statutes, NEPA and the AEA, the cumulative and/or synergistic effects, and conceivable environmental consequences, of various accident possibilities [must] be considered together.”<sup>135</sup> Thus, the basis of the contention is the foreseeable construction of Fermi 3, the proximity of the two reactors, and the potential for a fission product release from Fermi 2 to impact operations at Fermi 3, thereby increasing the costs of such a release. Such a scenario, Joint Petitioners maintain, must be evaluated in the Fermi 2 SAMA analysis to satisfy NEPA’s “hard look” requirement.<sup>136</sup>

Contention JP4B is within the scope of this proceeding, as required by section 2.309(f)(1)(iii), because it challenges the adequacy of DTE’s SAMA analysis for Fermi Unit 2. As we have explained, although the NRC has by regulation excluded various NEPA issues from a relicensing proceeding because they were resolved in the GEIS, the adequacy of the Fermi 2 SAMA analysis is a Category 2 issue that may be contested in this relicensing proceeding.

Under section 2.309(f)(1)(iv), the issue raised by JP4B must be material to the findings the NRC is obligated to make to support the action involved in the proceeding. The action involved in this proceeding is the relicensing of an operating reactor. A properly executed environmental impact statement is required by NEPA in a relicensing proceeding for an operating reactor. And, as noted by Joint Petitioners, a SAMA analysis is required for the EIS for the relicensing of “all plants that have not considered such alternatives.”<sup>137</sup> Thus, NEPA and the NRC’s NEPA regulations require a sufficient analysis of SAMAs

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<sup>134</sup> Joint Petition at 54.

<sup>135</sup> *Id.* at 41 (“The term ‘synergistic’ refers to the joint action of different parts — or sites — which, acting together, enhance the effects of one or more individual sites.”) (citing *Sequoyah Fuels Corp.* (Gore, Oklahoma Site Decommissioning), LBP-99-46, 50 NRC 386 (1999)).

<sup>136</sup> *Id.* at 54.

<sup>137</sup> Joint Petitioners cite Table B-1 of 10 C.F.R. Part 51, Subpart A, Appendix B, which requires that in the Environmental Report for license renewal “alternatives to mitigate severe accidents must be considered for all plants that have not considered such alternatives.” *Id.* at 39.

for Fermi 2, and compliance with that requirement is material to the findings the NRC must make to support relicensing of Fermi 2.

Under section 2.309(f)(1)(v), Joint Petitioners must provide a statement of the alleged facts or expert opinions upon which they rely. Joint Petitioners explain that the ER fails to consider the potential for an accident at Fermi 2 to impact Fermi 3.<sup>138</sup> They point to Fukushima to demonstrate that under severe accident conditions, the operation of one unit can be affected by that of another.<sup>139</sup> Joint Petitioners maintain that “the cumulative impacts associated with the proposed new Fermi 3 reactor cannot be excluded from DTE’s Fermi 2 LRA and ER as ‘remote’ or ‘speculative,’ for Unit 3 is DTE’s own proposal and is the subject of the Fermi 3 COLA proceeding . . . . It can, and must, be dealt with in Severe Accident Mitigation Alternatives (SAMA) analyses.”<sup>140</sup>

As required by section 2.309(f)(1)(vi), Joint Petitioners have alleged a specific material error in DTE’s SAMA analysis: the failure to consider the potential for a severe accident at Fermi 2 to impact negatively safe operation at Fermi 3, thereby potentially increasing the total damage that would result from a severe accident at Unit 2. Joint Petitioners state that DTE has “largely omitted Fermi 3 and common TC-related severe accident and cumulative impacts analyses from its Fermi 2 LRA, ER, and SAMAs.”<sup>141</sup> We recognize that DTE’s ER does evaluate the cumulative impact of normal operations at Fermi Units 2 and 3 upon environmental resources such as land use, surface water, groundwater, ecology, human health, and waste.<sup>142</sup> Thus, Joint Petitioners overstate their argument by suggesting that Fermi 3 was entirely excluded from the ER. But neither DTE nor the Staff has pointed us to any part of the ER that addresses the severe accident scenario postulated by Contention JP4B, much less shows that it was incorporated into the SAMA analysis. We therefore conclude that Contention JP4B identifies a potentially material deficiency in the ER’s SAMA analysis.

Our ruling is consistent with the decision of the South Texas Project (STP) COL Board concerning a similar contention.<sup>143</sup> That proceeding concerned an application to build two new nuclear reactors, STP Units 3 and 4, at a site occupied by two operating reactors, STP Units 1 and 2. The contention was that “[i]mpacts from severe radiological accident scenarios on the operation of other units at the

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<sup>138</sup> Joint Petition at 38-39, 49.

<sup>139</sup> *Id.* at 38.

<sup>140</sup> *Id.* at 35.

<sup>141</sup> *Id.* at 49.

<sup>142</sup> DTE Answer at 21 (citing ER at 4-67, 4-70 to 4-77).

<sup>143</sup> See *South Texas Project Nuclear Operating Co.* (South Texas Project, Units 3 and 4), LBP-09-21, 70 NRC 581, 617 (2009), *review denied*, *Nuclear Innovation North America LLC* (South Texas Project, Units 3 and 4), CLI-11-6, 74 NRC 203, 210 (2011).

STP site have not been considered in the Environmental Report.”<sup>144</sup> Petitioners claimed that the ER for STP Units 3 and 4 ““deals with severe accidents but has no discussion or analysis of the impact of a severe radiological accident at any one of the four units as it would impact the other remaining three units,’ or how ‘operations at undamaged units would be continued in the event that the entire site becomes seriously contaminated.’”<sup>145</sup> The STP Board admitted the contention, stating that “Petitioners’ assertion that the Applicant must address the potential impacts of a radiological incident on the operations of the other units establishes an admissible contention of omission.”<sup>146</sup> In this case also, we find that Contention JP4B states an admissible contention of omission based on the failure of the Fermi 2 SAMA analysis to evaluate the impact that a severe accident at Fermi 2 would have on the operation of the proposed nearby Fermi 3.

As instructed by the Commission, the Board must also consider whether it is genuinely plausible that correcting the alleged error will change the outcome of DTE’s SAMA analysis.<sup>147</sup> Joint Petitioners stress the risk that the entire Fermi site would be evacuated or abandoned as the result of sitewide contamination, thus imperiling the safe operation of Fermi 3.<sup>148</sup> SAMAs that reduce the risk of such a release from Fermi 2, or which would mitigate its effect, would reduce the risk or a sitewide evacuation or the extent of the evacuation. Moreover, even if the site would not be totally evacuated, a fission product release from Fermi 2 would likely contaminate the entire site, with the result that both Fermi 2 and Fermi 3 could be out of operation for years.<sup>149</sup> The Fermi 2 SAMA analysis estimates the economic loss if Fermi 2 ceases operation as the result of a severe accident,<sup>150</sup> but it includes no estimate of the economic loss if Fermi 3 also stops generating electrical energy for an extended period. DTE appears to have assumed that a severe accident and resulting fission product release from Fermi 2 would have no impact upon the safe long-term operation of Fermi 3. That assumption is open to legitimate dispute.

It is beyond the scope of the contention admissibility stage of this proceeding to make a detailed determination of the specific cost-benefits that would result should this information be incorporated in the SAMA analysis. Nevertheless, for the reasons just stated, the costs of a severe accident at Fermi 2 would increase if

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<sup>144</sup> *Id.*

<sup>145</sup> *Id.* at 618 (quoting the STP Unit 3 and 4 Petition at 46).

<sup>146</sup> *Id.* at 619.

<sup>147</sup> *Seabrook*, CLI-12-5, 75 NRC at 322-24.

<sup>148</sup> Joint Petition at 38.

<sup>149</sup> See *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-9, 21 NRC 1118, 1122 (1985) (lifting the enforcement order on Unit 1 and allowing that unit to resume operations 6 years after the accident at Unit 2).

<sup>150</sup> ER at D-105.

the impact on Fermi 3 is included in the analysis, making it genuinely plausible that some SAMAs could become cost-beneficial. Unlike Contention JP1, which was concerned solely with SAMA 123, Contention JP4B potentially affects the cost-benefit analysis of all 220 SAMA candidates that DTE evaluated. And some of the rejected SAMA candidates require only moderate costs, so that moderate increases in the estimated benefits (i.e., the costs averted) could make those SAMAs cost-beneficial. For example, SAMA 203, “Improve [Emergency Diesel Generator (EDG)] maintenance procedures to decrease unavailability time,” was projected to cost only \$50,000.<sup>151</sup> DTE rejected SAMA 203 because it estimated the benefit to be only \$16,474. Similarly, SAMA 176, “Develop a procedure to open the door to the EDG buildings upon the high temperature alarm,” was estimated to cost \$200,000.<sup>152</sup> Joint Petitioners allege that the nearby Davis-Besse reactor nearly experienced a “disaster,” in part because of an overheated generator.<sup>153</sup> DTE rejected SAMA 176, however, because it estimated the benefit to be only \$61,477.<sup>154</sup> It is genuinely plausible, given the moderate costs of SAMAs 203 and 176, that if the analysis is modified to include the sitewide impacts of a fission product release from Fermi 2, the costs averted would increase to the point that one or both of those SAMAs would become cost-beneficial.

The Board therefore concludes that Contention JP4B satisfies the admissibility criteria, and we will admit it in this proceeding.

## B. CRAFT’s Contentions

CRAFT, a *pro se* petitioner, has proffered fourteen contentions challenging DTE’s license renewal application and asserting that Fermi 2 is unnecessary, unsafe, and environmentally harmful.<sup>155</sup> DTE and the Staff oppose the request in its entirety,<sup>156</sup> and the Staff have moved to strike portions of CRAFT’s reply

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<sup>151</sup> ER at D-142.

<sup>152</sup> ER at D-139.

<sup>153</sup> Joint Petition at 43. According to Joint Petitioners, a nuclear disaster nearly occurred at Davis-Besse on June 24, 1998 “due to the near fatal failure of EDGs.” *Id.* The plant lost offsite electricity supply for 27 hours after a tornado destroyed the surrounding electric transmission grid and plant switchyard. “One of its EDGs initially would not start, and then had to be declared inoperable more than once over the course of the next day, due to the room housing [it] . . . overheating. Its second — and last — EDG would later be declared inoperable due to a problem with its governor control.” *Id.* & n.30 (citations omitted).

<sup>154</sup> ER at D-139.

<sup>155</sup> CRAFT Petition at 4-36.

<sup>156</sup> DTE Answer at 23-51; Staff Answer to CRAFT Petition at 14-86.

brief.<sup>157</sup> For the reasons discussed below, the Board grants the motion to strike in part and denies it in part. Analyzing each contention in turn, the Board admits portions of two contentions — one alleging negative impacts on tribal hunting and fishing near Fermi 2 (Contention 2) and the other asserting that Canadians living within 50 miles of the facility were excluded from the SAMA analysis (Contention 8). The Board finds CRAFT’s remaining contentions inadmissible.

### ***1. CRAFT 1 — Wind Power Is a Viable Alternative***

CRAFT contends that “[DTE’s] Environmental Report (ER) does not adequately evaluate the full potential for renewable energy sources, such as wind power, to replace the loss of energy production from Fermi 2, and to make the license renewal request from 2025 to 2045 unnecessary.”<sup>158</sup> CRAFT alleges that DTE did not adequately consider whether wind power from interconnected wind farms and offshore generation could supply the same level of power as Fermi 2,<sup>159</sup> which has a capacity of 1170 megawatts electrical (MWe).<sup>160</sup> To show that wind could generate sufficient power, CRAFT notes that DTE has built 400 MWe of wind power capacity in recent years and plans to contract with third parties for an additional 450 MWe.<sup>161</sup> Based on these increases in renewable power, CRAFT argues that DTE could replace Fermi 2 with renewable energy by the start of the renewal period.<sup>162</sup> In its reply, CRAFT also points to articles showing that: Michigan has 1163 MWe of installed capacity at wind farms;<sup>163</sup> a 200-MWe wind farm is under construction in Minnesota;<sup>164</sup> several offshore projects “in advanced stages of development” across the United States would add 4900 MWe of capacity;<sup>165</sup> and that wind power is increasingly financially viable.<sup>166</sup>

At oral argument, CRAFT argued that wind farms spread across the state would provide reliable power because the wind is always blowing somewhere in Michigan and, CRAFT noted, a pumped storage hydroelectric facility near

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<sup>157</sup> NRC Staff Motion to Strike Portions of CRAFT’s Reply (Oct. 2, 2014) [hereinafter “Staff Motion to Strike”]; *see also* CRAFT Reply to Staff Motion to Strike (Oct. 10, 2014); DTE Electric Company Response in Support of Staff Motion to Strike (Oct. 14, 2014).

<sup>158</sup> CRAFT Petition at 4.

<sup>159</sup> *Id.* at 4-5.

<sup>160</sup> LRA at 1-8.

<sup>161</sup> CRAFT Petition at 5.

<sup>162</sup> *Id.* at 8-9.

<sup>163</sup> CRAFT Reply at 6.

<sup>164</sup> *Id.* at 6-7.

<sup>165</sup> *Id.* at 7-9.

<sup>166</sup> *Id.* at 9-11.

Ludington, Michigan, can provide 1800 MWe from stored water.<sup>167</sup> As an example of renewables providing baseload power, CRAFT also asserted that Denmark and Germany “are close to 100 percent renewable power, largely from wind and solar,”<sup>168</sup> but did not provide a supporting source.

This contention is inadmissible because CRAFT has not supported its proposition that wind power and other renewables could supply the same level of consistent baseload power as Fermi 2. The Commission rejected a nearly identical contention in *Davis-Besse*, explaining that it was not enough to demonstrate a theoretical possibility that wind farms spread across a wide area could provide consistent power; petitioners must show concretely that wind could be a reliable, commercially viable source of baseload power during the license renewal period.<sup>169</sup> Because CRAFT has not referenced specific sources showing that wind or other renewables are viable sources of baseload power within Fermi 2’s service area, CRAFT has not adequately supported its contention.<sup>170</sup> Furthermore, CRAFT has failed to provide a direct critique of the analysis in the ER, which discussed the potential for offshore power and interconnected wind farms,<sup>171</sup> and thus CRAFT has also failed to identify a genuine dispute with the applicant.<sup>172</sup>

## **2. CRAFT 2 — Walpole Island First Nations’ Exclusion from Proceedings and Negative Impact on Treaty Rights**

CRAFT’s next contention raises two issues concerning the Walpole Island First Nation:<sup>173</sup> (1) lack of notification about this proceeding and the scoping process and (2) alleged negative effects on tribal treaty rights to hunt and fish near Fermi 2 and the ER’s failure to address those impacts.<sup>174</sup>

Concerning notification, CRAFT argues that the Staff violated a duty under 10 C.F.R. § 51.28(a)(5) to invite “[a]ny affected Indian tribe” to participate in the

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<sup>167</sup> Tr. at 125-26.

<sup>168</sup> Tr. at 132.

<sup>169</sup> *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 400-02 (2012).

<sup>170</sup> 10 C.F.R. § 2.309(f)(1)(v); *Davis-Besse*, CLI-12-8, 75 NRC at 402, 405.

<sup>171</sup> ER at 7-7, 7-9.

<sup>172</sup> 10 C.F.R. § 2.309(f)(1)(vi); *Davis-Besse*, CLI-12-8, 75 NRC at 405.

<sup>173</sup> According to CRAFT, members of the Walpole Island First Nation “are neither Canadian nor American, but live in between the two countries on unceded lands” approximately 50 miles away from Fermi 2. CRAFT Petition at 11-12.

<sup>174</sup> *Id.* at 9-13.



environmental scoping process.<sup>175</sup> CRAFT argues generally that no one sought the tribe's input concerning the LRA.<sup>176</sup>

As DTE and the Staff correctly note,<sup>177</sup> this part of the contention is inadmissible because it does not create a genuine dispute with the *applicant*, who has no such duty under section 51.28(a)(5).<sup>178</sup> Nor has CRAFT pointed to any authority to support its proposition that the Staff must personally notify the tribe. The Staff notified the public of the opportunity to challenge DTE's application on June 18, 2014 via publication in the *Federal Register*,<sup>179</sup> and similarly requested public comments on June 30.<sup>180</sup> As the Commission has explained, publication in the *Federal Register* is legally sufficient notice to all affected people.<sup>181</sup>

The second issue raised by Contention 2 is the impact of license renewal on tribal hunting and fishing near Fermi 2 and DTE's failure to address those impacts in the ER. CRAFT prefaced its petition with the claim that "[t]he Applicant's LRA and associated analyses as part of the AMP and ER have material deficiencies to an extent that could significantly jeopardize (impact) public health and safety,"<sup>182</sup> and a portion of Contention 2 identified an alleged deficiency "given the n[eg]ative impacts upon such treaty rights as hunting and fishing near the Fermi 2 nuclear reactor site, especially in Lake Erie."<sup>183</sup> To support its argument, CRAFT submitted declarations from thirty-one members of fourteen tribes claiming "treaty rights to hunt, fish, and gather in the area of the Fermi 2 nuclear reactor."<sup>184</sup> The members asserted that they are "concerned

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<sup>175</sup> *Id.* at 10.

<sup>176</sup> *Id.* at 9-13.

<sup>177</sup> DTE Answer at 27-28; Staff Answer to CRAFT Petition at 22.

<sup>178</sup> 10 C.F.R. § 2.309(f)(1)(vi); see *Powertech USA, Inc.* (Dewey-Burdock in Situ Uranium Recovery Facility), LBP-13-9, 78 NRC 37, 49 (2013) (noting that "it is the duty of the Staff, not the applicant, to consult with interested tribes concerning the proposed site" in the context of a National Historic Preservation Act contention); see also *Crow Butte Resources, Inc.* (Marsland Expansion Area), CLI-14-2, 79 NRC 11, 20 n.49 (2014) ("A contention claiming the Staff's consultation was inadequate does not ripen until issuance of the Staff's draft [EIS].").

<sup>179</sup> 79 Fed. Reg. at 34,787.

<sup>180</sup> DTE Electric Company, Fermi 2; Intent to Prepare an Environmental Impact Statement and Conduct the Scoping Process; Public Meetings and Opportunity to Comment, 79 Fed. Reg. 36,837, 36,839 (June 30, 2014).

<sup>181</sup> *Millstone*, CLI-05-24, 62 NRC at 565 & n.60 ("The Board correctly viewed *Federal Register* publication of a notice of hearing opportunity as legally adequate notice."); see also 44 U.S.C. § 1507; *Friends of Sierra Railroad, Inc. v. Interstate Commerce Commission*, 881 F.2d 663, 667-68 (9th Cir. 1989) ("Publication in the Federal Register is legally sufficient notice to all interested or affected persons regardless of actual knowledge or hardship resulting from ignorance.")

<sup>182</sup> CRAFT Petition at 3.

<sup>183</sup> *Id.* at 12.

<sup>184</sup> CRAFT Declarations. The tribes are the Walpole Island First Nation, Pokagon Band of  
(Continued)

that numerous species of plants, fish, wild game, and migratory birds are being polluted by Fermi 2's discharge, making them inedible."<sup>185</sup> In Contention 2, CRAFT raises the issue of "n[eg]ative impacts upon such treaty rights as hunting and fishing near the Fermi 2 nuclear reactor site, especially in Lake Erie" and explained that fish and game near the facility are part of the Walpole Island First Nation's food supply.<sup>186</sup> CRAFT asserts that "Fermi 2's radiological, toxic chemical and thermal pollution negatively impacts the food supply of the Walpole Island First Nation."<sup>187</sup>

In response, DTE and the Staff both argue that CRAFT has not disputed a specific part of the application.<sup>188</sup> They also maintain that CRAFT's claims lack an adequate factual basis.<sup>189</sup>

In its reply, CRAFT attached a letter from Dan Miskokomon, the Chief of the Walpole Island First Nation, confirming that "[o]ur membership still actively fishes in and harvests the resources of western Lake Erie and other areas in close proximity to Fermi 2."<sup>190</sup> Also in its reply, CRAFT states that it disagrees with the Environmental Justice conclusions of the ER,<sup>191</sup> which were based on the claim that no subsistence consumption activities occur near the site.<sup>192</sup> CRAFT argues that "Environmental Justice is an Applicable Category 2 Issue to Fermi 2 and its proposed continuing operations, and that seems to be the issue of law validating this contention."<sup>193</sup>

To eliminate the inadmissible issue of tribal notification and to clarify the scope of the subsistence consumption issue,<sup>194</sup> the Board narrows and reformulates this contention as follows:

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Potawatomi, Nottawaseppi Huron Band of the Potawatomi, Potawatomi Nation, Match-E-Be-Nash-She-Wish Tribe [Band of Pottawatomi], Little River Band of Ottawa Indians, Little Traverse Bay Bands of Odawa Indians, Muskegon [River Band of Ottawa Indians], Grand Traverse Band of Ottawa & Chippewa Indians, Mackinac Band [of Chippewa and Ottawa Indians], Sault Ste. Marie Tribe of Chippewa Indians, Saginaw Chippewa, Oneida, and Pima. *Id.*

<sup>185</sup> *Id.*

<sup>186</sup> CRAFT Petition at 12.

<sup>187</sup> *Id.*

<sup>188</sup> DTE Answer at 27; Staff Answer to CRAFT Petition at 24-25.

<sup>189</sup> DTE Answer at 28; Staff Answer to CRAFT Petition at 24-25.

<sup>190</sup> CRAFT Reply at 23-25 (citing Letter from Dan Miskokomon, Chief, Walpole Island First Nation, to Allison Macfarlane, Chairman, Nuclear Regulatory Commission (Sept. 22, 2014) (ADAMS Accession No. ML14265A490) [hereinafter "Miskokomon Letter"]).

<sup>191</sup> *Id.* at 21-22 (citing ER at 4-60).

<sup>192</sup> ER at 4-60.

<sup>193</sup> CRAFT Reply at 22.

<sup>194</sup> See *Crow Butte*, CLI-09-12, 69 NRC at 552-53 (describing Board's authority to reformulate contentions to remove extraneous issues and clarify the scope of the admitted contention).

The ER failed to consider whether members of the Walpole Island First Nation would be negatively affected by the renewal of the Fermi 2 operating license due to impacts on tribal hunting and fishing rights, especially with respect to the potential for the consumption of contaminated foods.

Although CRAFT provided declarations from members of other tribes describing treaty rights to hunt and fish near Fermi 2,<sup>195</sup> we limit this subsistence consumption contention to the Walpole First Nation and its members because CRAFT specifically alleged “negative[ ] impacts [on] the food supply of the Walpole Island First Nation.”<sup>196</sup>

We conclude that this narrowed reformulation of CRAFT’s contention regarding tribal hunting and fishing near Fermi 2 is admissible. The contention includes a specific statement of the issue of fact or law to be raised or controverted.<sup>197</sup> Also, CRAFT has explained the basis of the contention: the existence of tribal hunting and fishing rights near Fermi 2 and subsistence consumption, and the failure to address those issues in the ER.<sup>198</sup> Given that Environmental Justice is a Category 2 issue, the contention is within the scope of this proceeding.<sup>199</sup>

Moreover, the issue raised by the contention is material to the findings the NRC must make to support the relicensing action involved in this proceeding.<sup>200</sup> The NRC must comply with NEPA, and to do so it must prepare an EIS that adequately evaluates the environmental impacts of relicensing, including impacts to tribal hunting and fishing rights and subsistence consumption.<sup>201</sup> The contention’s claims of tribal hunting and fishing rights near Fermi 2 support CRAFT’s allegation of deficiencies in the ER because NEPA requires acknowledgment of tribal hunting and fishing rights, as well as an analysis of how the project will affect those rights.<sup>202</sup> Thus, whether the ER has considered tribal hunting and fishing rights and subsistence consumption is material to the compliance with NEPA and, ultimately, to license renewal.

The Staff argues that CRAFT has failed to provide scientific evidence to show actual contamination of the Walpole’s food supply.<sup>203</sup> But “petitioners may raise

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<sup>195</sup> CRAFT Petition at 2; CRAFT Declarations.

<sup>196</sup> *Id.* at 12-13.

<sup>197</sup> 10 C.F.R. § 2.309(f)(1)(i); CRAFT Petition at 12 (alleging “negative[ ] impacts [on] the food supply of the Walpole Island First Nation”).

<sup>198</sup> 10 C.F.R. § 2.309(f)(1)(ii); CRAFT Petition 2-3, 12-13; CRAFT Declarations.

<sup>199</sup> 10 C.F.R. § 2.309(f)(1)(iii); 10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1.

<sup>200</sup> 10 C.F.R. §§ 2.309(f)(1)(iv), 51.45.

<sup>201</sup> *Id.* § 51.45; *see Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 479-80 (9th Cir. 2000) (affirming district court ruling upholding action of the U.S. Forest Service because the Service provided extensive analysis of impact on the tribe’s hunting and fishing rights in its EIS).

<sup>202</sup> *Okanogan Highlands Alliance*, 236 F.3d at 479-80; *see also* 40 C.F.R. § 1502.16.

<sup>203</sup> Staff Answer to CRAFT Petition at 24-25.

contentions seeking correction of significant inaccuracies and omissions in the ER.”<sup>204</sup> Although boards do not sit “to ‘flyspeck’ environmental documents or to add details or nuances,” the ER or EIS must “‘come[] to grips with all important considerations.’”<sup>205</sup> Here CRAFT has provided evidence to show that the Walpole Island First Nation has and continues to use tribal hunting and fishing rights in the vicinity of Fermi 2.<sup>206</sup> That claim, if upheld, is sufficient to demonstrate a significant inaccuracy or omission in the ER, given that it fails to evaluate the impact of license renewal on the Walpole’s subsistence activities. And it is the Staff, not the petitioners, that has the burden of complying with NEPA.<sup>207</sup> CRAFT has therefore met its burden to identify the facts supporting Contention 2 as narrowed by the Board.<sup>208</sup>

We also find that Contention 2, as narrowed, presents a dispute of material fact with the LRA. In sharp contrast to CRAFT’s claims that the Walpole Island First Nation has hunting and fishing rights near Fermi 2 that it continues to use for subsistence consumption, the ER asserted that there is “no documented subsistence fishing in Lake Erie” and “[n]o subsistence practices” near Fermi 2.<sup>209</sup> DTE reached this conclusion by asking the Monroe County sheriff, the superintendent of the Monroe County Intermediate School District, “two local church officials,” and a local farmer whether anyone used “natural resources as food for consumption” in the nearby area.<sup>210</sup> But we have found no evidence that DTE consulted with any tribal member concerning tribal hunting and fishing rights or subsistence practices, and the Walpole steadfastly maintain that they have such rights and use them for subsistence purposes.<sup>211</sup>

Although DTE and the Staff both argue that CRAFT has not disputed a specific portion of the application,<sup>212</sup> petitioners do not need to cite a specific portion of

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<sup>204</sup> *System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-05-4, 61 NRC 10, 13 (2005) (citations omitted).

<sup>205</sup> *Id.* (quoting *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 71 (2001)).

<sup>206</sup> See Declaration of Russ Blackbird in Support of CRAFT’s Petition (July 5, 2014); CRAFT Reply at 23-25 (citing Miskokomon Letter at 1).

<sup>207</sup> See *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 553 (1978).

<sup>208</sup> 10 C.F.R. § 2.309(f)(1)(v).

<sup>209</sup> ER at 4-60.

<sup>210</sup> ER at 3-246, 3-247.

<sup>211</sup> See Declaration of Russ Blackbird in Support of CRAFT’s Petition (July 5, 2014) (“I am a member of Walpole Island First Nation which has treaty rights to hunt, fish, and gather in the area of the Fermi 2 nuclear reactor . . . I am concerned that numerous species of plants, fish, wild game, and migratory birds[] are being polluted by Fermi 2’s discharge, making them inedible.”); CRAFT Reply at 23-25 (citing Miskokomon Letter at 1).

<sup>212</sup> DTE Answer at 27-28; Staff Answer to CRAFT Petition at 24-25.

the application to support a contention of omission.<sup>213</sup> CRAFT alleges that tribal hunting and fishing were not considered in the license renewal process,<sup>214</sup> and, indeed, no portion of the ER mentions tribal hunting or gathering near Fermi 2.<sup>215</sup> CRAFT has thus identified a material factual dispute with DTE regarding the existence of subsistence consumption within the vicinity of Fermi 2.

Alternatively, even if this contention is interpreted as a contention of inadequacy, CRAFT has sufficiently supported its contention by identifying the page of the ER with which the petitioners disagree.<sup>216</sup> As discussed above, this page is part of the Environmental Justice analysis because NRC regulations categorize “subsistence consumption” as a subset of Environmental Justice.<sup>217</sup> By identifying a potential impact on the tribe’s food supply,<sup>218</sup> CRAFT has sufficiently disputed DTE’s conclusion that there is no subsistence consumption near the Fermi 2 site.<sup>219</sup>

Thus, whether described as a contention of omission or adequacy, this contention is admissible because it identifies a genuine dispute with DTE on a material issue (the existence of tribal hunting and fishing rights and subsistence consumption near Fermi 2) required as part of the NEPA analysis.<sup>220</sup>

The Staff moved to strike CRAFT’s references in its reply to Environmental Justice, arguing that any discussion of Environmental Justice is a new argument outside the scope of the original contention.<sup>221</sup> A reply may not be used to present entirely new arguments in support of an existing contention or to propose a new contention.<sup>222</sup> But a board may consider information in a reply that legitimately

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<sup>213</sup> 10 C.F.R. § 2.309(f)(1)(i)-(vi) (“[I]f the petitioner believes that the application fails to contain information on a relevant matter as required by law,” the petitioner must identify “each failure and the supporting reasons for the petitioner’s belief.”); see *McGuire/Catawba*, CLI-02-28, 56 NRC at 382-84 (defining contentions of omission and contentions of inadequacy).

<sup>214</sup> CRAFT Petition at 12.

<sup>215</sup> See ER at 3-246, 3-247, 4-60.

<sup>216</sup> CRAFT Reply at 21 (citing ER at 4-60).

<sup>217</sup> 10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1; see Office of New Reactors, Staff Guidance for the Socioeconomic and Environmental Justice Analysis for New Reactor Environmental Impact Statements, COL/ESP-ISG-026 (2014) (ADAMS Accession No. ML14100A535).

<sup>218</sup> CRAFT Petition at 12.

<sup>219</sup> ER at 4-60.

<sup>220</sup> See *Diablo Canyon*, CLI-11-11, 74 NRC at 442-43 (admitting petitioner’s contention that applicant had failed to discuss a recently identified seismic fault near the plant in its SAMA analysis, without deciding if it was a contention of omission or a contention of inadequacy).

<sup>221</sup> Staff Motion to Strike at 4.

<sup>222</sup> *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 224 (2004).

amplifies an issue presented in the original petition.<sup>223</sup> The Commission also permits petitioners to cure deficiencies with regard to standing in their replies.<sup>224</sup> There is thus no absolute bar on petitioners presenting additional evidence or argument in a reply. We must therefore determine whether CRAFT has impermissibly attempted to present a new contention or an entirely new argument in support of an existing contention, or permissibly amplified existing arguments or issues.

We deny the Staff's motion to strike the references to Environmental Justice because, rather than attempting to introduce an entirely new argument or a new contention, they legitimately amplify the argument of Contention 2 that the ER is deficient for failing to evaluate impacts to tribal subsistence consumption.<sup>225</sup> The Staff acknowledges that the impact of Fermi 2 on the Walpole First Nation's food supply was raised in Contention 2:

Proposed Contention 2 stated that the Walpole Island First Nation would be negatively affected by the renewal of the Fermi 2 operating license due to airborne radiological or toxic chemical risks, waterborne radiological or toxic chemical risks, thermal pollution, and the effects of these on the tribe's hunting and fishing rights, especially with respect to the potential *for the consumption of contaminated foods*.<sup>226</sup>

This *is* an Environmental Justice issue, even though the petition did not expressly so describe it, because under the NRC's NEPA regulations impacts to "subsistence consumption" must be evaluated as part of the site-specific "Environmental Justice" analysis.<sup>227</sup> Unless such impacts have been adequately addressed in the ER, the ER necessarily fails to provide an adequate Environmental Justice review. Therefore, CRAFT's references to Environmental Justice in its reply did not introduce a new contention or argument, because Contention 2 already identified an Environmental Justice issue that the ER failed to evaluate. The reply's references to Environmental Justice merely amplified the subsistence consumption issue initially raised in Contention 2.<sup>228</sup>

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<sup>223</sup> See *id.* (approving of Board's decision to consider information in petitioners' reply briefs that "legitimately amplified" issues presented in the initial petitions); *PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-4, 65 NRC 281, 299-302 (2007).

<sup>224</sup> *South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-10-1, 71 NRC 1, 7 (2010) (ruling that Board erred in refusing to allow an intervenor to cure its standing in its reply); *PPL Bell Bend, LLC* (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC 133, 139-40 (2010) ("Mr. Epstein had the opportunity to cure on reply the defects in his initial petition.").

<sup>225</sup> See *supra* note 223.

<sup>226</sup> Staff Motion to Strike at 4 (emphasis added).

<sup>227</sup> 10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1.

<sup>228</sup> See CRAFT Reply at 21-22 (citing ER at 4-60); *National Enrichment Facility*, CLI-04-25, 60 NRC at 224.

In any event, even if we refused to consider the Environmental Justice issue, NEPA requires an analysis of impacts to tribal hunting and fishing rights.<sup>229</sup> Thus, Contention 2 would remain viable even had we granted the Staff's motion to strike CRAFT's references to Environmental Justice.

The dissent claims that no deficiency in the ER is properly before the Board because Contention 2 as set forth in the petition did not challenge the ER. The dissent does not dispute that Contention 2 as reformulated by the Board meets the criteria for admission.<sup>230</sup> The dissent also acknowledges that CRAFT's Contention 2 refers to tribal hunting and fishing rights near Fermi 2.<sup>231</sup> But the dissent claims that those references were offered solely to support CRAFT's lack of notice argument.<sup>232</sup> According to the dissent, Contention 2 is "not about hunting and fishing in the area" or "an omission from the ER."<sup>233</sup>

The dissent arrives at this cramped interpretation only by completely ignoring a critical part of the petition, its preface, and by failing to give any effect to the rule of interpretation that pleadings submitted by *pro se* petitioners are afforded greater leniency than petitions drafted with the assistance of counsel.<sup>234</sup> CRAFT's petition may not be a model of clarity or organization, but, read in light of that general rule of interpretation, CRAFT has amply demonstrated its intent to challenge *both* the lack of notice and the ER's failure to address impacts on tribal hunting and fishing rights and subsistence consumption.

CRAFT's "PREFACE to ALL Contentions" plainly demonstrates CRAFT's intent to challenge deficiencies in the ER related to public health and safety.<sup>235</sup> The preface alleges that:

The Issues raised in each of the following Contentions are integrally relevant and Material to these proceedings. . . . The deficiencies highlighted in *these Contentions* have enormous independent health and safety significance. The Applicant's LRA

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<sup>229</sup> *Okanogan Highlands Alliance v. Williams*, 236 F.3d at 479-80.

<sup>230</sup> Dissent at p. 313.

<sup>231</sup> *Id.* at pp. 311-12.

<sup>232</sup> *Id.* at p. 312.

<sup>233</sup> *Id.* at p. 313.

<sup>234</sup> See *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-10-17, 72 NRC 1, 45 n.246 (2010) (declining to reject argument on procedural grounds given practice of "treating *pro se* litigants more leniently than litigants with counsel"); *Turkey Point*, CLI-01-17, 54 NRC at 15 ("Given that Mr. Oncavage is a *pro se* intervenor, however, the Commission has made a special effort to review the contentions he made in his Amended Petition before the Board."); *Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-146, 6 AEC 631, 633 & n.4 (1973) (recognizing that *pro se* petitioner is not held to the same standards of clarity and precision as a lawyer).

<sup>235</sup> CRAFT Petition at 3 (capitalization in original).

and associated analyses as part of the AMP *and* ER have material deficiencies to an extent that could significantly jeopardize (impact) public health and safety.<sup>236</sup>

CRAFT's preface further argues that NEPA requires "meaningful review[]" of environmental concerns.<sup>237</sup> Thus, CRAFT's preface to all of its contentions shows that it intended the allegations related to public health and safety in its contentions, including those in Contention 2, to challenge the ER's failure to adequately evaluate those issues.

Contention 2 supports CRAFT's claim that the ER contains deficiencies relevant to public health and safety. The contention, as previously explained, alleged negative impacts on treaty rights to hunt, fish, and gather in the area of the Fermi 2 nuclear reactor; and tribal concerns that plants, fish, wild game, and migratory birds are being polluted by Fermi 2's radiological, toxic chemical and thermal pollution discharge, making them inedible.<sup>238</sup> CRAFT makes multiple allegations related to these claims.<sup>239</sup> The ER fails to address those issues. The most that the dissent could legitimately argue, therefore, is that CRAFT did not expressly reiterate in Contention 2 that the ER's deficiencies related to public health and safety alleged in the preface include the specific public health and safety issues identified in the Contention. But if the rule permitting liberal interpretation of *pro se* pleadings is to be given any meaningful effect, it must allow the Board to interpret CRAFT's statement in the preface that its contentions identify material deficiencies in the ER related to public health and safety to include the concerns related to tribal hunting and fishing rights and subsistence consumption identified in Contention 2. Those *are* the public health and safety issues identified in Contention 2. There is no plausible reason to think CRAFT's preface was referring to anything else in that contention.

When Contention 2 is interpreted in light of CRAFT's preface, as it should be,

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<sup>236</sup> *Id.* at 3 (emphasis added).

<sup>237</sup> *Id.* at 4.

<sup>238</sup> *Supra* text accompanying notes 183-187.

<sup>239</sup> *See id.* at 2 ("CRAFT also submits 32 affidavits for individual members of affected Indian tribes . . . . These tribes are listed by the NRC as having treaty rights to hunt, fish, and gather foods in the Lake Erie Western Basin."); *id.* at 10 ("Many tribal members had no idea their tribal governments were allowing the contamination of the lands they are guaranteed to hunt, fish, and gather food forevermore."); *id.* at 12 ("[N]umerous species of fish, wild game, and migratory bird consumed as food by Walpole Island First Nation spe[n]d a part of their life cycle at or near the Fermi 2 site."); *id.* ("Fermi 2's radiological, toxic chemical and thermal pollution negatively impacts the food supply of the Walpole Island First Nation."); *id.* at 12-13 ("[Walpole Island First Nation] is also well aware of the degrading [effects] upon the fish, wild game, and migratory birds its community fishes and hunts that could be contaminated by the continued operation of Fermi 2."); *id.* at 13 ("[CRAFT] has also agreed to represent the named tribal members who object to their treaty rights being contaminated for now and forevermore."); Tr. at 193.



the dissent's arguments that the contention fails to satisfy the criteria of section 2.309(f)(1) vanish.<sup>240</sup> We have explained that the reformulated contention satisfies all of the criteria of section 2.309(f)(1).<sup>241</sup> The dissent does not disagree, stating that it is "not arguing that the reformulated contention does not meet the criteria for admission, only that it was not pled by Petitioners and does not reflect the intent of the original contention."<sup>242</sup> Because the reformulated contention best expresses CRAFT's intent as reflected in both the preface and the contention, the dissent has provided no valid reason to question its admissibility.

The dissent's other arguments are also without merit. The dissent states that "[i]n their Reply, Petitioners do not mention either hunting or fishing."<sup>243</sup> The dissent subsequently acknowledges, however, that the reply included the letter to the NRC Chairman from Mr. Miskokomon, chief of the Walpole Nation, expressly confirming the Walpole's hunting and fishing rights and its use of those rights in the vicinity of Fermi 2.<sup>244</sup> The reply also stated that "the fundamental thesis of the *Preface* has not been refuted."<sup>245</sup> The dissent also complains that the thirty-one tribal members who filed declarations "only state that they have hunting and fishing rights, but do not say they exercise those rights or are concerned that these rights may be disturbed by relicensing Fermi 2."<sup>246</sup> In fact the tribal members asserted that they are "concerned that numerous species of plants, fish, wild game, and migratory birds are being polluted by Fermi 2's discharge, making them inedible."<sup>247</sup> Moreover, because a board may appropriately view a petitioner's support for its contention in a light that is favorable to the petitioner,<sup>248</sup> we may reasonably conclude that the tribal members use or intend to use their hunting and fishing rights from their assertion of those rights; their stated concerns with Fermi 2's impacts to animal and plant species; and their statements that, if the NRC approves the requested license extension, this would adversely affect the quality

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<sup>240</sup> Dissent at pp. 310-12.

<sup>241</sup> *Supra* text accompanying notes 197-200.

<sup>242</sup> Dissent at p. 313.

<sup>243</sup> Dissent at p. 312.

<sup>244</sup> *Id.* at pp. 312-13; CRAFT Reply at 23-25 (citing Miskokomon Letter).

<sup>245</sup> CRAFT Reply at 5 (emphasis in original).

<sup>246</sup> Dissent at p. 313. The dissent also incorrectly claims that only one of CRAFT's declarants is a member of the Walpole Island First Nation. *Id.* at p. 313. CRAFT clarified that, in addition to Russ Blackbird, James Aquash (who states that he lives within 50 miles of Fermi 2) is also a Walpole member. CRAFT Reply at 21.

<sup>247</sup> CRAFT Declarations.

<sup>248</sup> "The Commission has stated that a board may appropriately view a petitioner's support for its contention in a light that is favorable to the petitioner, but the board cannot do so by ignoring the requirements set forth" in current 10 C.F.R. § 2.309(f)(1). *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22 (1998) (citing *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991)).

of their lives.<sup>249</sup> In any event, Mr. Miskokomon confirms the Walpole's ongoing use of their hunting and fishing rights in the vicinity of Fermi 2.<sup>250</sup>

Finally, the dissent objects to the Board's consideration of Mr. Miskokomon's letter, because it was written after the original petition was filed and submitted with CRAFT's reply.<sup>251</sup> But no such objection was raised by a party. The Staff and DTE must have decided that an objection to Mr. Miskokomon's letter was not warranted, and they thereby waived any such objection.<sup>252</sup> The Board has no authority, and certainly no obligation, to make evidentiary objections *sua sponte* that the parties have waived.<sup>253</sup> Furthermore, if the Board did so, the result would be a violation of the "cardinal rule, so far as fairness is concerned, . . . that each side must be heard."<sup>254</sup> Petitioners would have no opportunity to be heard regarding a *sua sponte* objection by the Board because they would only learn of it when they received the Board's ruling. Such a procedure would deprive petitioners of the opportunity to file the response expressly provided in our procedural rules.<sup>255</sup>

In any event, this is not a case where a party failed to provide support for a contention until its reply.<sup>256</sup> CRAFT submitted numerous declarations with its petition supporting the claim that tribal members have hunting and fishing rights in the vicinity of Fermi 2.<sup>257</sup> NEPA requires that the NRC evaluate the

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<sup>249</sup> CRAFT Declarations.

<sup>250</sup> Miskokomon Letter.

<sup>251</sup> Dissent at p. 313.

<sup>252</sup> *Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-463, 7 NRC 341, 362 n.90 (1978); *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), ALAB-335, 3 NRC 830, 842 n.26 (1976); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-89-32, 30 NRC 375, 554 n.56 (1989), *rev'd in part on other grounds and remanded*, ALAB-937, 32 NRC 135 (1990), *aff'd in part and rev'd in part on other grounds*, ALAB-941, 32 NRC 337 (1990), and *aff'd on other grounds*, ALAB-947, 33 NRC 299 (1991). *Accord* Fed. R. Evid. 103(a)(1).

<sup>253</sup> A board is obligated to consider jurisdictional issues even if they are not raised by a party. For example, as we noted earlier, the Board must address petitioners' standing even though it was not challenged by the Staff or DTE. *Supra* text accompanying note 21. Petitioners' standing, however, is essential to the Board's authority (i.e., jurisdiction) to consider their contentions and admit them as parties to the proceeding. Objections to particular evidence, by contrast, do not present a jurisdictional issue and can be waived if not timely asserted.

<sup>254</sup> *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-565, 10 NRC 521, 524 (1979) (citing *Grannis v. Ordean*, 234 U.S. 385, 394 (1914)).

<sup>255</sup> 10 C.F.R. § 2.323(c).

<sup>256</sup> *See AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 276 (2009).

<sup>257</sup> CRAFT Declarations; *see* CRAFT Petition at 2 ("CRAFT also submits 32 affidavits for individual members of affected Indian tribes . . . . These tribes are listed by the NRC as having treaty rights to hunt, fish, and gather foods in the Lake Erie Western Basin.").

potential impact of license renewal upon those rights,<sup>258</sup> but the ER contains no such analysis. The letter from Mr. Miskokomon, confirming tribal members' continued use of their hunting and fishing rights in close proximity to Fermi 2, merely amplified the factual basis that had already been presented.<sup>259</sup> It may therefore be considered by the Board.

For all of the reasons stated above, we will admit CRAFT Contention 2 as modified above.

### **3. CRAFT 3 — NRC Cannot Legally Extend Reactor Licenses**

CRAFT generally asserts that NRC cannot extend DTE's license because of ongoing legal battles concerning storage and disposal of spent nuclear fuel, formerly known as the Waste Confidence Rule.<sup>260</sup>

We grant the Staff's motion to strike<sup>261</sup> the part of CRAFT's reply that incorporates by reference Joint Petitioners' arguments concerning their waste-confidence contention.<sup>262</sup> The Commission has instructed that pleadings should be self-contained.<sup>263</sup> Thus, CRAFT may not rely on another petitioner's arguments about a similar contention to demonstrate that CRAFT's contention is admissible.

This contention is inadmissible for the reasons discussed regarding Joint Petitioners' Waste Confidence Contention (Contention JP3).<sup>264</sup>

### **4. CRAFT 4 — Transmission Corridor Offsite AC Power Supply**

Similar to Joint Petitioners' Contention 4, CRAFT raises a contention concerning the transmission corridor shared by Fermi 2 and the proposed unit Fermi 3:

Applicant has failed to provide the NRC Staff with an acceptable final configuration of the offsite AC power supply, including sources, routing and termination points (transmission corridor) for each channel/circuit, so the Staff may conclude that

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<sup>258</sup> *Supra* text accompanying note 201.

<sup>259</sup> CRAFT Reply at 23-25 (citing Miskokomon Letter at 1).

<sup>260</sup> CRAFT Petition at 13-15; *see* 10 C.F.R. § 51.23.

<sup>261</sup> Staff Motion to Strike at 5.

<sup>262</sup> CRAFT Reply at 30.

<sup>263</sup> *See Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-3, 75 NRC 132, 139 n.41 (2012) ("We discourage incorporating pleadings or arguments by reference."); *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), CLI-01-11, 53 NRC 370, 383 (2001) ("We deem waived any arguments not raised before the Board or not clearly articulated in the petition for review."); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-89-3, 29 NRC 234, 241 (1989) ("[A] wholesale incorporation by reference does not serve the purposes of a pleading.").

<sup>264</sup> *See supra* Section V.A.3.

the channels/circuits are independent (physically separate commensurate with the hazard) from a power supply assignment perspective, for the purpose of ensuring reliable and uninterrupted electric power for the Fermi Nuclear Reactor, Unit 2, within and as part of the inseparable context of the same Applicant's active and pending Fermi, Unit 3 COLA as submitted.<sup>265</sup>

CRAFT argues that DTE has failed to comply with Order EA-12-051, which requires spent fuel pool instrumentation channels to be run on separate power supplies.<sup>266</sup> As support, CRAFT cites Farouk D. Baxter's statement made during a limited appearance in the Fermi 3 proceeding that the common corridor is more vulnerable to "severe weather and man-made single failure events."<sup>267</sup> The Staff responds that Order EA-12-051 does not impose any requirements on license renewal applicants, and is thus outside the scope of the proceeding.<sup>268</sup> DTE agrees that the "proposed contention clearly raises a current licensing basis issue."<sup>269</sup> In its reply, CRAFT argues that a "reasonable assurance of safety during the renewal term of Fermi, Unit 2" depends on considering how accidents could affect both reactors.<sup>270</sup>

CRAFT again sought to incorporate by reference Joint Petitioners' arguments,<sup>271</sup> and for the reasons given above,<sup>272</sup> we grant the Staff's motion to strike this portion of the reply.

This contention is inadmissible. CRAFT relies on Order EA-12-051 as legal authority, but compliance with these types of orders — which are issued as part of NRC's ongoing program to oversee plant operation — are enforcement issues that are not within the scope of a license renewal proceeding.<sup>273</sup> Allegations of noncompliance with "already-issued, existing and open Commission Orders" are part of the current licensing basis,<sup>274</sup> and therefore under NRC regulations cannot be challenged in this proceeding.<sup>275</sup>

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<sup>265</sup> CRAFT Petition at 15-16.

<sup>266</sup> *Id.* at 16 (citing NRC, Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, EA-12-051 (ADAMS Accession No. ML12056A044)).

<sup>267</sup> *Id.* at 16-17.

<sup>268</sup> NRC Answer to CRAFT Petition at 34.

<sup>269</sup> DTE Answer at 31.

<sup>270</sup> CRAFT Reply at 34-35.

<sup>271</sup> CRAFT Reply at 35-36.

<sup>272</sup> *Supra* text accompanying note 263.

<sup>273</sup> 10 C.F.R. § 54.30(b); see *Turkey Point*, CLI-01-17, 54 NRC at 8-9.

<sup>274</sup> See *Turkey Point*, CLI-01-17, 54 NRC at 8-9.

<sup>275</sup> 10 C.F.R. § 54.30(b); see *Oyster Creek*, CLI-09-7, 69 NRC at 270-71 (explaining that "current licensing basis" issues cannot be challenged in license renewal proceedings).

## 5. *CRAFT 5 — Spent Fuel Pool Instrumentation Is Deficient*

CRAFT “requests an ASLB ruling and recommendation supporting full fleet wide implementation and compliance with already-issued, existing and open Commission Orders prior to the issuance and approval of any new licensing or relicensing action, including, specifically, the Fermi, Unit 2 LRA.”<sup>276</sup> CRAFT argues that “DTE’s ER has also failed to compare relative hazards of high-density pool storage with dry cask storage.”<sup>277</sup> In support of these contentions, CRAFT points to an NAS report on the risk of fires in partially drained spent fuel pools,<sup>278</sup> as well as an older study concluding that the risk of pool leaks increases as a facility ages.<sup>279</sup> Given these two factors, CRAFT argues, long-term spent fuel storage is too risky and Fermi 2 should be required to use dry casks instead.<sup>280</sup>

As with CRAFT’s Contention 4, this contention is inadmissible because enforcement orders are outside the scope of the license renewal proceeding.<sup>281</sup> And the portion of the contention concerning spent fuel pools is likewise beyond the scope of this proceeding because storage of spent fuel is a Category 1 issue that, having been resolved generically, need not be addressed during a license renewal.<sup>282</sup>

## 6. *CRAFT 6 — Mitigation Strategies for Beyond-Design-Basis Events*

In a contention similar to Joint Petitioners’ Contention 1, CRAFT alleges that the Fermi 2 system design is vulnerable to leaks in containment during severe accidents:

The Applicant’s Fermi 2’s ER is inadequate and materially deficient because it fails to accurately and thoroughly provide a Severe Accident Mitigation Alternatives (SAMA) analysis that comprehensively addresses the well-known and unresolved design vulnerability of the GE Mark 1 BWR pressure suppression containment system, and any associated severe accident consequences.<sup>283</sup>

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<sup>276</sup> CRAFT Petition at 18-19.

<sup>277</sup> *Id.* at 20.

<sup>278</sup> *Id.* at 19 (citing Committee on the Safety and Security of Commercial Spent Nuclear Fuel, National Research Council, Safety and Security of Commercial Spent Nuclear Fuel Storage at 8 (National Academics Press 2006)).

<sup>279</sup> *Id.* at 20 (citing Imtiaz K. Madni, Brookhaven National Laboratory, MELCOR Simulation of Long-Term Station Blackout at Peach Bottom, BNL-NUREG-44993 (1990)).

<sup>280</sup> *Id.*

<sup>281</sup> 10 C.F.R. § 54.30(b); see *Turkey Point*, CLI-01-17, 54 NRC at 8-9; *Oyster Creek*, CLI-09-7, 69 NRC at 270-71.

<sup>282</sup> See *supra* Section IV.B.

<sup>283</sup> CRAFT Petition at 22.

Pointing to Order EA-12-049 and a report from the U.S. National Academy of Sciences (NAS) Committee on the Implications of Fukushima Dai-ichi for U.S. GE Mark I and Mark II Boiling Water Reactors, CRAFT argues that the license renewal should not be granted until DTE implements Order EA-12-049 and addresses the reactor's design vulnerabilities as identified in the NAS report.<sup>284</sup> In particular, CRAFT asserts that DTE should install hardened filtered vents as a mitigation strategy.<sup>285</sup>

DTE responds that Order EA-12-049 is a current licensing basis issue outside the scope of the license renewal proceeding.<sup>286</sup> And to the extent that CRAFT is challenging the SAMA analysis, DTE argues that CRAFT has not identified any flaws in the ER's conclusion that hardened filtered vents are too costly to justify the estimated benefits.<sup>287</sup> The Staff argues that CRAFT has not identified which portions of the NAS report it believes support its contention.<sup>288</sup> The Staff also argues that there is no genuine dispute with the applicant because "CRAFT does not indicate how any claimed failure to implement Order EA-12-049 relates to an environmental concern or a deficiency in the LRA."<sup>289</sup>

CRAFT's reply consists of an attempt to incorporate by reference all of the arguments raised by Joint Petitioners in support of their Contention 1.<sup>290</sup> We grant the Staff's motion to strike this portion of CRAFT's reply for the reasons discussed above.<sup>291</sup>

The contention is inadmissible. As we explained with respect to Contentions 4 and 5, arguments about the plant's design or current Commission orders are impermissible challenges to the current licensing basis. And CRAFT's challenge to the SAMA analysis is inadmissible because it failed to identify an error or deficiency in DTE's analysis and also failed to provide factual support for its claim that hardened filtered vents are a cost-beneficial safety measure.<sup>292</sup>

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<sup>284</sup> *Id.* at 21-22 (citing NAS Report at 5). As further support, CRAFT notes that a former Commissioner stated that these types of reactors are not safe. *Id.* at 22 (citing Stephanie Cooke, *Nuclear Safety: Jaczko Calls for Phase-out in US, Says Plants Aren't Safe*, Nuclear Intelligence Weekly, March 29, 2013).

<sup>285</sup> *Id.* at 22.

<sup>286</sup> DTE Answer at 35-36.

<sup>287</sup> *Id.* at 36.

<sup>288</sup> Staff Answer to CRAFT Petition at 50-51.

<sup>289</sup> *Id.* at 52.

<sup>290</sup> CRAFT Reply at 36-37.

<sup>291</sup> *Supra* text accompanying note 263.

<sup>292</sup> See *Davis-Besse*, CLI-12-8, 75 NRC at 407 ("Unless a petitioner sets forth a supported contention pointing to an apparent *error or deficiency* that may have significantly skewed the environmental conclusions, there is no genuine material dispute for hearing.").

Petitioners must provide site-specific support to show that the SAMA analysis is unreasonable,<sup>293</sup> but CRAFT has not provided any such support here.

**7. CRAFT 7 — AMP Does Not Adequately Inspect and Monitor for Leaks**

CRAFT contends that Fermi 2's Aging Management program "is inadequate because (1) it does not provide for adequate inspection of all systems and components that may contain radioactively contaminated water and (2) there is no adequate monitoring to determine if and when leakage from these areas occurs."<sup>294</sup> Based on 10 C.F.R. § 54.21, CRAFT argues that DTE is required to show that each pipe, including "buried pipes and tanks for the fuel oil system, the station blackout diesel generator system, the fire protection system and the water inflow piping," will be adequately managed during the renewal period.<sup>295</sup> CRAFT specifically asserts that DTE must improve its aging management plan with "(1) a more robust inspection system; (2) cathodic protection; (3) a baseline inspection prior to license extension; and (4) an effective monitoring well program."<sup>296</sup> CRAFT argues that DTE has the burden of providing "reasonable assurance" that the current licensing basis will be maintained throughout the renewal period and also argued that "reasonable assurance" is inadequately defined under the regulations.<sup>297</sup>

DTE replies that it "already has a cathodic protection system"<sup>298</sup> and argues that CRAFT has not identified a specific deficiency in its inspection and monitoring systems.<sup>299</sup> DTE adds that it also has Diesel Fuel Monitoring and Fire Water System aging management plans, both of which include periodic inspections.<sup>300</sup> With respect to the definition of "reasonable assurance," the Staff argues that the regulations require DTE to show that the safety features will fulfill their intended function, not that every structure will maintain its current licensing basis throughout the renewal period.<sup>301</sup>

In general, CRAFT replies that *pro se* petitioners are not required to provide

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<sup>293</sup> *Id.* at 410-11.

<sup>294</sup> CRAFT Petition at 23.

<sup>295</sup> *Id.*

<sup>296</sup> *Id.* at 25.

<sup>297</sup> *Id.* at 24 (citing *Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit 1)*, ALAB-697, 16 NRC 1265, 1271 (1982)).

<sup>298</sup> DTE Answer at 38 (citing LRA at B-27).

<sup>299</sup> *Id.*

<sup>300</sup> *Id.* at 39-40 (citing LRA at B-57; encl. 2 at B.1.19).

<sup>301</sup> Staff Answer to CRAFT Petition at 54 (citing 10 C.F.R. § 54.21(a)(1)); *see also id.* at 57-58.

the same level of specificity as those with counsel,<sup>302</sup> and it argues that it has identified beneficial ways to improve DTE's aging management plan.<sup>303</sup> Regarding cathodic protection, CRAFT notes that Fermi 2 currently does not have complete coverage given that DTE "plan[s] to increase system coverage."<sup>304</sup> Finally CRAFT maintains that the burden is on DTE to provide a reasonable assurance it can maintain leak-free pipes during the renewal period.<sup>305</sup>

CRAFT makes two legal arguments in this contention, but the Commission has already rejected the one regarding the definition of "reasonable assurance,"<sup>306</sup> and the other is based on a misunderstanding of burdens of proof at each stage in the proceeding. First, the Commission has explained that "reasonable assurance" requires a case-by-case determination instead of a fixed level of assurance, so CRAFT's challenge to the lack of a single overarching definition is an incorrect reading of the regulation.<sup>307</sup> Second, the case that CRAFT cites regarding the applicant's burden of proof deals with the applicant's *ultimate* burden of proof after a contention has been admitted.<sup>308</sup> At this point in the proceeding, however, the petitioners have the "burden of going forward," which requires CRAFT to provide factual allegations or expert testimony to show a potential deficiency in DTE's aging management plan.<sup>309</sup> CRAFT has not done so. Because CRAFT has not shown how the proposed plan would fail to ensure that the buried pipes continue to fulfill their intended safety purposes, this contention is inadmissible.<sup>310</sup>

#### **8. CRAFT 8 — SAMAs Are Materially Deficient**

CRAFT argues that DTE underestimated the potential benefit of additional mitigation strategies because DTE underestimated the costs of a severe accident:

The Applicant's Fermi, Unit 2 LRA Environmental Report (ER) and SAMA analysis are materially deficient in that the input data concerning evacuation time estimates (ETE) and economic consequences are incorrect, resulting in incorrect conclusions

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<sup>302</sup> CRAFT Reply at 37 (citing *Kansas Gas and Electric Co.* (Wolf Creek Generating Station, Unit 1), ALAB-279, 1 NRC 559, 576-77 (1975)).

<sup>303</sup> *Id.*

<sup>304</sup> *Id.* at 39 (citing LRA at B-27).

<sup>305</sup> *Id.* at 38-39.

<sup>306</sup> See *Pilgrim*, CLI-10-14, 71 NRC at 465-67.

<sup>307</sup> *Id.*

<sup>308</sup> *Three Mile Island*, ALAB-697, 16 NRC at 1271 ("[The] licensee generally bears the ultimate burden of proof. But intervenors must give some basis for further inquiry.") (citation omitted).

<sup>309</sup> *Oyster Creek*, CLI-09-7, 69 NRC at 268-70.

<sup>310</sup> See *Pilgrim*, CLI-10-14, 71 NRC at 459-60.



about the costs versus benefits of possible mitigation alternatives, such that further analysis is called for under NEPA.<sup>311</sup>

As part of this contention, CRAFT raises a number of issues related to plume variability, evacuation time estimates, and densely populated cities within a 50-mile radius of Fermi 2.<sup>312</sup> First, citing Dr. Bruce Egan’s testimony in the *Indian Point* license renewal proceeding, CRAFT argues that the Emergency Planning Zone should be larger to account for plume variability close to a large body of water such as Lake Erie.<sup>313</sup> And quoting David Chanin’s declaration from the *Pilgrim* license renewal proceeding, CRAFT argues that the “economic cost numbers produced by MACCS2 have absolutely no basis.”<sup>314</sup> CRAFT next asserts that evacuation times in the model are unrealistically low, alleging that the input conditions fail to consider “serious road construction delays” and “severe snow conditions.”<sup>315</sup> Finally, CRAFT contends that DTE’s analysis fails to consider “the densely populated centers of Metro Detroit (MI), Ann Arbor (MI), Monroe (MI), Toledo (OH), and Windsor (ON).”<sup>316</sup> Despite CRAFT’s references to the 10-mile emergency planning zone and the 50-mile radius used as part of the SAMA analysis, we understand CRAFT to argue that these cities were excluded unreasonably from the SAMA analysis, leading DTE to “drastically undercount[ ] the costs of a Severe Accident.”<sup>317</sup>

DTE responds that “the ER and SAMA analysis specifically account for population within 50 miles of the site, including Detroit, Ann Arbor, Monroe, and Toledo” and asserted that “[t]here is no genuine dispute.”<sup>318</sup> DTE did not mention Windsor in its Answer and did not discuss Windsor at oral argument. DTE argues that challenges to emergency planning fall outside the scope of a license renewal proceeding.<sup>319</sup> The Staff likewise argues that “the adequacy of existing emergency preparedness plans need not be considered anew as part of issuing a renewed operating license.”<sup>320</sup> To the extent CRAFT is challenging the adequacy

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<sup>311</sup> CRAFT Petition at 25.

<sup>312</sup> *Id.* at 25-28.

<sup>313</sup> *Id.* at 26.

<sup>314</sup> *Id.* at 27 (citing Declaration of David I. Chanin in Support of Pilgrim Watch’s Response Opposing Entergy’s Motion for Summary Disposition of Pilgrim Watch Contention 3, *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), Docket Nos. 50-247-LR and 50-286-LR (June 5, 2007)).

<sup>315</sup> *Id.* at 26.

<sup>316</sup> *Id.* at 27.

<sup>317</sup> *Id.* at 28.

<sup>318</sup> DTE Answer at 43 (citing ER at D-95).

<sup>319</sup> *Id.* at 42 (citing *Millstone*, CLI-05-24, 62 NRC at 560-61).

<sup>320</sup> NRC Answer to CRAFT Petition at 60 (citing Final Rule: “Nuclear Power Plant License Renewal,” 56 Fed. Reg. 64,943, 64,967 (Dec. 13, 1991)).

of the computer modeling of plume variability, the Staff notes that petitioners bear the burden of providing evidence specific to the license renewal applicant.<sup>321</sup> And regarding evacuation times, the Staff points out that DTE considered a range of average evacuation times to account for road delays and serious snow conditions.<sup>322</sup>

In its reply, CRAFT maintains that Windsor, despite being within 50 miles of Fermi 2, was not considered in assessing the costs of a severe accident.<sup>323</sup> CRAFT also reiterates that severe Michigan snow conditions could significantly impair a winter evacuation.<sup>324</sup>

Regarding the portion of the contention focused on Windsor's exclusion from the SAMA analysis, we conclude that CRAFT has proffered an admissible contention. The parties agree that this information is material and within scope. At oral argument, DTE and the Staff acknowledged that the SAMA analysis must include all populations within 50 miles of Fermi 2, regardless of international borders.<sup>325</sup> DTE asserted that the Fermi 2 SAMA analysis "modeled the population within 50 miles irrespective of . . . whether that location was within the United States or Canada or the Walpole Island."<sup>326</sup> But, as CRAFT has alleged, the ER and SAMA analysis contradict DTE's assurances that Canadians living within 50 miles of Fermi 2 were included in the SAMA analysis, as shown by the absence of Windsor.<sup>327</sup> For example, the ER states that "[f]ive cities within a 50-mile radius have a population greater than 100,000: Ann Arbor, Michigan (32 miles); Detroit, Michigan (28 miles); Sterling Heights, Michigan (44 miles); Toledo, Ohio (26 miles); and Warren, Michigan (37 miles)."<sup>328</sup> As CRAFT noted, Windsor (pop. 210,891) is omitted from DTE's list.<sup>329</sup> Indeed, DTE's list of "Cities or Towns Located Totally or Partially Within a 50-Mile Radius of Fermi 2" does not include

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<sup>321</sup> *Id.* at 61-64 (citing *Davis-Besse*, CLI-12-8, 75 NRC at 416).

<sup>322</sup> *Id.* at 68 (citing ER at D-97).

<sup>323</sup> CRAFT Reply at 40-41; *see* CRAFT Petition at 14 (noting that "[t]he Fermi, Unit 2 nuclear fission reactor is located within a 50-mile radius of . . . Windsor (Ontario)").

<sup>324</sup> *Id.* at 41.

<sup>325</sup> Tr. at 210.

<sup>326</sup> *Id.*

<sup>327</sup> CRAFT Reply at 40-41 ("Conspicuously absent in the Applicant's Answer above is any mention of cities in Ontario, Canada such as Windsor and Amherstburg which are located in the extreme vicinity of the Fermi site. . . . Given that the Applicant's Answer above first acknowledges CRAFT's mention of Windsor (ON) in the proposed contention, it is quite revealing omission that the above Answer then immediately neglects to include Windsor (ON) within the list of cited communities accounted for by the ER and SAMA analysis.").

<sup>328</sup> ER at 3-246.

<sup>329</sup> CRAFT Reply at 40-41; *see* "Windsor (city) community profile," Statistics Canada (2011), <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm> (search "Windsor").

any Canadian cities.<sup>330</sup> CRAFT has identified a genuine dispute over whether the SAMA population model excludes Canadians within 50 miles of Fermi 2.<sup>331</sup>

A contention that the applicant's SAMA analysis is significantly flawed because of the use of inaccurate factual assumptions about population is admissible. For example, the Board in the *Indian Point* proceeding admitted a contention that the applicant's SAMA analysis had unreasonably failed to account for the impact of a severe accident on tourists and commuters in New York City.<sup>332</sup> Because CRAFT has alleged that DTE failed to consider the costs and consequences of a severe accident on the population of Windsor in the SAMA analysis, this contention is equally admissible. By pointing to the absence of Windsor, CRAFT has provided a specific statement showing the basis of its contention.<sup>333</sup> This contention is within the scope of the proceeding because NRC regulations require that a license renewal ER include a SAMA analysis,<sup>334</sup> and the Commission has explained that an inadequacy in the SAMA analysis is material if the applicant failed to consider "complete information" without justifying why particular information was omitted.<sup>335</sup> DTE has neither acknowledged nor explained why the population of Windsor is absent from the SAMA analysis, and thus CRAFT has identified a genuine factual dispute with the applicant.<sup>336</sup> We narrow and reformulate the contention as follows:

The SAMA cost-benefit calculation is incorrect and thus inadequate because it did not properly account for the Canadian population within the 50-mile affected area of a Severe Accident.

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<sup>330</sup> ER at 3-252 to 3-258.

<sup>331</sup> The SAMA analysis relies on "county-level databases which contain the land-fraction data for every county in the continental U.S." LRA at D-96. The 2045 permanent population estimate in the ER lists only "U.S. Regional Counties." *Id.* at 3-259. The chart for "Estimated Population Distribution Within a 50-Mile Radius [of Fermi 2]" includes *zero* people ENE of the site and only 560 people NE of the site, *id.* at D-96, even though these areas cover Essex County, Ontario (pop. 388,782). "Census Profile: Essex, County (Census Division), Ontario," Statistics Canada (2011), <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm>.

<sup>332</sup> *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-10-13, 71 NRC 673, 686-87 (2010) ("It is not clear that Entergy's December 2009 SAMA Reanalysis adds the infusion of tourists and commuters in New York City to the population used for its SAMA analysis — an absence that might underestimate the exposed population in a severe accident and, in turn, underestimate the benefit achieved in implementing a SAMA."); *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 112 (2008) ("The Board admits NYS-16 to the extent that it challenges whether the population projections used by Entergy are underestimated.").

<sup>333</sup> 10 C.F.R. § 2.309(f)(1)(i)-(ii); see CRAFT Petition at 28; CRAFT Reply at 40-41.

<sup>334</sup> 10 C.F.R. §§ 2.309(f)(1)(iii), 51.53(c)(3)(ii)(L).

<sup>335</sup> 10 C.F.R. § 2.309(f)(1)(iv); see 40 C.F.R. § 1502.22; *Diablo Canyon*, CLI-11-11, 74 NRC at 440-43; *McGuire/Catawba*, CLI-02-17, 56 NRC at 3-7.

<sup>336</sup> 10 C.F.R. § 2.309(f)(1)(v)-(vii); see CRAFT Petition at 14, 28; CRAFT Reply at 40-41.

The remaining portions of the contention are not admissible because they lack sufficient factual support. CRAFT has not provided any site-specific information regarding plume variability, which is required to show contention admissibility,<sup>337</sup> nor has it offered factual support for the proposition that DTE's inputs for evacuation times are flawed or unreasonable or that its sensitivity analysis of these inputs was incorrect.<sup>338</sup> Likewise, the Commission has explained that the Chanin declaration concerning the MACCS2 code is too generalized to show a genuine dispute with the applicant.<sup>339</sup> Although that decision involved a motion for summary disposition, we see no reason why the same analysis would not apply here. Finally, to the extent that CRAFT challenged the adequacy of the emergency plan itself, as opposed to the SAMA analysis, the Staff and DTE are correct that the Commission has excluded "emergency planning" from the scope of the license renewal proceeding.<sup>340</sup>

## **9. CRAFT 9 — Quality Assurance Is Faulty**

CRAFT's next contention is based on a testing error that occurred at Fermi 2 for two decades: DTE tested its backup generators at an old setpoint of 3702 volts from 1986 to 2006, even though its updated technical specifications called for a setpoint of 3952 volts.<sup>341</sup> CRAFT requests a public hearing:

[T]o consider the following Contention pertaining to a fundamental and egregious failure of Safety-Related Quality Assurance which occurred during a 20-year-period from 1986 to 2006 at the Fermi Nuclear Power Plant, Unit 2 and which remains unresolved to this day in the eye of the public, thus warranting a fresh, "hard look"

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<sup>337</sup> *Davis-Besse*, CLI-12-8, 75 NRC at 416.

<sup>338</sup> See *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 313-14 (2010) (explaining that petitioners had not identified a genuine dispute with the applicant because they had not contested the applicant's sensitivity analysis of evacuation times); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-942, 32 NRC 395, 408-09 (1990) (explaining that applicant's plan for residents to shelter in place during snowstorm was reasonable).

<sup>339</sup> *Pilgrim*, CLI-10-11, 71 NRC at 311 & n.121 ("Mr. Chanin's comments do not address Entergy's supplemental economic analyses, demonstrate no specific knowledge of the analysis, and, as the majority stressed, do not 'indicat[e], even broadly' that the Pilgrim SAMA economic cost-benefit conclusions are not sufficiently conservative.") (quoting *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-07-13, 66 NRC 131, 149 (2007)).

<sup>340</sup> *Millstone*, CLI-05-24, 62 NRC at 560-61 (explaining that emergency planning is not germane to the aging issues appropriate for adjudication in a license renewal proceeding).

<sup>341</sup> CRAFT Petition at 29 (citing David Lochbaum, Union of Concerned Scientists, "Futility at the Utility: How Use of the Wrong Answer Key for Safety Tests Went Undetected for 20 Years at Fermi Unit 2" at 4 (2007), <http://www.ucsusa.org/assets/documents/nuclear-power/20070200-f2-ucs-futility-at-the-utility.pdf>).

as part of any credible NEPA Review or Safety Review process associated with the Fermi, Unit 2 LRA.<sup>342</sup>

CRAFT generally argues that because DTE did not notice the error for two decades, the facility cannot ensure public safety.<sup>343</sup> The Staff responds that this claim raises “safety culture” issues that are outside the scope of this proceeding.<sup>344</sup> The Staff and DTE assert that enforcement and safety issues are addressed on an ongoing basis, not as part of the license renewal process.<sup>345</sup> In its reply, CRAFT counters that NRC’s ongoing safety programs have “proved to be wholly inadequate” given the 20-year testing problem and thus CRAFT argues that the safety issues require a public hearing.<sup>346</sup>

This contention is inadmissible because the Commission has explained that claims of past and current mismanagement are outside the scope of the license renewal proceeding.<sup>347</sup> CRAFT’s contention is based on operational history, faulty quality assurance, and human factors, but the Commission has stated explicitly that “broad-based issues akin to safety culture — such as operational history, quality assurance, quality control, management competence, and human factors — [are] beyond the bounds of a license renewal proceeding.”<sup>348</sup> Because the Commission has ruled that ongoing compliance oversight activities are not within the scope of the license renewal proceeding,<sup>349</sup> CRAFT’s contention is inadmissible.

#### **10. CRAFT 10 — Safety Assurance Violation**

CRAFT’s tenth contention involves a more recent safety issue. In February 2014 an independent contractor found a “vulnerability [that] could have allowed unauthorized or undetected access to the Protected Area for which sufficient compensatory measures had not been employed prior to discovery.”<sup>350</sup> CRAFT contends that this violation requires a public hearing and further analysis:

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<sup>342</sup> *Id.* at 28.

<sup>343</sup> *Id.*

<sup>344</sup> Staff Answer to CRAFT Petition at 70 (citing *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 484 (2010)).

<sup>345</sup> *Id.* at 70-71; DTE Answer at 44-45.

<sup>346</sup> CRAFT Reply at 43.

<sup>347</sup> *Diablo Canyon*, CLI-11-11, 74 NRC at 435-36; *Prairie Island*, CLI-10-27, 72 NRC at 484.

<sup>348</sup> *Prairie Island*, CLI-10-27, 72 NRC at 491.

<sup>349</sup> *Diablo Canyon*, CLI-11-11, 74 NRC at 435-36.

<sup>350</sup> Letter from Gary L. Shear, Director, NRC Region III Division of Reactor Safety, to Joseph Plona, Senior Vice President and Chief Nuclear Officer, DTE Electric Company (Mar. 18, 2014) (ADAMS Accession No. ML14079A093); *see also* Letter from Cynthia D. Pederson, NRC Region III Administrator, to Joseph Plona, Senior Vice President and Chief Nuclear Officer (May 29, 2014) (ADAMS Accession No. ML14150A041).

The Petitioner contends that . . . [the 2014 Security] Violation represents a fundamental Quality Assurance deficiency reflected in the Applicant/Licensee's incomplete License Renewal Application. This Contention identifies a significant site safety and radiation protection Matter ("Significant New Unknown and Unanalyzed Conditions") which deserves further analysis and reevaluation at a higher level of scrutiny than is currently being applied by the NRC Staff.<sup>351</sup>

CRAFT also requests a change in the requirements of the Final Safety Analysis report under 10 C.F.R. § 50.59.<sup>352</sup> In its reply, CRAFT argues that there has not been sufficient review of the "human factor" in any safety-related aging management plan and maintains that DTE should not be able to renew its license while under probation for the 2014 safety violation.<sup>353</sup>

As with Contention 9, CRAFT's arguments allege ongoing issues with mismanagement and negligence. Therefore, this contention related to safety culture is also inadmissible for being outside the scope of this license renewal proceeding.<sup>354</sup>

#### ***11. CRAFT 11 — ER Ignores Public Health Data***

CRAFT contends that the continued operation of Fermi 2 poses a health risk to the general public from exposure to radiation:

Applicant's ER fails to consider new and updated public health data, unavailable at the time of issuance of the original Operating License; further, the Petitioner contends that the Applicant fails to adequately consider Mitigation Alternatives which could significantly reduce the alleged significant environmental and public health impact of Fermi, Unit 2 operations.<sup>355</sup>

In support of this contention, CRAFT points to a 2012 report from Joseph J. Mangano at the Radiation and Public Health Project concluding that deaths from cancer in Monroe County have increased relative to the national average since Fermi 2 began operating.<sup>356</sup> The report found a statistically significant change in ten of nineteen health indicators, such as cancer hospitalization rates, cancer

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<sup>351</sup> CRAFT Petition at 30.

<sup>352</sup> *Id.*

<sup>353</sup> CRAFT Reply at 44.

<sup>354</sup> *Diablo Canyon*, CLI-11-11, 74 NRC at 435-36; *Prairie Island*, CLI-10-27, 72 NRC at 491.

<sup>355</sup> CRAFT Petition at 30.

<sup>356</sup> *Id.* at 31 (citing Joseph J. Mangano, Potential Health Risks Posed by Adding a New Reactor at the Fermi Plant: Radioactive contamination from Fermi 2 and changes in local health status, Radiation and Public Health Project, at 1-21 (Jan. 10, 2012) [hereinafter "Mangano report"]).

mortality rates, low birth weights, and infant mortality rates, by comparing Monroe County health statistics to national health statistics.<sup>357</sup>

The Staff and DTE reply that health effects are a Category 1 issue that cannot be challenged in a license renewal proceeding.<sup>358</sup> DTE also argues that the contention lacks specificity and does not demonstrate a genuine dispute with any information contained in its license renewal application.<sup>359</sup>

CRAFT replies that the AEA, which prohibits NRC from issuing licenses that would be “inimical . . . to the health and safety of the public,” trumps the generic determinations in the regulations.<sup>360</sup> CRAFT also argues that site-specific determinations are the better approach because they can account for the unique characteristics of the populations living near the facility.<sup>361</sup> CRAFT asserts that the Mangano report contains “new and significant information” that needs to be analyzed under NEPA.<sup>362</sup>

The regulation is the measure that implements the agency’s statutory responsibilities and a regulation can only be challenged under extremely limited circumstances.<sup>363</sup> For a Category 1 issue such as public health,<sup>364</sup> CRAFT must request a waiver and show that unique circumstances warrant a site-specific determination.<sup>365</sup> Pointing to alleged “new and significant information” is not enough to allow the Board to adjudicate an issue resolved generically by regulation; CRAFT must also request a waiver and, among other requirements, show that this information is unique to Fermi 2.<sup>366</sup> Because CRAFT has not requested a waiver and makes no arguments unique to Fermi 2,<sup>367</sup> this contention is inadmissible.<sup>368</sup>

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<sup>357</sup> *Id.*

<sup>358</sup> Staff Answer to CRAFT Petition at 76 (citing 10 C.F.R. Part 51, App. B, “Human Health”); DTE Answer at 49 (same).

<sup>359</sup> DTE Answer at 48-49.

<sup>360</sup> CRAFT Reply at 46 (quoting 42 U.S.C. § 2133(d)).

<sup>361</sup> *Id.* at 47.

<sup>362</sup> *Id.* at 48-49.

<sup>363</sup> See 10 C.F.R. § 2.335(a); *U.S. Department of Energy* (High-Level Waste Repository), CLI-10-13, 71 NRC 387, 389 (2010) (“Interpretation of the statutes at issue and the regulations governing their implementation falls within [the Commission’s] province.”); *Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 385-86 (2012).

<sup>364</sup> 10 C.F.R. Part 51, App. B (designating “Human Health” as a Category 1 issue).

<sup>365</sup> *Limerick*, CLI-12-19, 76 NRC at 387; see also *Indian Point*, LBP-08-13, 68 NRC at 196 (rejecting a human health contention because petitioner had not shown “any special circumstances at Indian Point that are sufficiently different from those that are present at other nuclear power plants to warrant site-specific treatment”).

<sup>366</sup> See *Limerick*, CLI-12-19, 76 NRC at 385-86.

<sup>367</sup> Indeed, the Mangano Report itself alleges that Fermi 2 is similar to other reactors: “Like all reactors, Fermi 2 has routinely emitted radiation into the local air.” Mangano Report at 3.

<sup>368</sup> See *Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4), CLI-09-3, 69 NRC 68, 75 (2009).

## 12. CRAFT 12 — Thermal Discharge Increases Algae Blooms

CRAFT contends that Fermi 2 will exacerbate algae blooms in Lake Erie:

[T]hermal pollution from nearby power plants is a known contributing factor to the conditions which produce toxic algal blooms and consequent hypoxic dead zones. The exact and precise extent to which Fermi, Unit 2 normal operations are directly causative, not just correlative, of significant environmental and public health impacts is “unknown and unanalyzed.” Therefore, the Petitioner hereby invokes NEPA requirements and contends that a “hard look” and further analysis is called for, as a precondition for approval of the Applicant’s Fermi, Unit 2 License Renewal Application (LRA).<sup>369</sup>

In support of this contention, CRAFT points to the 2014 water emergency in Toledo, Ohio caused by toxic algae blooms and an August 2014 satellite image showing the spread of algae in Lake Erie.<sup>370</sup> As evidence that Fermi 2 contributes to the blooms, CRAFT notes that Fermi 2 releases 45 million gallons of water per day into Lake Erie with discharge temperature averaging 18° Fahrenheit (°F) above ambient water temperature.<sup>371</sup> CRAFT asserts that these thermal discharges “add cumulative stress impacts to the fragile ecosystem of Lake Erie’s shallow western basin and shoreline,” and CRAFT argues that this thermal pollution was not adequately considered in the ER.<sup>372</sup>

DTE responds that the ER analyzed algae blooms and concluded that any impacts would be small because Fermi 2 uses a closed-loop cooling system.<sup>373</sup> The ER states that no algae blooms of *Lyngbya wollei* or other nuisance species have been reported at the site.<sup>374</sup> DTE acknowledges that harmful algae blooms require warmer water temperatures, but based on studies conducted in 2008 and 2011, the ER finds that blue-green algae have not developed within five miles of the site.<sup>375</sup> DTE also points to the Final Environmental Impact Statement for Fermi 3 and the National Pollution Discharge Elimination System (NPDES) permit review performed by the Michigan Department of Environmental Quality to bolster its conclusion that the plant’s thermal discharges do not contribute to

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<sup>369</sup> CRAFT Petition at 33.

<sup>370</sup> *Id.* (citing NOAA Forecasts Support Response to Lake Erie Harmful Algal Bloom, National Ocean Service (Aug. 12, 2014), <http://oceanservice.noaa.gov/news/aug14/lake-erie-hab.html>).

<sup>371</sup> *Id.* at 32.

<sup>372</sup> *Id.* at 33.

<sup>373</sup> DTE Answer at 50 (citing ER at 4-72).

<sup>374</sup> *Id.* (citing ER at 4-73).

<sup>375</sup> ER at 3-114.



algae blooms.<sup>376</sup> The Staff argues that CRAFT has not explained how the 2014 Toledo water emergency or 2014 satellite image of Lake Erie show that DTE's analysis of harmful algae blooms is inadequate.<sup>377</sup>

In its reply, CRAFT maintains that the August 2014 toxic algae bloom was new and significant information that should have been analyzed in the ER.<sup>378</sup> CRAFT argues that DTE should have examined whether its thermal discharges contribute to this algae bloom by extending the warm summer season during which algae thrive.<sup>379</sup> Particularly, CRAFT argues that DTE's "discussion of Harmful Algal Blooms (HABS) provided in the ER (3-113, 114) relies on data from 2008 [and] 2011 and [the conclusion of a] small impact misses the point that HABS are occurring now in real time and are having a devastating impact downstream."<sup>380</sup> And at oral argument CRAFT asserted that 2014 satellite imagery showed that the algae blooms developed in the "footprint" of Fermi 2,<sup>381</sup> although the approximate distance between the Lake Erie algae blooms and the plant is unclear from the unmarked images.

Arguing that three portions of CRAFT's reply are new arguments beyond the scope of the original petition, the Staff have moved to strike a link to satellite imagery provided in CRAFT's reply brief,<sup>382</sup> as well as the assertion that DTE's studies failed to account for more recent blooms and also failed to consider whether the temperature of the facility's discharges extends the growing season for algae blooms.<sup>383</sup> All of these arguments legitimately amplify issues that were raised in CRAFT's petition, so we deny this portion of the motion to strike.<sup>384</sup> First, CRAFT argued in its initial petition that current satellite imagery showed the extent of the algae blooms,<sup>385</sup> and CRAFT is allowed to provide a more recent image to bolster that same argument in its reply.<sup>386</sup> Second, CRAFT asserted that

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<sup>376</sup> ER at 4-73 (citing Office of New Reactors, Final Environmental Impact Statement for Combined License (COL) for Enrico Fermi Unit 3 (Jan. 2013) (ADAMS Accession No. ML12307A172); Minnesota Department of Environmental Quality, NPDES Permit No. MI0058892 (2012) (ADAMS Accession No. ML12129A570).

<sup>377</sup> Staff Answer to CRAFT Petition at 78-80.

<sup>378</sup> CRAFT Reply at 50.

<sup>379</sup> *Id.* at 51.

<sup>380</sup> *Id.* at 52.

<sup>381</sup> Tr. at 158.

<sup>382</sup> Staff Motion to Strike at 5-6.

<sup>383</sup> *Id.* at 6.

<sup>384</sup> See *National Enrichment Facility*, CLI-04-25, 60 NRC at 224.

<sup>385</sup> CRAFT Petition at 33 (providing link to satellite image "to illustrate how severe the algal bloom crisis has become").

<sup>386</sup> See *Indian Point*, CLI-11-14, 74 NRC at 809-10 (explaining that issues raised in the petition or answer are within the appropriate scope of the reply brief).

“further analysis” was necessary in light of the 2014 Toledo water emergency,<sup>387</sup> and the reference to DTE’s reliance on data from 2008 and 2011 addresses this issue by explaining why the 2014 blooms were not considered. Finally, with respect to thermal discharges, CRAFT noted in its petition that Fermi 2 releases 45 million gallons of water per day at “18 degrees (F) above ambient lake temperature.”<sup>388</sup> CRAFT asserted that these “daily thermal discharges from Fermi 2 [are] an accelerator and contributor to harmful algal blooms,”<sup>389</sup> an argument that it legitimately repeated in its reply.<sup>390</sup>

Although we considered all of CRAFT’s arguments in its petition and the amplifications in its reply, this contention is inadmissible because it lacks sufficient factual support and also fails to identify a deficiency in the ER. First, CRAFT theorized that discharges from Fermi 2 increased the 2014 algae bloom that impacted Toledo’s water supply, but it does not offer any sources or expert testimony to support this position.<sup>391</sup> Nor does CRAFT point to an error in the ER’s analysis that would call into question its conclusion that “the operation of Fermi 2 and the proposed construction and operation of Fermi 3 is not expected to increase the potential for algae blooms in the vicinity of the site or increase the potential for establishment or survival of nuisance algae species in Lake Erie.”<sup>392</sup> The mere fact that algae blooms in Lake Erie recently impacted the Toledo water supply is not enough to show that the ER is materially deficient because it does not suggest how, after two decades of operation, Fermi 2 has now begun to contribute to larger algae blooms.<sup>393</sup> Although CRAFT noted that DTE used data from 2008 and 2011, CRAFT has not provided sufficient support to suggest that new information about algae blooms in 2014 would lead to the conclusion that the continued operation of Fermi 2 will increase the likelihood of algae blooms

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<sup>387</sup> CRAFT Petition at 33.

<sup>388</sup> *Id.* at 32.

<sup>389</sup> *Id.*

<sup>390</sup> CRAFT Reply at 51.

<sup>391</sup> See *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-15, 75 NRC 704, 714-15 (2012) (explaining that petitioners must offer more than speculation at the contention admissibility stage).

<sup>392</sup> ER at 4-73.

<sup>393</sup> By contrast, the Fermi 3 Board admitted a contention about algae blooms because DTE’s statement that no *Lyngbya wollei* were present in the area did not explain whether the new Fermi 3 discharge pipe (with phosphoric acid as a corrosion inhibitor) would increase algae production. *Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-09-16, 70 NRC 227, 279-80 (2009). The Board granted DTE’s motion for summary disposition after the company provided an expert report demonstrating that the high and upward velocity of discharge water at Fermi 3 made it unlikely for harmful algae blooms to form because *Lyngbya wollei* grows in more sheltered areas. *Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-12-23, 76 NRC 445, 454-55 (2012).

near the site. Because CRAFT has not identified that information, this contention is inadmissible.<sup>394</sup>

### **13. CRAFT 13 — Inadequate Radiation Protection Standards**

CRAFT seeks more stringent requirements on radioactive emissions in the form of “an ASLB recommendation to the NRC Commission to issue an Order to independently assess the adequacy of current and proposed U.S. EPA guidelines.”<sup>395</sup> CRAFT alleges that the EPA’s radiation limits for nuclear facilities set in 40 C.F.R. § 190 fail to protect children, particularly female infants.<sup>396</sup> But as the Staff and DTE correctly explained,<sup>397</sup> this Board lacks the authority to hold a hearing on the adequacy of a different agency’s regulations.<sup>398</sup> Accordingly, this contention is inadmissible.

### **14. CRAFT 14 — Fermi Does Not Meet NEPA Standards<sup>399</sup>**

In its final contention, which concerns the risk of spent fuel fires, CRAFT alleges “that the Applicant’s Environmental Report (ER) utterly fails to address Severe Accident Mitigation Alternatives which could substantially reduce the risks and consequences associated with onsite storage of high level radioactive waste (HLRW), especially, spent fuel pool water loss and fires.”<sup>400</sup> Severe accidents involving the spent fuel pool must be addressed in the SAMA analysis because, CRAFT argues, the Generic Environmental Impact Statement (GEIS) for spent fuel pools covers only normal operations.<sup>401</sup> Therefore CRAFT maintains that the ER is inadequate insofar as it does not consider the risk of spent fuel pool fires.<sup>402</sup>

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<sup>394</sup> See *USEC Inc. (American Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 472-74 (2006) (holding that even if contention provided information not discussed in the ER, it was still not admissible because it failed to provide a reasoned basis or explanation for why the ER was wrong).

<sup>395</sup> CRAFT Petition at 34.

<sup>396</sup> *Id.*

<sup>397</sup> Staff Answer to CRAFT Petition at 81; DTE Answer at 51.

<sup>398</sup> 10 C.F.R. § 2.309(f)(1)(iii); see *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, LBP-12-16, 76 NRC 44, 59-60 (2012).

<sup>399</sup> In the petition, this contention referred to “EPA Standards.” In its reply, at 55, CRAFT stated that it intended to refer to “NEPA Standards.”

<sup>400</sup> CRAFT Petition at 36.

<sup>401</sup> *Id.* (citing Generic Environmental Impact Statement for License Renewal of Nuclear Plants, NUREG-1437 (2013) (ADAMS Accession No. ML13106A241)).

<sup>402</sup> *Id.*

CRAFT asks the Board to reconsider a ruling on a similar contention concerning spent fuel pools that was rejected in the *Pilgrim* proceeding.<sup>403</sup>

The Staff responds that this contention has already been rejected by the Commission, which concluded that severe accidents in the spent fuel pool are Category 1 issues that do not need to be included in the SAMA analysis.<sup>404</sup> DTE agrees with the Staff that the “Fermi 2 proceeding is not the proper forum for reconsidering decisions made in other proceedings.”<sup>405</sup> DTE also argues that the contention is an inadmissible challenge to the regulation designating spent fuel pools as a Category 1 issue.<sup>406</sup>

In its reply, CRAFT argues that the decisions in the *Pilgrim* proceeding incorrectly interpreted 10 C.F.R. § 51.53 and the GEIS.<sup>407</sup> CRAFT maintains that severe accidents, which are a Category 2 issue, cover any severe accident “based upon consequences as opposed to causes, thus incorporating spent fuel pool leaks and fires into the scope of the Applicant’s ER for a license renewal application.”<sup>408</sup>

This contention is inadmissible because the Commission has already rejected this precise argument.<sup>409</sup> The Commission concluded that the GEIS for spent fuel pools is “not limited to discussing only ‘normal operations,’ but also discusses potential accidents and other nonroutine events.”<sup>410</sup> Thus the Commission ruled that spent fuel accidents do not need to be included in the SAMA analysis.<sup>411</sup> Because CRAFT has not offered any reason to distinguish this proceeding from the circumstances in the Commission’s decision, this contention is inadmissible.

## VI. CONCLUSION

The Board *admits* the part of Joint Petitioners’ Contention 4 reformulated as Contention JP4B. For the reasons given above, Joint Petitioners’ remaining contentions will not be admitted. Joint Petitioners are admitted as parties to this proceeding and their Request for a Hearing and Petition to Intervene is *granted*.

The Board *grants* the Staff’s motion to strike with respect to CRAFT’s incorporations-by-reference in support of Contentions 3, 4, 5, and 6. The motion

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<sup>403</sup> *Id.*; see *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 280-300 (2006).

<sup>404</sup> Staff Answer to CRAFT Petition at 82-85 (citing *Vermont Yankee*, CLI-07-3, 65 NRC at 21).

<sup>405</sup> DTE Answer at 52.

<sup>406</sup> *Id.* (citing 10 C.F.R. Part 51, App. B).

<sup>407</sup> CRAFT Reply at 56.

<sup>408</sup> *Id.*

<sup>409</sup> See *Pilgrim*, CLI-10-14, 71 NRC at 473-76.

<sup>410</sup> *Id.* at 474.

<sup>411</sup> *Id.* at 474-75.

is *denied* with respect to the arguments concerning Contentions 2 and 12. As described above, the Board *admits* narrowed portions of CRAFT's Contentions 2 and 8, and rejects CRAFT's remaining contentions. CRAFT is admitted as a party to this proceeding and its Request for a Hearing and Petition to Intervene is *granted*. All admitted contentions are listed in Appendix A.

This Order is subject to appeal to the Commission to the extent permitted by 10 C.F.R. § 2.311. Any petitions for review meeting applicable requirements set forth in that section must be filed within 25 days of service of this Memorandum and Order.

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Ronald M. Spritzer, Chairman  
ADMINISTRATIVE JUDGE

Dr. Gary Arnold<sup>412</sup>  
ADMINISTRATIVE JUDGE

Nicholas G. Trikouros  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
February 6, 2015

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<sup>412</sup> Judge Arnold agrees with this decision, except for the admission of CRAFT's Contention 2. His separate views dissenting from the admission of that contention are attached.

## **APPENDIX A**

### **ADMITTED CONTENTIONS**

#### **Contention JP4B:**

The Fermi 2 Severe Accident Mitigation Alternatives analysis fails to evaluate the impact that a severe accident at Fermi 2 would have on the operation of the proposed nearby Fermi 3.

#### **Contention CRAFT 2:**

The ER failed to consider whether members of the Walpole Island First Nation would be negatively affected by the renewal of the Fermi 2 operating license due to impacts on tribal hunting and fishing rights, especially with respect to the potential for the consumption of contaminated foods.

#### **Contention CRAFT 8:**

The SAMA cost-benefit calculation is incorrect and thus inadequate because it did not properly account for the Canadian population within the 50-mile affected area of a Severe Accident.

### Separate Opinion of Judge Arnold

I signed this Order because I am in full agreement with almost all of it. I disagree only with the admission of CRAFT Contention 2. The majority of the Board, stating that, “CRAFT’s petition may not be a model of clarity or organization, but CRAFT is a *pro se* petitioner,” rewrote the contention. I disagree even with that statement. I consider this contention, as drafted by CRAFT, is an excellent example of clarity and organization. It is organized into six titled sections, each one roughly addressing one of the contention admissibility criteria of 10 C.F.R. § 2.309(f)(1).<sup>1</sup> It clearly advanced a contention concerning notification of the Walpole Island First Nation. The contention as drafted and filed did not need Board clarification.

CRAFT’s Contention 2 was not about hunting and fishing in the area. Nor was it about an omission from the ER. I believe that the Board majority, in an overabundance of caution and deference to *pro se* petitioners, has crossed an ill-defined line and improperly assembled a contention from bits and pieces taken from the CRAFT Petition and from CRAFT’s Reply. The resultant contention alleges that the ER fails to consider “impacts on the tribe’s hunting and fishing rights, especially with respect to the potential for the consumption of contaminated foods.”<sup>2</sup>

Regarding hunting and fishing, the contention as pled fails to provide a “specific statement of the issue of law or fact to be raised or controverted” reflecting this claim. Therefore it fails the admissibility test of 10 C.F.R. § 2.309(f)(1)(i). The statement of this contention provided by CRAFT is “Walpole Island First Nations’ exclusion from proceedings.”<sup>3</sup> CRAFT explains this, “[w]hile it appears that NRC notified a number of Native American tribes across Michigan . . . it seems that NRC did not notify numerous Native American tribes, bands, and First Nations in the area of concern.”<sup>4</sup> There is no mention of hunting or fishing, nor even of the

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<sup>1</sup> CRAFT Petition at 9-13. These sections are:

- A. Purpose of Contention.
- B. Statement of the Issue.
- C. Statement of Issues of Law and Fact to Be Raised.
- D. Brief Explanation of the Basis for the Contention.
- E. Demonstration That the Issue Raised by the Contention Is Within the Scope of the Proceeding and Material to the Findings the NRC Must Make to Support Its Licensing Decision.
- F. Concise Statement of Facts or Expert Opinion Relied on to Show the Existence of a Genuine Dispute with the Applicant and the NRC Regarding the Adequacy of the License Extension Application.

<sup>2</sup> Majority Opinion at p. 282.

<sup>3</sup> CRAFT Petition at 9.

<sup>4</sup> *Id.*

ER in the contention statement. There is no statement in the contention as pled that I can reasonably interpret to mean “the ER fails to discuss Native American hunting and fishing rights in the region of Fermi 2.” Nor is there any statement claiming that such any such discussion is inadequate.

CRAFT provided a very clear explanation of the contention they proposed:

A. Purpose of Contention

To ensure that all Native American tribes and bands and First Nations have adequate notification by NRC of the proposed Fermi 2 licensing extension and environmental review proceedings, as due to them under applicable treaties, laws, and regulations; and to ensure that individual tribal members’ interests are represented whether their tribal government intervenes or not on their behalf.<sup>5</sup>

This clearly states the sole purpose of the contention is to protect the Tribe’s right to participate. Nowhere in this section does CRAFT make any reference to hunting or fishing.

Under a section of the contention titled, “Statement of Issues of Law and Fact to Be Raised,” CRAFT discusses the NEPA requirement “to notify affected Native American tribes of pending significant proposals and actions,” and the regulatory requirement for the “NRC to invite any affected Indian tribe to participate in the environmental scoping process.”<sup>6</sup> But nowhere in this section does CRAFT discuss any requirement for the ER to accurately report land and water use, local hunting or fishing, or Native American hunting and fishing rights.

Under the section of the contention titled, “Brief Explanation of the Basis for the Contention,” CRAFT discusses issues concerning notification of Indian tribes.<sup>7</sup> But nowhere in this section is either hunting or fishing mentioned.

In the section of the petition explaining that the contention was within the scope, and material to the proceeding, CRAFT makes two references to hunting and fishing:

Walpole Island First Nation, and many, perhaps all, of the tribes which NRC notified or did not notify that have been mentioned above, likely have hunting and fishing rights. . . .<sup>8</sup>

Given that numerous species of fish, wild game, and migratory bird consumed as food by Walpole Island First Nation sped [sic] a part of their life cycle at or near the Fermi 2 site, whether in the surrounding surface waters or on land, Fermi

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<sup>5</sup> *Id.*

<sup>6</sup> *Id.* at 10. This section of the CRAFT petition does, however, note that the Indian Tribes were granted hunting and fishing rights in a treaty signed in 1808. *Id.*

<sup>7</sup> *Id.* at 11.

<sup>8</sup> *Id.* at 12.



2's radiological, toxic chemical and thermal pollution negatively impacts the food supply of the Walpole Island First Nation.<sup>9</sup>

These statements may give the impression that the contention concerns hunting and fishing, but this misimpression is corrected two paragraphs later:

[G]iven the native [sic] impacts upon such treaty rights as hunting and fishing near the Fermi 2 nuclear reactor site, especially in Lake Erie, all the affected tribes of Michigan, Wisconsin, Oklahoma, Ontario, and beyond should have been notified by NRC of their opportunity to intervene against the Fermi 2 license extension . . .<sup>10</sup>

The references to hunting and fishing were made to support CRAFT's position that the notification contention was within the scope of, and material to, the proceeding.

Finally, in CRAFT's original discussion of Contention 2 there is no claim that any information is missing from the ER, nor is there reference to the ER's existing discussion of subsistence hunting and fishing in the region.

In order for a contention to be admissible, it is necessary that Petitioners, "[p]rovide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing."<sup>11</sup> The Commission has provided additional guidance on the need for supporting facts to be provided at the onset:

Petitioners may not raise entirely new arguments in a reply brief unless the standards for late-filed contentions are met. And even if those standards are satisfied, **support for a contention must be provided when the contention is filed, not at some later date.**<sup>12</sup>

The original contention provided no support for the assertion that Walpole Nation Indians either fished or hunted in the region of Fermi 2.

In their Reply, Petitioners do not mention either hunting or fishing. Instead they support their contention challenging that the Walpole Island Indians "should have been notified as a sovereign government whose low-income, minority people would be devastated by an accident at the Fermi 2 reactor."<sup>13</sup> They include a letter from the chief of the Walpole Island First Nation, which states that members of

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<sup>9</sup> *Id.*

<sup>10</sup> *Id.*

<sup>11</sup> 10 C.F.R. § 2.309(f)(1)(v).

<sup>12</sup> *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 276 (2009) (emphasis added).

<sup>13</sup> CRAFT Reply at 20.

their tribe hunt and fish in the area around Fermi 2. But this letter was written after the Petition was submitted. This contravenes the Commission direction that “support for a contention must be provided when the contention is filed, not at some later date.”<sup>14</sup>

The Board majority also cites to declarations submitted from thirty-two tribal members claiming treaty rights to hunt and fish in the area of Fermi 2.<sup>15</sup> Of the fifty-one declarations accompanying the petition, thirty-one of these were submitted by individuals claiming tribal association, and only one of these claimed to be a member of the Walpole Island First Nation. And these thirty-one only state that they have hunting and fishing rights, but do not say they exercise those rights or are concerned that these rights may be disturbed by relicensing Fermi 2.

On the whole, I believe that CRAFT Contention 2 as admitted by the Board majority did not exist in the original CRAFT pleading. It was created by the Board majority using information provided in the contention and in CRAFT’s reply. I am not arguing that the reformulated contention does not meet the criteria for admission, only that it was not pled by Petitioners and does not reflect the intention of the original contention.

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<sup>14</sup> *Oyster Creek*, CLI-09-7, 69 NRC at 276.

<sup>15</sup> Majority Opinion at pp. 288-89.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Paul S. Ryerson**, Chairman  
**Nicholas G. Trikouros**  
**Dr. Gary S. Arnold**

**In the Matter of**

**Docket Nos. 50-275-LR  
50-323-LR  
(ASLBP No. 10-900-01-LR-BD01)**

**PACIFIC GAS AND ELECTRIC  
COMPANY  
(Diablo Canyon Nuclear Power  
Plant, Units 1 and 2)**

**February 11, 2015**

In this proceeding regarding an application by Pacific Gas & Electric Company to renew its operating licenses for two nuclear power reactors at the Diablo Canyon Nuclear Power Plant located near San Luis Obispo, California, the Board denies a hearing request and petition to intervene because each of Petitioner's proffered contentions either raises issues that are outside the scope of a license renewal proceeding or fails to satisfy one or more requirements of 10 C.F.R. § 2.309(f)(1).

**REGULATIONS: SCOPE OF LICENSE RENEWAL PROCEEDING**

The scope of a license renewal safety review is narrow. It is limited to "plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses." *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units

1 and 2), CLI-01-20, 54 NRC 211, 212 (2001) (citing 10 C.F.R. §§ 54.21(a), (c), 54.4).

#### **REGULATIONS: SCOPE OF LICENSE RENEWAL PROCEEDING**

A license renewal proceeding does “not include a new, broad-scoped inquiry into compliance that is separate from and parallel to [our] ongoing compliance oversight activity.” *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 435 (2011) (quoting 56 Fed. Reg. 64,943, 64,952 (Dec. 13, 1991)).

#### **RULES OF PRACTICE: IMPERMISSIBLE CHALLENGE TO NRC REGULATIONS**

Pursuant to 10 C.F.R. § 2.335(a), except as provided in 10 C.F.R. § 2.335(b)-(d), “no rule or regulation of the Commission, or any provision thereof, concerning the licensing of production and utilization facilities . . . is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding subject to this part.” 10 C.F.R. § 2.335(a).

### **MEMORANDUM AND ORDER** **(Denying Petition to Intervene and Petition for Waiver)**

This proceeding concerns an application by Pacific Gas & Electric Company (PG&E) to renew its operating licenses for two nuclear power reactors at the Diablo Canyon Nuclear Power Plant located near San Luis Obispo, California.<sup>1</sup> PG&E’s licenses expire on November 2, 2024, and August 26, 2025, respectively.<sup>2</sup>

Before the Board are two petitions submitted by Friends of the Earth (FoE): (1) for a hearing and to intervene;<sup>3</sup> and (2) for a waiver of certain NRC regulations.<sup>4</sup> Because each of FoE’s three proffered contentions raises issues that are outside the scope of a license renewal proceeding, as established by the Commission’s regulations, and because FoE has not satisfied the requirements for a waiver of those regulations, we deny both petitions.

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<sup>1</sup> The background of this proceeding is set forth in prior decisions of the Board and of the Commission. *See* LBP-10-15, 72 NRC 257, 273-75 (2010); CLI-11-11, 74 NRC 427, 429-31 (2011).

<sup>2</sup> 75 Fed. Reg. 3493, 3493 (Jan. 21, 2010).

<sup>3</sup> FoE’s Request for a Hearing and Petition to Intervene (Oct. 10, 2014) (Petition).

<sup>4</sup> FoE’s Petition for Waiver of 10 C.F.R. §§ 54.4, 54.21, and 54.29(a) as Applied to the Diablo Canyon License Renewal Proceeding (Oct. 10, 2014) (Waiver Petition).

## I. BACKGROUND

On January 21, 2010, the NRC published a *Federal Register* notice of an opportunity for a hearing on PG&E's license renewal application.<sup>5</sup> The period for filing a petition for intervention or request for hearing closed on March 22, 2010. The San Luis Obispo Mothers for Peace (SLOMFP) filed a timely petition to intervene,<sup>6</sup> which the Board granted.<sup>7</sup>

On August 26, 2014, FoE filed a hearing request with the Commission concerning seismic issues at the Diablo Canyon facility.<sup>8</sup> That petition, addressing FoE's claim that ongoing operation of the facility under its existing licenses might be unsafe in light of the risks of earthquakes, remains pending before the Commission.

On October 10, 2014, FoE filed the petition to intervene and waiver petition that are before the Board in this license renewal proceeding. FoE asserted that its petition to intervene is based on new and materially different information that was first made available in a Seismic Report<sup>9</sup> that PG&E submitted to the NRC on September 10, 2014.<sup>10</sup> FoE proffered three contentions that purport to address license renewal, but also reiterated its continuing claim — as previously set forth in its pending petition before the Commission — that, because of the ongoing risks posed by potential earthquakes, “PG&E has not demonstrated that the plant can be safely operated *under its existing operating license*.”<sup>11</sup> FoE claims that PG&E's September 10, 2014 Seismic Report on Diablo Canyon demonstrates that nearby faults “are capable of producing an earthquake with ground acceleration that far exceeds the limits in the plant's current licensing basis, posing a serious safety risk to the public and environment near the plant.”<sup>12</sup> PG&E's analyses, FoE contends, do “not instill confidence in the utility's conclusions that the plant *remains safe*.”<sup>13</sup>

All three existing parties — PG&E, the NRC Staff and SLOMFP — responded

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<sup>5</sup> 75 Fed. Reg. at 3493.

<sup>6</sup> Request for Hearing and Petition to Intervene by SLOMFP (Mar. 22, 2010).

<sup>7</sup> LBP-10-15, 72 NRC at 345. The Board did not, however, admit all of SLOMFP's proffered contentions, *id.* at 317, and subsequently the Commission limited the admissible contentions further. CLI-11-11, 74 NRC at 437, 452, 458.

<sup>8</sup> Petition to Intervene and Request for Hearing by FoE (Aug. 26, 2014).

<sup>9</sup> PG&E, Central Coastal California Seismic Imaging Project (Sept. 10, 2014) (ADAMS Accession No. ML14260A106).

<sup>10</sup> See Petition at 4-7, 33-35.

<sup>11</sup> *Id.* at 3 (emphasis added).

<sup>12</sup> *Id.* at 4.

<sup>13</sup> *Id.* at 16 (emphasis added).

to FoE's filings on November 4, 2014.<sup>14</sup> Although neither PG&E nor the Staff challenged FoE's standing, each opposed FoE's petition to intervene on the same three grounds. First, they asserted it was not timely.<sup>15</sup> Second, they asserted, because each of FoE's three proffered contentions raises issues outside the scope of a license renewal proceeding, each is inadmissible for failure to comply with various related subparts of 10 C.F.R. § 2.309(f)(1).<sup>16</sup> Third, they asserted that FoE has failed to satisfy the rigorous requirements for seeking a waiver of the NRC's regulations, as set forth in 10 C.F.R. § 2.335 and in pertinent Commission decisions.<sup>17</sup> For its part, SLOMFP supported FoE's petition, essentially for the reasons given by FoE.

FoE submitted a reply on November 12, 2014,<sup>18</sup> and the Board heard oral argument from FoE and the parties on January 21, 2015.<sup>19</sup>

## II. ANALYSIS

To participate as a party in an NRC adjudicatory proceeding concerning a proposed licensing action, a petitioner must (1) demonstrate standing;<sup>20</sup> and (2) proffer at least one admissible contention.<sup>21</sup>

### A. Standing

No party challenges FoE's standing and, upon its independent examination, the Board determines that FoE has demonstrated standing to petition to intervene.<sup>22</sup>

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<sup>14</sup> PG&E's Answer Opposing the FoE Hearing Request and Petition for Waiver (Nov. 4, 2014) (PG&E Answer); NRC Staff's Answer to FoE's Request for a Hearing and Petition to Intervene and Waiver Petition (Nov. 4, 2014) (Staff Answer); SLOMFP's Response to FoE's Request for a Hearing and Petition to Intervene and Petition for Waiver of 10 C.F.R. §§ 54.4, 54.21, and 54.29(a) as Applied to the Diablo Canyon License Renewal Proceeding (Nov. 4, 2014).

<sup>15</sup> PG&E Answer at 23-25; Staff Answer at 13-22.

<sup>16</sup> PG&E Answer at 13-22; Staff Answer at 22-38.

<sup>17</sup> PG&E Answer at 25-28; Staff Answer at 38-50.

<sup>18</sup> FoE's Reply to NRC Staff's and PG&E's Answers to Petition to Intervene and Request for Hearing (Nov. 12, 2014) (Reply).

<sup>19</sup> Transcript of Diablo Canyon Nuclear Power Plant Units 1 and 2 (Jan. 21, 2015) (Tr.). In citing to the transcript, we reference the transcript as modified by the transcript corrections adopted by the Board. *See* Licensing Board Order (Ruling on Joint Proposed Transcript Corrections) (Feb. 4, 2015) (unpublished).

<sup>20</sup> 10 C.F.R. § 2.309(d).

<sup>21</sup> *Id.* § 2.309(f).

<sup>22</sup> FoE alleges it is a national nonprofit environmental organization that, among other things, seeks to minimize the risks that nuclear facilities might pose to its members or to the general public. Petition

(Continued)

## B. Timeliness

Although FoE submitted its petition to intervene almost 4 years after the original deadline, and both PG&E and the NRC Staff raise objections to its timeliness that are not frivolous,<sup>23</sup> on balance we decline to reject FoE's petition as untimely. Arguably, FoE's petition to intervene is based on new and materially different information about the risks of earthquakes near the Diablo Canyon facility that was not available to FoE before PG&E submitted its Seismic Report to the NRC on September 10, 2014 — just 30 days before FoE submitted its petition.

The Board's Revised Scheduling Order, dated November 19, 2012, specifies that persons not currently a party may file timely petitions to intervene "provided that they satisfy the 'good cause' criteria of 10 C.F.R. § 2.309(c)(1)(i)-(iii) . . . ."<sup>24</sup> Section 2.309(c)(1) states:

Hearing requests, intervention petitions, and motions for leave to file new or amended contentions filed after the deadline . . . will not be entertained absent a determination by the presiding officer that a participant has demonstrated good cause by showing that:

- (i) The information upon which the filing is based was not previously available;
- (ii) The information upon which the filing is based is materially different from information previously available; and
- (iii) The filing has been submitted in a timely fashion based on the availability of the subsequent information.

The Revised Scheduling Order further clarifies that "[b]ecause such filings are subject to additional requirements, the determination as to whether such requests or petitions are filed in a 'timely manner' as required by 10 C.F.R. § 2.309(c)(1)(iii) shall be subject to a reasonableness standard and is not subject to the thirty (30) day deadline" applicable to motions by existing parties to add or amend contentions.<sup>25</sup>

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at 36. FoE seeks to intervene on behalf of its members, and has submitted sworn declarations from five of its members, each of whom resides between approximately 6 to 11 miles from the Diablo Canyon facility. Declaration of Sandra L. Brazil, Petition Attachment 3; Declaration of Thomas Danfield, Petition Attachment 4; Declaration of Michael R. Jencks, Petition Attachment 5; Declaration of Jeffrey Pienack, Petition Attachment 6; Declaration of Susan Sunderland, Petition Attachment 7.

<sup>23</sup> PG&E Answer at 23-25; Staff Answer at 13-22. As the NRC Staff points out, FoE had earlier opportunities to participate in this proceeding with regard to the risks of earthquakes in general. PG&E's original license renewal application addressed seismic issues, including the then-recently discovered Shoreline Fault. SLOMFP submitted a timely, admissible contention pertaining to the Shoreline Fault in March 2010. NRC Answer at 4.

<sup>24</sup> Revised Scheduling Order (Nov. 19, 2012) at 9 (unpublished).

<sup>25</sup> *Id.* at 9-10.

Invoking these standards, FoE claims that its proffered contentions are all based on new information contained in PG&E's September 10, 2014 Seismic Report (and that, indeed, its October 10, 2014 petition was timely filed within 30 days of public availability of that report even though it did not necessarily have to be under a "reasonableness standard").<sup>26</sup> According to FoE, the Seismic Report added "significant new and material information to the body of scientific knowledge regarding the seismicity of the area surrounding Diablo Canyon."<sup>27</sup>

Specifically, FoE contends that the Seismic Report revises upward previous estimates of the seismic potential of a number of faults near the Diablo Canyon facility.<sup>28</sup> For example, FoE points out that the Seismic Report found that one fault that is very close to the plant — the Shoreline fault — is nearly double the previously assumed length and that this revised estimate increases the potential magnitude of an associated earthquake from a Richter scale 6.5 to 6.7.<sup>29</sup> For the first time, the Seismic Report concluded that the "step-over" between two other nearby faults — the Hosgri fault and the San Simeon fault — is small enough that the two faults must be assumed to rupture together rather than separately (in turn, increasing the potential magnitude of a Hosgri earthquake from 7.1 to 7.3).<sup>30</sup> Likewise, the Seismic Report concluded for the first time that the Hosgri and Shoreline faults intersect such that a linked rupture involving the full Hosgri fault and the full Shoreline fault must be assumed to be possible (posing the risk of a magnitude 7.3 earthquake occurring within 600 meters of the Diablo Canyon facility).<sup>31</sup>

Neither PG&E nor the NRC Staff disputes that the Seismic Report disclosed these new facts.<sup>32</sup> Rather, they claim these facts are not material or are not materially different from information that was previously available.

The NRC Staff argues, for example, that "[w]hile these three conclusions might be new information," PG&E nonetheless ultimately concluded "that the ground motions from updated shoreline fault and other regional faults remain less than the 1977 Hosgri Design ground motions, for which the plant was evaluated and

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<sup>26</sup> Petition at 35.

<sup>27</sup> *Id.* at 33.

<sup>28</sup> *See generally id.* at 34-35.

<sup>29</sup> *Id.* at 34.

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> *See* Tr. at 694 ("Yes, the length of the Shoreline fault is different in the 2014 [Seismic Report] data than in the 2011 data.") (PG&E counsel); *see also* Tr. at 695 (stating that the assumption that the Hosgri and the San Simeon faults will rupture together rather than separately "was new") (PG&E counsel); Tr. at 696 (acknowledging that "there was a further sensitivity done in the 2014 report" suggesting that the Hosgri and the Shoreline faults may rupture jointly) (PG&E counsel); Tr. at 699 (acknowledging on behalf of NRC Staff that those three facts were new and timely acted upon) (NRC Staff counsel).



demonstrated to have reasonable assurance of safety.”<sup>33</sup> To conclude that these admittedly new *facts* are not material, however, one must accept at face value PG&E’s own “interim” *conclusion* that the updated ground motion potential based on this new seismic information is necessarily “bounded” by previous ground motion response spectra.<sup>34</sup> As FoE points out, this is the very issue on which it seeks a hearing, and on which FoE has set forth evidence that is at least plausible.<sup>35</sup>

We therefore decline to reject FoE’s petition as untimely.

### C. Contentions

Each of FoE’s proffered contentions, however, either raises issues that are outside the scope of a license renewal proceeding, or fails to satisfy one or more requirements of 10 C.F.R § 2.309(f)(1).<sup>36</sup>

*Contention One* states:

PG&E’s operating license for Diablo Canyon should not be renewed unless and until PG&E establishes that the plant can withstand and be safely shut down following an earthquake on the Hosgri-San Simeon, Shoreline, Los Osos, or San Luis Bay faults.<sup>37</sup>

FoE’s concern with the ability of the Diablo Canyon facility to shut down safely following a potential earthquake is a current operating issue, and is not

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<sup>33</sup> Staff Answer at 19 (quoting Letter from E. Halpin, Senior Vice President, PG&E, to NRC, Central Coastal California Seismic Imaging Project, Shoreline Fault Commitment at 2 (Sept. 10, 2014) (ADAMS Accession No. ML14260A387); *see also* PG&E Answer at 23-25; Tr. at 694 (“The conclusions remain the same.”) (PG&E counsel).

<sup>34</sup> *See* Reply at 11.

<sup>35</sup> *See* Petition at 15-16; Petition, Attachment 1, Affidavit and Curriculum Vitae (CV) of Dr. Gerhard Jentzsch ¶ 19; Reply at 5-8.

<sup>36</sup> Insofar as relevant, 10 C.F.R. § 2.309(f)(1) requires that, for each proffered contention, a petition must:

- (i) Provide a specific statement of the issue of law or fact to be raised . . . ;
- (ii) Provide a brief explanation of the basis for the contention;
- (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
- (iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;
- (v) Provide a concise statement of the alleged facts or expert opinions which support the requestor’s/petitioner’s position . . . ;
- (vi) . . . provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information must include references to specific portions of the application . . . .

<sup>37</sup> Petition at 8.

unique to whether PG&E's licenses — which do not expire until nearly a decade from now — should be renewed. The participants essentially do not dispute this.<sup>38</sup>

The scope of a license renewal safety review, however, is narrow. It is limited to “plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses.”<sup>39</sup> As PG&E succinctly observes, “[e]arthquakes are not an aging mechanism.”<sup>40</sup>

A fundamental principle that underlies the Commission's license renewal regulations is that “with the possible exception of the detrimental effects of aging on the functionality of certain plant systems, structures, and components in the period of extended operation . . . the regulatory process is adequate to ensure that the licensing bases of all currently operating plants provides and maintains an acceptable level of safety . . . .”<sup>41</sup> Indeed, in this very proceeding, the Commission reversed the Board's earlier decision to admit a contention that the Commission found to raise current operating issues.<sup>42</sup>

As the Commission reemphasized in its prior ruling in this case, “license renewal should not include a new, broad-scoped inquiry into compliance that is separate from and parallel to [our] ongoing compliance oversight activity.”<sup>43</sup> Thus, the NRC's regulations contemplate that concerns such as those raised by Contention One will be addressed when, as part of the NRC's ongoing oversight, the Staff inspects the plant and evaluates any potential impacts to safety. Specifically, the regulations assume that the NRC's ongoing oversight of Diablo Canyon will address any safety-significant issue associated with PG&E's Seismic Report.

Because Contention One raises issues that are not part of a license renewal proceeding, as established by the Commission's regulations, it is not within the scope of this proceeding, as required by 10 C.F.R. § 2.309(f)(1)(iii). Nor, for the same reason, does Contention One raise an issue that is material to findings

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<sup>38</sup> See Tr. at 688-89 (“If [FoE] is correct, however, the Diablo Canyon [facility] has a problem, and it must be corrected now. That's a current operating issue. It cannot await the expiration of the current licenses in 2024 and 2025 and the beginning of the extended operating period.”) (NRC Staff counsel); see also Tr. at 720 (responding that PG&E's duty to show the ability for a safe shutdown during a seismic event is “an ongoing operational matter”) (PG&E counsel); Tr. at 724 (responding to the question that if the new seismic data had become available 20 years ago whether PG&E could have waited and addressed the data at relicensing, “I think they would have been required to address it 20 years ago.”) (FoE counsel).

<sup>39</sup> *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-01-20, 54 NRC 211, 212 (2001) (citing 10 C.F.R. §§ 54.21(a), (c), 54.4).

<sup>40</sup> PG&E Answer at 22.

<sup>41</sup> 60 Fed. Reg. 22,461, 22,464 (May 8, 1995).

<sup>42</sup> CLI-11-11, 74 NRC at 435-37.

<sup>43</sup> *Id.* at 435 (quoting 56 Fed. Reg. 64,943, 64,952 (Dec. 13, 1991)).

the NRC must make to support the proposed licensing action, as required by 10 C.F.R. § 2.309(f)(1)(iv). Likewise, because FoE's broad allegations do not actually challenge any specific part of PG&E's integrated plant assessment or time-limited aging analyses (TLAAs), Contention One fails to demonstrate the existence of a "genuine dispute with the applicant," as required by 10 C.F.R. § 2.309(f)(1)(vi). Absent a waiver of the NRC's regulations, therefore, Contention One is not admissible.

*Contention Two* states:

PG&E has failed to establish in its license renewal application that the effects of aging on Diablo Canyon's relay switches and snubbers will be adequately managed for the period of extended operation, in violation of 10 C.F.R. § 54.21(c).<sup>44</sup>

Relay switches and snubbers are not subject to an aging management review. Both are excluded by 10 C.F.R. § 54.21(a)(1)(i), which requires an aging management review only for equipment that performs its intended function without moving parts or without a change in configuration or property. As FoE's own expert recognizes, both relay switches and snubbers have mechanical moving parts.<sup>45</sup>

FoE asserts, however, that snubbers and relay switches are within the scope of license renewal pursuant to section 54.4(a)(2)<sup>46</sup> and that section 54.21(a)(3) therefore imposes a duty on PG&E to demonstrate in some manner — by a TLAA or otherwise<sup>47</sup> — that "the effects of aging will be adequately managed so

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<sup>44</sup> Petition at 21.

<sup>45</sup> See Petition, Attachment 2, Affidavit and CV of Arnold Gundersen, MSNE, RO at 24-25 (describing relays as "mechanical switching devices" that control the flow of electricity through the use of electromagnets and springs); *id.* at 37 (explaining that snubbers are "specialized springs and devices" that are "similar to the shock absorbers on cars").

<sup>46</sup> "Plant systems, structures, and components within the scope of this part are — . . . (2) All non-safety related systems, structures, and components whose failure could prevent satisfactory accomplishment of [*inter alia*, the capability to shut down the reactor and maintain it in a safe shut-down condition]." 10 C.F.R. § 54.4(a)(2).

<sup>47</sup> Compare Tr. at 753 ("There are no time-limited aging analyses for switches and snubbers. And that is inadequate given that the new material on the seismic risk.") (FoE counsel); *with* Tr. at 755 ("What we are saying is that some demonstration that they will continue to be operative and will assure that the plant can be shut down should be a part of this license extension request. It doesn't necessarily have to be a TLAA but there needs to be some demonstration because the regulations require it.") (FoE counsel).

that [their] intended function(s) will be maintained consistent with the [current licensing basis] for the period of extended operation.”<sup>48</sup> We do not agree.<sup>49</sup>

*First*, although FoE initially contended in its petition that “PG&E has failed to show that its [TLAAs] for relay switches and snubbers [are] adequate,”<sup>50</sup> a TLAA is not expressly required for snubbers and relay switches. Those components are not qualified on the basis of “time-limited assumptions *defined by the current operating term . . .*”<sup>51</sup> Such a time-limited assumption exists, for example, “where you had inaccessible cable and you can’t perform routine surveillance on that equipment, so you analyze it for the current operating license term.”<sup>52</sup> In that situation, a TLAA is necessary to demonstrate the cable’s functionality throughout the extended period of operation.

Diablo Canyon’s relay switches and snubbers, however, do not rely on time-limited assumptions based on the plant’s operating term, but rather are subject to ongoing maintenance programs pursuant to 10 C.F.R. § 50.65.<sup>53</sup> At oral argument, counsel for FoE conceded that “[t]hese two items [snubbers and relay switches] are excluded from those that are required to have TLAAs.”<sup>54</sup>

*Second*, the Board cannot accept FoE’s invitation to broadly interpret section 54.21(a)(3) as imposing an additional duty on PG&E (beyond an aging management plan or a TLAA) that would require “some demonstration”<sup>55</sup> of the continued functionality of snubbers and relay switches during the period of extended operation. The Commission has expressly limited license renewal proceedings to avoid such duplicative reviews of matters that are already covered by ongoing

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<sup>48</sup> 10 C.F.R. § 54.21(a)(3). *See also* Tr. at 751-52 (contending that section 54.21(a)(3) references not section 54.21(a)(1)(i), which excludes snubbers and relays, but rather the initial portion of section 54.21(a)(1) and section 54.4, which includes section 54.4(a)(2) non-safety-related systems (such as snubbers and relays) necessary for safe shutdown) (FoE counsel).

<sup>49</sup> We also question whether, improperly, FoE introduced new arguments at oral argument. Because we reject these arguments, we need not resolve this issue.

<sup>50</sup> Petition at 24.

<sup>51</sup> 10 C.F.R. § 54.3(a)(3) (emphasis added).

<sup>52</sup> Tr. at 753-54 (PG&E counsel).

<sup>53</sup> *See* Tr. at 754 (PG&E counsel); *see also* PG&E Answer at 20 n.57 (“Safety-related snubbers are maintained by periodic visual inspections and functional testing performed by qualified personnel in accordance with Diablo Canyon procedures, Technical Specifications, and the NRC’s maintenance rule. The testing and inspections ensure that all required snubbers are operable so that the structural integrity of the reactor coolant system and all other safety-related systems is maintained during and following a seismic or other event initiating dynamic loads. Relays are ‘shake table’ tested prior to installation and, once installed, are periodically tested in accordance with Technical Specifications. Testing consists of energizing all relays in the channel required for channel operability, verifying the operability of each required relay, and performing a continuity check.”).

<sup>54</sup> *See* Tr. at 742 (FoE counsel).

<sup>55</sup> Tr. at 755 (FoE counsel).

maintenance programs.<sup>56</sup> Again, as the Commission stated in connection with this very proceeding, “license renewal should not include a new, broad-scoped inquiry into compliance that is separate from and parallel to [our] ongoing compliance oversight activity.”<sup>57</sup>

Because Contention Two raises issues that are not part of a license renewal proceeding, as established by the Commission’s regulations, it is not within the scope of this proceeding, as required by 10 C.F.R. § 2.309(f)(1)(iii). Nor, for the same reason, does Contention Two raise an issue that is material to findings the NRC must make to support the proposed licensing action, as required by 10 C.F.R. § 2.309(f)(1)(iv). Likewise, Contention Two fails to demonstrate the existence of a “genuine dispute with the applicant,” as required by 10 C.F.R. § 2.309(f)(1)(vi). Absent a waiver of the NRC’s regulations, therefore, Contention Two is not admissible.

*Contention Three* states:

PG&E has failed to establish in its aging management plan that the effects of aging on Diablo Canyon will be adequately managed for the period of extended operation, in violation of 10 C.F.R. § 54.21(a)(3).<sup>58</sup>

The standard for granting a reactor license renewal is set forth in 10 C.F.R. § 54.29. To grant renewal, the NRC Staff must find that there is reasonable assurance that the effects of aging on relevant systems, structures, and components will be managed during the period of extended operation, that time-limited aging analyses have been identified for review, and that applicable environmental requirements have been met.

FoE does not explain how its claims in Contention Three would affect the Staff’s ability to make the findings required for license renewal. FoE makes only broad assertions that, in light of the findings in the Seismic Report, PG&E has failed to ensure that the effects of aging will be adequately managed for an additional 20 years.<sup>59</sup> But FoE does not explain how its seismic claims relate to aging. FoE asserts merely that the “aged components” will not be able to perform their intended function. Moreover, FoE does not challenge a specific portion of the license renewal application. Instead, FoE merely claims that the entire aging management review is inadequate.<sup>60</sup>

Contention Three does not raise an issue that is material to findings the NRC must make to support the proposed licensing action, as required by 10 C.F.R.

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<sup>56</sup> See *supra* p. 321.

<sup>57</sup> CLI-11-11, 74 NRC at 435 (quoting 56 Fed. Reg. at 64,952).

<sup>58</sup> Petition at 30.

<sup>59</sup> See, e.g., Tr. at 703 (FoE counsel).

<sup>60</sup> Tr. at 755-56 (FoE counsel).

§ 2.309(f)(1)(iv). Likewise, because FoE's broad allegation that PG&E's aging management plan is "inadequate" in light of new information does not actually reference any specific portion of PG&E's application that it disputes, FoE fails to demonstrate the existence of a "genuine dispute with the applicant," as required by 10 C.F.R. § 2.309(f)(1)(vi). Absent a waiver of the NRC's regulations, therefore, Contention Three is not admissible.

#### D. Waiver

Pursuant to 10 C.F.R. § 2.335(a), except as provided in 10 C.F.R. § 2.335(b)-(d), "no rule or regulation of the Commission, or any provision thereof, concerning the licensing of production and utilization facilities . . . is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding subject to this part."<sup>61</sup> FoE's petition for waiver of the regulations that otherwise bar each of its proffered contentions fails to satisfy 10 C.F.R. § 2.335.

As the Commission explained in the *Millstone* decision,<sup>62</sup> a waiver may be granted only upon a showing that *each* of four factors has been satisfied:

- (i) the rule's strict application "would not serve the purposes for which [it] was adopted";
- (ii) the movant has alleged "special circumstances" that were "not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived";
- (iii) those circumstances are "unique" to

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<sup>61</sup> 10 C.F.R. § 2.335(a). Subsections (b), (c), and (d) of section 2.335 further provide as follows:

(b) A participant to an adjudicatory proceeding subject to this part may petition that the application of a specified Commission rule or regulation . . . be waived or an exception be made for the particular proceeding. The sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted. The petition must be accompanied by an affidavit that . . . state[s] with particularity the special circumstances alleged to justify the waiver or exception requested.

(c) If, on the basis of the petition . . . the presiding officer determines that the petitioning participant has not made a *prima facie* showing that the application of the specific Commission rule or regulation . . . would not serve the purposes for which the rule or regulation was adopted and that application of the rule or regulation should be waived or an exception granted, no evidence may be received on that matter and no discovery, cross examination, or argument directed to the matter will be permitted . . .

(d) If . . . the presiding officer determines that the *prima facie* showing required by paragraph (b) of this section has been made, the presiding officer shall, before ruling on the petition, certify the matter directly to the Commission . . . for a determination in the matter of whether the application of the Commission rule or regulation . . . should be waived or an exception made.

<sup>62</sup> *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551 (2005).

the facility rather than “common to a large class of facilities”; and (iv) a waiver of the regulation is necessary to reach a “significant safety problem.” The use of “and” in this list of requirements is both intentional and significant. For a waiver request to be granted, *all four* factors must be met.<sup>63</sup>

FoE fails to establish a *prima facie* case that its waiver petition meets at least two of these four factors.

*First*, FoE has not made a *prima facie* showing that application of 10 C.F.R. §§ 54.4, 54.21, and 54.29(a) would not serve the purposes for which they were adopted. These regulations limit license renewal proceedings to issues that are unique to the period of extended operation. As the Commission has clarified, its license renewal process does not “require submission of information relating to the adequacy of, or compliance with, the current licensing basis” and does not “require a finding regarding the adequacy of, or compliance with, the plant’s licensing basis.”<sup>64</sup>

As FoE acknowledges, the Commission revised its license renewal rules specifically “to identify and eliminate from license renewal proceedings certain analysis that would be duplicative of the licensee’s ongoing obligations to comply with Commission regulations and the plant’s current licensing basis.”<sup>65</sup> As the Commission explained in *Millstone*, “it makes no sense to spend the parties’ and our own valuable resources litigating allegations of *current* deficiencies in a proceeding that is directed to *future*-oriented issues of aging.”<sup>66</sup>

FoE’s concerns about the risk of an earthquake near the Diablo Canyon facility are not limited to the proposed period of extended operation, which would not even begin before the year 2024. On the contrary, FoE charges that “PG&E has not demonstrated that the plant can be safely operated under its existing operating license.”<sup>67</sup> In these circumstances, the regulations from which FoE seeks relief serve exactly the purpose the Commission intended: that is, to bar litigation of “allegations of *current* deficiencies in a proceeding that is directed to *future*-oriented issues of aging.”<sup>68</sup> This alone is fatal to FoE’s waiver request.<sup>69</sup>

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<sup>63</sup> *Id.* at 559-60 (emphasis in original) (footnotes omitted).

<sup>64</sup> 56 Fed. Reg. at 64,961.

<sup>65</sup> Waiver Petition at 6 (citing 60 Fed. Reg. at 22,462-63).

<sup>66</sup> *Millstone*, CLI-05-24, 62 NRC at 561 (emphasis in original). Rather, the “NRC regulations provide two other procedural mechanisms (10 C.F.R. §§ 2.206 and 2.802) by which [a petitioner] may pursue its concerns about” current deficiencies. *Id.*

<sup>67</sup> Petition at 3.

<sup>68</sup> *Millstone*, CLI-05-24, 62 NRC at 561 (emphasis in original).

<sup>69</sup> We therefore need not decide whether FoE has demonstrated special circumstances that were “not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading  
(Continued)

*Second*, FoE has also not made a *prima facie* showing that a waiver is *necessary* to reach a significant safety issue. To be sure, potential seismic risks to the Diablo Canyon facility are important issues — most certainly “significant” ones. But they are current operating issues, not issues that pertain uniquely to a potential period of extended operation.

There are other ways in which FoE might raise its concerns about the present and ongoing risk of earthquakes at the Diablo Canyon facility. These include a possible petition to modify the plant’s operating licenses under 10 C.F.R. § 2.206; a possible 10 C.F.R. § 2.802 petition for rulemaking to expand the scope of license renewal proceedings; and perhaps the very petition that FoE has presently pending before the Commission.<sup>70</sup> But this license renewal proceeding — which addresses only issues that are unique to a period of extended operation that would not begin until a decade from now — is not such an opportunity. FoE’s fundamental claim — that “PG&E has not demonstrated that the plant can be safely operated *under its existing operating license*”<sup>71</sup> — must be adjudicated elsewhere.

### III. ORDER

For the foregoing reasons, FoE’s petition to intervene is *denied*, and FoE’s petition for a waiver is *denied*.

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to the rule sought to be waived.” *Id.* at 560 (footnote omitted). Nor must we decide whether such special circumstances, if any, have been shown to be “unique” to the Diablo Canyon facility, rather than “common to a large class of facilities.” *Id.* (footnote omitted).

<sup>70</sup> See *supra* note 8.

<sup>71</sup> Petition at 3 (emphasis added).



In accordance with 10 C.F.R. § 2.311(b), any appeal to the Commission from this Memorandum and Order must be taken within twenty-five (25) days after it is served.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Paul S. Ryerson, Chairman  
ADMINISTRATIVE JUDGE

Nicholas G. Trikouros  
ADMINISTRATIVE JUDGE

Dr. Gary S. Arnold  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
February 11, 2015

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Stephen G. Burns**, Chairman  
**Kristine L. Svinicki**  
**William C. Ostendorff**  
**Jeff Baran**

**In the Matter of**

**Docket No. 50-285**

**OMAHA PUBLIC POWER  
DISTRICT  
(Fort Calhoun Station, Unit 1)**

**March 9, 2015**

**HEARING RIGHTS**

Licensing actions that alter the terms of a license or otherwise authorize additional operating activities trigger hearing rights for the public under section 189a of the Atomic Energy Act. Agency actions not formally labeled as license amendments nevertheless can constitute *de facto* license amendments and trigger hearing rights if the agency action (1) granted the licensee any greater authority or (2) otherwise altered the original terms of the license. *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315, 326 (1996).

**HEARING RIGHTS**

NRC Staff activities undertaken under its oversight role to ensure a licensee's compliance with the requirements of its existing license do not trigger hearing rights for the public under section 189a of the Atomic Energy Act.

## HEARING RIGHTS

The prospect that license amendments will be necessary in the future does not trigger hearing rights today.

## MEMORANDUM AND ORDER

In this decision, we rule on the hearing request of the Sierra Club on license amendments that it claims will be required for the Fort Calhoun Station operated by the Omaha Public Power District (OPPD).<sup>1</sup> We deny the Sierra Club's petition for the reasons discussed below.

### I. BACKGROUND

The Sierra Club requests a hearing on modifications that it claims have been, or should be, made to the Fort Calhoun Station and that require license amendments.<sup>2</sup> According to the Sierra Club, the need for these modifications became apparent during inspections conducted as part of enhanced NRC oversight that began during the 2011 shutdown of the Fort Calhoun Station.<sup>3</sup> The Sierra Club's hearing request concerns events relating to the Fort Calhoun Station's Spring 2011 refueling outage, which began in April 2011 and was extended due to the effects of Missouri River flooding on the site from June through September 2011, as well as longstanding technical issues.<sup>4</sup> In the course of its oversight, the Staff issued several Confirmatory Action Letters (CALs), confirming, among other things, OPPD's commitments to take actions addressing post-flooding recovery and performance deficiencies before plant restart.<sup>5</sup> After identifying significant

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<sup>1</sup> Petition to Intervene and Request for Adjudicatory Hearing by Sierra Club (Apr. 23, 2014) (Hearing Request).

<sup>2</sup> *Id.* at 43.

<sup>3</sup> *Id.* at 1-3.

<sup>4</sup> Collins, Elmo, NRC, Letter to David Bannister, OPPD, "Notification of Change to Regulatory Oversight of Fort Calhoun Station" (Dec. 13, 2011), at 1 (ADAMS Accession No. ML113470721).

<sup>5</sup> Collins, Elmo, NRC, Letter to David Bannister, OPPD, "Confirmatory Action Letter — Fort Calhoun Station" (Sept. 2, 2011) (CAL-4-11-003), at 1-2 (ADAMS Accession No. ML112490164) (confirming OPPD's commitments in its Post-Flooding Recovery Action Plan and other assessments and actions); Collins, Elmo, NRC, Letter to David Bannister, OPPD, "Confirmatory Action Letter — Fort Calhoun Station" (June 11, 2012) (CAL-4-12-002), at 1-2 (ADAMS Accession No. ML12163A289) (incorporating OPPD's commitments in CAL-4-11-003 and expanding their scope to resolve additional, underlying performance deficiencies); Collins, Elmo, NRC, Letter to Lou  
(Continued)

performance concerns, the Staff initiated enhanced oversight of the Fort Calhoun Station, effective December 13, 2011, and established a special oversight panel to coordinate the agency's regulatory activities associated with the assessment of performance deficiencies.<sup>6</sup>

The Staff closed out the CALs relating to post-flooding recovery actions and other items important for restart on December 17, 2013, and concluded that the NRC had not identified any issues that would preclude restart under the existing licensing basis.<sup>7</sup> The NRC also issued a post-restart CAL the same day that confirmed commitments to ensure that improvements realized during the outage remained in place and performance improvements continued.<sup>8</sup> Later that month, Fort Calhoun resumed operations.<sup>9</sup>

The Sierra Club seeks a hearing on the following plant modifications, claiming that the modifications are, or will be, necessary for Fort Calhoun to comply with its licensing basis and carry with them hearing rights: (1) modifications for flood protection, including severe flooding due to upstream dam failures; (2) reconstitution of design basis and licensing basis documents; (3) modifications to repair or replace inadequate structural beams and columns; and (4) modifications necessary to address issues caused by the fact that the reactor was built above karst terrain.<sup>10</sup>

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Cortopassi, OPPD, "Confirmatory Action Letter — Fort Calhoun Station" (Feb. 26, 2013) (EA-13-020), at 1-2 (ADAMS Accession No. ML13057A287) (incorporating all actions confirmed by CAL-4-12-002 and including three additional commitments prior to restart).

<sup>6</sup>Collins, Elmo, NRC, Letter to David Bannister, OPPD, "Notification of Change to Regulatory Oversight of Fort Calhoun Station" (Dec. 13, 2011), at 1 (ADAMS Accession No. ML113470721) ("The IMC [Inspection Manual Chapter] 0350 process is implemented at facilities in an extended shutdown with significant performance concerns to: establish a regulatory oversight framework as a result of significant performance problems or where a significant operational event has occurred, ensure the NRC communicates a unified and consistent position in a clear and predictable manner, establish a record of actions taken and technical issues resolved, verify corrective actions are sufficient for restart, and to provide assurance that following restart the plant will be operated in a manner that provides adequate protection of public health and safety.").

<sup>7</sup>Dapas, Marc, NRC, Letter to Lou Cortopassi, OPPD, "Fort Calhoun Station Closure of Confirmatory Action Letter" (Dec. 17, 2013) (EA-13-020), at 1, 5 (ADAMS Accession No. ML13351A423) (CAL Closure Letter) (closing out actions in CAL EA-13-020).

<sup>8</sup>Dapas, Marc, NRC, Letter to Lou Cortopassi, OPPD, "Confirmatory Action Letter — Fort Calhoun Station" (Dec. 17, 2013) (EA-13-243), at 1 (ADAMS Accession No. ML13351A423) (confirming commitments in OPPD's December 2, 2013, "Integrated Report to Support Restart of Fort Calhoun Station and Post-Restart Commitments for Sustained Improvement" to ensure improvements realized during the extended outage remain in place and performance continues to improve at the facility).

<sup>9</sup>Hay, Michael, NRC, Letter to Lou Cortopassi, OPPD, "Fort Calhoun — NRC Integrated Inspection Report Number 05000285/2013019" (Feb. 10, 2014), Enclosure at 4 (ADAMS Accession No. ML14042A238).

<sup>10</sup>Hearing Request at 3.

This hearing request follows the Sierra Club's petition under 10 C.F.R. § 2.206, in which the Sierra Club has asked the NRC to revoke Fort Calhoun's operating license because of concerns about, among other things, flood protection measures and internal containment structures.<sup>11</sup> The Staff has accepted the 2.206 petition, in part, to consider issues including the adequacy of flood protection, the risk of upstream dam failures, and a licensee event report indicating that a support beam was not within allowable limits for stress and loading.<sup>12</sup> The Staff's review of the petition is ongoing.

The Sierra Club acknowledges that because OPPD has not requested one or more license amendments on the modifications it seeks to challenge, its hearing request does not satisfy the timing requirements set forth in 10 C.F.R. § 2.309(b)(3) or (4) because it was not triggered by a *Federal Register* or other notice contemplated by that regulation.<sup>13</sup> Instead, it asks that we grant its hearing request on the ground that the request is timely under the circumstances of this case, where the NRC allowed restart of the Fort Calhoun reactor without purportedly necessary license amendments.<sup>14</sup> The Sierra Club requests that we either grant a hearing on the Staff's CAL and enhanced inspection processes under 10 C.F.R. § 2.309 or exercise our inherent supervisory authority over adjudications to grant a discretionary hearing.<sup>15</sup>

OPPD and the NRC Staff oppose the Sierra Club's hearing request.<sup>16</sup> Among other arguments, OPPD contends that the Sierra Club's hearing request should be summarily dismissed because it does not identify any pending or proposed license amendment or other licensing action that would give rise to a hearing

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<sup>11</sup> "10 CFR 2.206 Petition Requesting the Nuclear Regulatory Commission to Revoke Omaha Public Power District's License to Operate the Fort Calhoun Nuclear Power Station" (June 21, 2012), at 2-9 (ADAMS Accession No. ML12180A124).

<sup>12</sup> The Staff did not accept the Sierra Club's assertion that the operational record at all Exelon-owned or operated plants indicates that Exelon is unable to operate Fort Calhoun Station properly and safely. Leeds, Eric, NRC, Letter to Wallace Taylor, Iowa Chapter of the Sierra Club (May 23, 2013), at 3-4 (ADAMS Accession No. ML13092A248) (Leeds Letter).

<sup>13</sup> Hearing Request at 5-6. As relevant here, 10 C.F.R. § 2.309(b)(3) states that, in proceedings for which a *Federal Register* notice of agency action is published, a hearing request must be filed not later than: (i) the time specified in the notice or (ii) if no notice is specified, 60 days from the date of publication of the notice. Section 2.309(b)(4) states that, in proceedings for which a notice of agency action is not published, a hearing request must be filed not later than the latest of: (i) 60 days after publication of notice on the NRC Web site or (ii) 60 days after the requestor receives actual notice of a pending application but not more than 60 days after agency action on the application.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.* at 43.

<sup>16</sup> OPPD Response to the Sierra Club Request for Hearing and Petition to Intervene (May 20, 2014) (OPPD Response); NRC Staff Answer to Sierra Club Request for a Hearing and Petition to Intervene Asking That a License Amendment Proceeding Be Convened (May 20, 2014) (Staff Response).

opportunity.<sup>17</sup> The NRC Staff argues that the Sierra Club is not entitled to a hearing because it has not identified an actual or *de facto* license amendment proceeding that would trigger a hearing opportunity under the Atomic Energy Act of 1954, as amended (AEA).<sup>18</sup> Instead, the Staff asks that we construe the Sierra Club's petition as a request for an enforcement proceeding under 10 C.F.R. § 2.206.<sup>19</sup>

## II. DISCUSSION

To obtain a hearing, a petitioner must address its hearing request to a matter that triggers a hearing opportunity under section 189a of the AEA.<sup>20</sup> For the reasons discussed below, we reject the Sierra Club's hearing request on the ground that it does not address a licensing action subject to AEA hearing rights. Because we deny the hearing request on that basis, we need not reach the question of whether the petitioner has made the necessary showing to satisfy our regulatory requirements for hearing requests: namely, that the petition is timely, that the petitioner has standing, and that the petitioner has proffered at least one admissible contention.<sup>21</sup> Although we deny the Sierra Club's hearing request, we refer the matters raised to the Executive Director of Operations for consideration as a request for enforcement action under 10 C.F.R. § 2.206.

### A. The Sierra Club Has Not Challenged a Licensing Action Subject to a Hearing Opportunity

The Sierra Club explains that it seeks a hearing to examine significant safety issues, some of which were identified by the NRC Staff in the course of its oversight of the reactor that, in the Sierra Club's view, will require amendments to the Fort Calhoun operating license.<sup>22</sup> Therefore, it asks us to "clarify" that NRC

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<sup>17</sup> OPPD Response at 4-6.

<sup>18</sup> Staff Response at 1-2.

<sup>19</sup> *Id.* The Nuclear Energy Institute (NEI) has requested leave to file a brief *amicus curiae* addressing the precedent establishing the enforcement process, rather than the hearing process, as the means to resolve noncompliance. Nuclear Energy Institute Motion for Leave to File *Amicus Curiae* Brief (May 20, 2014); *Amicus Curiae* Brief of the Nuclear Energy Institute in Response to Sierra Club Hearing Request (May 20, 2014). Our rule in 10 C.F.R. § 2.315(d) provides for the filing of *amicus curiae* briefs when we have taken up a matter pursuant to 10 C.F.R. § 2.341 or *sua sponte*, neither of which is the case here. While our rules do not provide for the filing of *amicus curiae* briefs on motions filed in this circumstance, as a matter of discretion we have reviewed NEI's brief. See *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-13-9, 78 NRC 551, 556 n.17 (2013).

<sup>20</sup> 42 U.S.C. § 2239(a)(1)(A).

<sup>21</sup> 10 C.F.R. § 2.309(a)-(f).

<sup>22</sup> Hearing Request at 5.

Staff activities relating to the oversight of the Fort Calhoun Station, specifically the issuance of CALs and enhanced NRC inspection activities, are license amendment proceedings subject to hearing rights and grant its hearing request on that basis.<sup>23</sup> The Sierra Club's hearing request reflects a misunderstanding of the distinction between our agency's hearing and oversight processes.

Section 189a of the AEA requires the NRC to afford interested persons an opportunity for a hearing on "the granting, suspending, revoking or amending of any license."<sup>24</sup> A licensee cannot amend the terms of its license unilaterally; it must request and obtain agency approval.<sup>25</sup> The Sierra Club, however, acknowledges that its hearing request is not premised upon a license amendment request.<sup>26</sup> Instead, the Sierra Club states that it seeks a hearing to participate in a license amendment proceeding triggered by the issuance of CALs and enhanced NRC inspection activities.<sup>27</sup> But Staff inspections and CALs, in and of themselves, are oversight activities normally conducted for the purpose of ensuring that licensees comply with existing NRC requirements and license conditions<sup>28</sup> and, therefore, do not typically trigger the opportunity for a hearing under the AEA.<sup>29</sup>

Licensing actions, in contrast to oversight activities, alter the terms of the license or otherwise authorize additional operating activities. In some cases, we have observed that agency actions not formally labeled as license amendments nevertheless can constitute *de facto* license amendments and accordingly trigger hearing rights for the public under section 189a of the AEA.<sup>30</sup> We have articulated two key factors to consider when determining whether agency action constitutes a *de facto* license amendment: whether the agency action (1) granted the licensee any greater authority or (2) otherwise altered the original terms of the license.<sup>31</sup> In its reply brief, the Sierra Club argues that unilateral licensee actions, unapproved

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<sup>23</sup> *Id.* at 43.

<sup>24</sup> 42 U.S.C. § 2239(a)(1)(A).

<sup>25</sup> *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), CLI-14-11, 80 NRC 167, 173 (2014); see 10 C.F.R. § 50.90 ("Whenever a holder of a license . . . desires to amend the license . . . application for an amendment must be filed with the Commission . . .").

<sup>26</sup> Hearing Request at 1-3.

<sup>27</sup> *Id.* at 43; Reply to NRC Staff's Answer to Sierra Club's Petition to Intervene and Request for Hearing (June 3, 2014), at 1-6 (Sierra Club Reply) (characterizing the Fort Calhoun CALs and inspection process as a *de facto* license amendment).

<sup>28</sup> See NRC Enforcement Policy (Jan. 28, 2013) § 1.0, at 4 (ADAMS Accession No. ML13228A199).

<sup>29</sup> See *Kelley v. Selin*, 42 F.3d 1501, 1515 (6th Cir. 1995). This distinction with respect to hearing rights was discussed at some length by the Appeal Board considering a challenge to low-power testing performance in *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-940, 32 NRC 225, 234-38 (1990).

<sup>30</sup> See *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315, 326 (1996).

<sup>31</sup> *Id.*

by the NRC, may also constitute *de facto* amendments.<sup>32</sup> However, we recently rejected a similar argument in the *St. Lucie* matter.<sup>33</sup> As a result, we do not agree with the Sierra Club that “commitments made by OPPD in response to the CAL and the 0350 process” constitute *de facto* license amendments.<sup>34</sup>

Applying the distinction between Staff oversight of licensee activities and licensing actions to the case at hand, we consider the Staff activities which the Sierra Club cites to support its contentions. As explained below, we conclude that these activities were undertaken or are being undertaken under the Staff’s oversight role to ensure compliance with the requirements of OPPD’s existing license and that the Sierra Club has not pointed to any aspect of these activities that expands OPPD’s operating authority or modifies the terms of the Fort Calhoun operating license.

In Contention 1, Sierra Club asserts that OPPD is undertaking modifications for flood protection, including protection against severe flooding in the event of upstream dam failures, that will require a license amendment.<sup>35</sup> According to the Sierra Club, these modifications are part of a new approach to flood protection, which OPPD adopted instead of requesting a license amendment in response to a Staff notice of violation of March 2013, citing OPPD for an inadequate evaluation of a flooding mitigation modification under 10 C.F.R. § 50.59.<sup>36</sup> In particular, it points to the Staff’s conclusion that, had OPPD appropriately evaluated the change, it would have determined that a license amendment would have been required.<sup>37</sup> The Sierra Club also points to discussions of what it characterizes as OPPD’s new flood mitigation strategy at technical meetings,<sup>38</sup> and Staff reports and memoranda relating to flooding issues at Fort Calhoun.<sup>39</sup>

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<sup>32</sup> Sierra Club Reply at 5-6.

<sup>33</sup> *St. Lucie*, CLI-14-11, 80 NRC at 174 n.33.

<sup>34</sup> Sierra Club Reply at 6.

<sup>35</sup> Hearing Request at 16-25.

<sup>36</sup> *Id.* at 18 (citing Hay, Michael, NRC, Letter to Louis Cortopassi, OPPD, “Fort Calhoun — NRC Inspection Report Number 05000285/2013011 and Notice of Violation” (Mar. 11, 2013), Enclosure at A-4 to A-5 (ADAMS Accession No. ML13070A399)).

<sup>37</sup> *Id.*

<sup>38</sup> *Id.* at 18-19 (citing “Summary of Public Meeting Held on April 22, 2013, with Omaha Public Power District to Discuss Potential License Amendment Requests for Fort Calhoun Station, Unit 1 (TAC No. MF0598)” (June 3, 2013) (ADAMS Accession No. ML13134A186); “Summary of Closed Meeting Held on April 22, 2013, with Omaha Public Power District to Discuss Means for Protecting Fort Calhoun Station, Unit 1, Against Flooding (TAC No. MF0598)” (Apr. 25, 2013) (ADAMS Accession No. ML13114A881)).

<sup>39</sup> *Id.* at 20-25 (citing James, Lois, NRC Office of Nuclear Reactor Regulation, Memorandum to Benjamin Beasley, NRC Office of Nuclear Regulatory Research, “Identification of a Generic External Flooding Issue Due to Potential Dam Failures” (July 19, 2010), at 5 (ADAMS Accession No.

(Continued)



The Sierra Club does not, however, point to any aspect of these activities that expands the licensee's operating authority or alters the terms of the existing license or link these activities to any pending or approved license amendment. Instead, the Sierra Club's hearing request is premised on the expectation that implementation of OPPD's new flood mitigation strategy will require significant modifications and license amendment in the future.<sup>40</sup> But the prospect of a possible future license amendment does not trigger hearing rights now. In the event that OPPD requests a license amendment to implement flood mitigation measures, the Sierra Club will have an opportunity to request a hearing. In the meantime, the Sierra Club has requested and obtained Staff review of its concerns regarding the adequacy of flood protection at the Fort Calhoun Station through our 2.206 process.<sup>41</sup> The Staff is also evaluating the effect of multiple upstream dam failures on Fort Calhoun in connection with the implementation of post-Fukushima safety requirements.<sup>42</sup>

In Contention 2, the Sierra Club seeks a hearing on a prospective license amendment, claiming one will be required for OPPD to update and maintain accurate design basis documents.<sup>43</sup> As the factual underpinning for this claim, the Sierra Club points to an NRC inspection report identifying a noncited violation associated with OPPD's failure to update and maintain design basis documents.<sup>44</sup> But those inspection findings, which concern OPPD's compliance with its existing license, do not trigger a hearing opportunity and the Sierra Club has not identified any aspect of those findings that would expand OPPD's operating authority or modify the terms of the Fort Calhoun license. Any corrective actions taken by OPPD to come back into compliance with its design basis will not trigger a hearing opportunity unless and until they require a license amendment.<sup>45</sup> OPPD

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ML13039A086); Richard H. Perkins, P.E. et al., "Screening Analysis Report for the Proposed Generic Issue on Flooding of Nuclear Power Plant Sites Following Upstream Dam Failures" (July 2011), at 2-4, 10 (ADAMS Accession No. ML113500495); Blount, Thomas, NRC Region IV Division of Reactor Safety, Memorandum to Elmo Collins, Regional Administrator, "Backfit Panel Regarding Fort Calhoun Flooding" (Mar. 6, 2012), at 2 (ADAMS Accession No. ML12229A184)).

<sup>40</sup> *Id.* at 25.

<sup>41</sup> Leeds Letter at 3-4.

<sup>42</sup> *Id.* at 3 (stating "[t]hese issues [effect of multiple upstream dam failures on Fort Calhoun Station] are being reviewed as part of the 'Recommendations for Enhancing Reactor Safety in the 21st Century,' presented by the NRC's Near-Term Task Force review of the Fukushima Dai-ichi accident in Japan, dated July 12, 2011 (ADAMS Accession No. ML112510271).").

<sup>43</sup> Hearing Request at 25-31.

<sup>44</sup> *Id.* at 28-31 (citing Hay, Michael, NRC, Letter to Louis Cortopassi, OPPD, "Fort Calhoun — NRC Integrated Inspection Report Number 05000285/2012011" (Dec. 31, 2012), Enclosure at 42 (ADAMS Accession No. ML12366A158) (identifying a noncited violation of 10 C.F.R. Part 50 Appendix B, Criterion V, "Procedures" for failing to follow a quality procedure, specifically, PED-QP-13, "Design Basis Document Control," requiring the licensee to update and maintain design basis documents).

<sup>45</sup> OPPD Response at 11.

will determine whether any proposed changes to the plant, procedures, license, or licensing basis associated with its design reconstitution effort require a license amendment under 10 C.F.R. § 50.59.<sup>46</sup> Additionally, hearing rights do not attach to licensee changes made under section 50.59 because those changes do not require NRC approval but are instead subject to normal NRC oversight through the inspection process. Accordingly, to the extent that the Sierra Club wishes to challenge a section 50.59 analysis, we have consistently held that such challenges may only be taken by means of a petition for enforcement action under 10 C.F.R. § 2.206.<sup>47</sup> Should OPPD's corrective actions require a license amendment, the Sierra Club will then have an opportunity to request a hearing.

The Sierra Club's Contention 3, which claims that modifications to repair or replace inadequate structural beams and columns will require a license amendment, is premised upon a technical presentation by OPPD to the NRC on proposed modifications to those structures.<sup>48</sup> But the Sierra Club does not claim, or point to any evidence to show, that OPPD's proposed modifications require a license amendment or that the NRC has authorized OPPD to operate with greater authority or effected any change to the terms of the Fort Calhoun license. Again, the possibility that an amendment could be requested or approved to modify those structures in the future does not support a hearing request. This does not mean that the Sierra Club is without a meaningful opportunity to have its concerns addressed. Outside of our adjudicatory process, the Staff is reviewing the Sierra Club's concerns regarding structural integrity of the existing support beam detailed in its enforcement petition filed under 10 C.F.R. § 2.206 petition.<sup>49</sup>

Finally, in Contention 4, the Sierra Club asserts that modifications to address the fact that the reactor was built above karst terrain will require a license

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<sup>46</sup> *Id.* Section 50.59 sets forth the criteria under which licensees must evaluate proposed changes to plants or procedures in order to determine whether a license amendment is necessary.

<sup>47</sup> *St. Lucie*, CLI-14-11, 80 NRC at 179.

<sup>48</sup> Hearing Request at 32 (citing Licensee Slides from 12/12/2012 Public Meeting with Omaha Public Power District to Discuss Containment Internal Structures Issues to Support Restart of Fort Calhoun Station, Unit 1 (TACMF0307), at 27, 37, 50, 55-56 (ADAMS Accession No. ML12349A151)). The Sierra Club also claims that, according to the December 2012 presentation, the structures were inoperable during normal operation and argues that "if these structures are operable only in an outage situation, Fort Calhoun should not have been allowed to restart until the problem is solved and a license amendment is obtained." Hearing Request at 34. However, both the Staff and OPPD observed in their answers that OPPD subsequently performed additional analyses showing that the support structures were operational during normal operation. Staff Response at 30-31 & n.115; OPPD Response at 14. Before closing the CAL, the Staff found the additional analyses acceptable. CAL Closure Letter, Enclosure 1 at 9-10. The Sierra Club has not challenged these later analyses with any specificity or suggested that the Staff acceptance of those analyses provided greater operating authority to OPPD or otherwise altered the terms of the Fort Calhoun operating license.

<sup>49</sup> Leeds Letter at 2 (citing licensee event report submitted September 10, 2012, indicating a support beam was not within allowable limits for stress and loading (ADAMS Accession No. ML12255A038)).

amendment. But the factual support it cites for this contention, consisting of technical reports concerning the geology underlying the Fort Calhoun site and hazards associated with karst terrain, does not identify any license amendment relating to the presence of karst at the Fort Calhoun site.<sup>50</sup> Instead of identifying a licensing action on which it seeks a hearing or other agency action that has expanded OPPD's operating authority or altered the terms of the Fort Calhoun operating license, the Sierra Club speculates that a license amendment may be necessary in the future to make major, but unspecified, modifications at the Fort Calhoun station.<sup>51</sup> Once again, we find that the mere possibility of a future licensing action does not trigger hearing rights today.

In sum, the Sierra Club's contentions are premised on Staff inspection results, administrative and enforcement actions, informational meetings, and technical reports and memoranda. These documents support ongoing Staff oversight activities performed to ensure compliance with OPPD's existing license, as opposed to approving revisions to the license. The Sierra Club has presented no basis for us to conclude that these actions altered the terms of OPPD's license or otherwise granted OPPD greater operating authority. Therefore, we find that the Sierra Club has not identified a licensing action triggering a hearing opportunity.

The NRC's oversight of licensees is conducted separate from the NRC's adjudicatory process.<sup>52</sup> We decline to interpret the AEA to require hearings based on the possibility that a licensee may request an amendment to make unspecified modifications at some uncertain time in the future.

## **B. Referral Under 10 C.F.R. § 2.206**

Alternatively, the Sierra Club asks that we exercise our inherent supervisory authority to grant a hearing in order to serve the public interest in ensuring adequate protection of the public health and safety.<sup>53</sup> However, the Sierra Club has already availed itself of our 10 C.F.R. § 2.206 process, which allows members of the public to raise and obtain review of safety concerns. The Staff has accepted the Sierra Club's enforcement petition with respect to concerns relating to the adequacy of flood protection, the risk of upstream dam failure, and support beam

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<sup>50</sup> Hearing Request at 34-42.

<sup>51</sup> *Id.* at 35.

<sup>52</sup> To be sure, our oversight activities at times involve enforcement actions, including orders and civil penalties, to which a hearing right or opportunity attaches. *See, e.g., Sequoyah Fuels Corp. and General Atomics* (Gore Oklahoma Site), CLI-94-12, 40 NRC 64 (1994); *David Geisen*, CLI-10-23, 72 NRC 210 (2010). Discrete enforcement actions like these involve defined opportunities for participation. *See generally* 10 C.F.R. § 2.202. The oversight activities in which the Sierra Club seeks to participate do not fall within this category.

<sup>53</sup> Hearing Request at 43.

integrity at Fort Calhoun. As we have explained, our 2.206 process affords a meaningful opportunity to seek review of and action on safety-related concerns.<sup>54</sup> Therefore, we deny the Sierra Club's request that we exercise our supervisory authority to initiate a separate adjudicatory hearing and refer the matters raised in the intervention petition to the Executive Director of Operations for any additional action deemed appropriate.

### III. CONCLUSION

For the reasons discussed above, we *deny* the Sierra Club's hearing request and *refer* the matters raised in it to the Executive Director for Operations for consideration under 10 C.F.R. § 2.206.

IT IS SO ORDERED.<sup>55</sup>

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 9th day of March 2015.

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<sup>54</sup> *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-12-20, 76 NRC 437, 439-40 (2012).

<sup>55</sup> During the pendency of this hearing request, the Sierra Club moved to recuse then-Commissioner William D. Magwood, IV from participating in this decision. Petitioner's Motion for Recusal of Commissioner Magwood from Participating in the Considering of Petition to Intervene and Request for Hearing (June 27, 2014). Commissioner Magwood denied the motion. Decision on the Motion of Sierra Club for Recusal from Participation in Deliberations on Petition to Intervene and Request for a Hearing (July 14, 2014). Commissioner Magwood has since left the agency and did not participate in this decision.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**COMMISSIONERS:**

**Stephen G. Burns**, Chairman  
**Kristine L. Svinicki**  
**William C. Ostendorff**  
**Jeff Baran**

**In the Matter of**

**Docket Nos. 50-247-LR  
50-286-LR**

**ENTERGY NUCLEAR  
OPERATIONS, INC.  
(Indian Point, Units 2 and 3)**

**March 9, 2015**

**LICENSE RENEWAL**

The goal of the NRC's license renewal safety review is to ensure that the licensee can successfully manage the detrimental effects of aging. The focus of the license renewal regulations in 10 C.F.R. Part 54 is to ensure that the licensee can manage the effects of aging on certain long-lived, passive components that are important to safety.

**LICENSE RENEWAL**

The license renewal review is not intended to duplicate the NRC's ongoing oversight of operating reactors. *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 8-10 (2001).

**LICENSE RENEWAL: AGING MANAGEMENT**

Structures and components are subject to aging management review if they perform an intended function "without moving parts or without a change in configuration or properties" and are not subject to routine replacement. 10 C.F.R.

§ 54.21(a)(1)(i). These structures and components are generally referred to as “passive” components, although the terms “active” and “passive” do not appear in the license renewal regulations.

#### **LICENSE RENEWAL: GENERIC ENVIRONMENTAL IMPACT STATEMENT**

The NRC determined that many of the environmental effects associated with renewing the licenses of existing facilities can be effectively assessed generically. The environmental effects of existing plants are well understood from operating experience, and the future effects of continued operation are reasonably predictable.

#### **LICENSE RENEWAL: AGING MANAGEMENT**

The License Renewal Rule generically excludes active components from aging management review because functional degradation resulting from the effects of aging on active functions is more readily determinable, and existing programs and requirements are expected to directly detect the effects of aging. The Maintenance Rule, along with existing monitoring, surveillance, inspection, and testing programs, serves the purpose for active components that an aging management program would serve for a passive component.

#### **CONTENTIONS, ADMISSIBILITY**

The Commission typically defers to a Board’s judgment on issues of whether a contention had adequate factual support to raise a genuine dispute. The Commission affords substantial deference to a licensing board’s decision to admit a contention. *Crow Butte Resources, Inc.* (Marsland Expansion Area), CLI-14-2, 79 NRC 11, 26 (2014).

#### **CONTENTIONS, ADMISSIBILITY: WITNESSES, EXPERT**

Whether the expert opinion supporting a proposed contention petition adequately counters a longstanding Staff factual position reflected in a guidance document is a merits determination.

#### **STAFF TECHNICAL POSITIONS**

Staff guidance documents do not have the force of law, but a Board should

afford the Staff's factual determinations reflected in those documents "special weight."

#### **LICENSE RENEWAL: AGING MANAGEMENT**

Active components are excluded from aging management review because they are "readily monitorable," that is, because their function can be directly verified (and their failure immediately detected). While managing the effects of aging for both active and passive components requires the ability to detect degradation prior to failure, a component may still be considered active even if the "direct verification" of its function does not indicate incremental degradation.

#### **LICENSE RENEWAL: GENERIC ENVIRONMENTAL IMPACT STATEMENT**

The Staff's generic analysis in the Generic Environmental Impact Statement for License Renewal determined that the "probability-weighted consequences" of postulated accidents during the period of extended operation are small for all reactors. This determination precluded a discussion of whether the consequences of a severe accident for the "environmental justice population" surrounding the reactor in a specific license renewal proceeding might be "disproportionately high and adverse."

#### **EMERGENCY PLANNING: LICENSE RENEWAL**

The adequacy of emergency planning is evaluated by the Commission on an ongoing basis as part of its oversight of operating reactors, and emergency planning issues are outside the scope of license renewal.

#### **ENVIRONMENTAL IMPACT STATEMENT**

An Environmental Impact Statement is a "'snapshot' in time" of expected environmental consequences. *Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4), CLI-12-7, 75 NRC 379, 391-92 (2012).

#### **ENVIRONMENTAL IMPACT STATEMENT**

The environmental record of decision may be supplemented by the hearing and relevant Board and Commission decisions.

## MEMORANDUM AND ORDER

We have been asked to review the Atomic Safety and Licensing Board's partial initial decision (and related interlocutory decisions) in this license renewal proceeding. Today's decision addresses the Board's partial initial decision and the challenged interlocutory decisions relating to Contention NYS-8 (Transformers) and Contention CW-EC-3A (Environmental Justice).<sup>1</sup> As discussed below, we take review of these decisions in part. We reverse the Board's decision with respect to Contention NYS-8, and affirm in part, and reverse in part, its decision with respect to Contention CW-EC-3A.

### I. BACKGROUND

#### A. Procedural History

This proceeding involves the 2007 application of Entergy Nuclear Operations, Inc. to renew the operating licenses for Indian Point Nuclear Generating Units 2 and 3, located in Buchanan, New York. Renewed licenses would authorize each unit to operate for 20 years beyond the period specified in the current operating licenses.<sup>2</sup> Numerous petitioners sought to intervene in the proceeding and proposed dozens of contentions challenging the application.

The Board determined that three petitioners — the State of New York, Riverkeeper, Inc., and Hudson River Sloop Clearwater, Inc. (Clearwater) — had demonstrated standing and had offered thirteen admissible contentions between them.<sup>3</sup> The issues admitted for litigation have evolved over the intervening years as the Staff's review has progressed, as the Board's partial initial decision describes.<sup>4</sup> In short, the Board has admitted updated versions of some of the original contentions, admitted new contentions, and approved settlements with respect to two of the originally admitted contentions.<sup>5</sup>

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<sup>1</sup> LBP-13-13, 78 NRC 246 (2013). Also challenged is the Board's order admitting the contentions and its denial of two motions *in limine* relating to Contention CW-EC-3A. See LBP-08-13, 68 NRC 43 (2008); Order (Granting in Part and Denying in Part Applicant's Motions *in Limine*) (Mar. 6, 2012) at 35 (unpublished); Tr. at 1265 (Oct. 15, 2012) (bench ruling denying motion *in limine*).

<sup>2</sup> The operating license for Unit 2 expired on September 28, 2013, and the license for Unit 3 will expire on December 12, 2015. Because the license renewal application was filed at least 5 years before the scheduled expiration date of the Indian Point 2 operating license, Unit 2 is in timely renewal; the existing license will not be deemed to have expired until the license renewal application has been finally determined. 10 C.F.R. § 2.109(b).

<sup>3</sup> LBP-08-13, 68 NRC at 217-20.

<sup>4</sup> See generally LBP-13-13, 78 NRC at 546-50.

<sup>5</sup> *Id.* at 266-69.



In 2012, the Board determined that the Staff's review was complete with respect to ten of the pending contentions, which could, therefore, proceed to an evidentiary hearing.<sup>6</sup> The Staff's final supplemental environmental impact statement for the application (FSEIS) was released in December 2010.<sup>7</sup> The safety evaluation report (SER) was issued in November 2009<sup>8</sup> and supplemented in August 2011.<sup>9</sup> Work on the license renewal application is ongoing; the Staff has determined that it will supplement these documents with respect to certain other areas.<sup>10</sup> The Board determined, however, that the unfinished subjects under review did not pertain to the ten hearing-ready contentions, which it designated the "Track 1" contentions and set for an evidentiary hearing. One "Track 1" contention settled prior to hearing.<sup>11</sup>

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<sup>6</sup> Notice of Hearing (Application for License Renewal) (June 8, 2012) at 4-6 (unpublished). *See also* Order (Ordering the NRC Staff to Address Board Questions) (June 7, 2012), at 1-3 (unpublished) (citing NRC Staff's Fourth Status Report in Response to the Atomic Safety and Licensing Board's Order of February 16, 2012 (June 1, 2012)).

<sup>7</sup> Ex. NYS00133A-J, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 38 Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3," NUREG-1437, supp. 38 (Dec. 2010).

<sup>8</sup> Ex. NYS00326A-F, "Safety Evaluation Report Related to the License Renewal of Indian Point Nuclear Generating Unit Nos. 2 and 3," NUREG-1930 (Nov. 2009).

<sup>9</sup> Ex. NYS000160, "Safety Evaluation Report Related to the License Renewal of Indian Point Nuclear Generating Unit Nos. 2 and 3," NUREG-1930, supp. 1 (Aug. 2011).

<sup>10</sup> The Staff supplemented the FSEIS in 2013. "Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 38 Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3," NUREG-1437, supp. 38, vol. 4 (June 2013) (ADAMS Accession No. ML13162A616). The Staff issued a second supplement to its SER in November 2014. "Safety Evaluation Report Related to the License Renewal of Indian Point Nuclear Generating Unit Nos. 2 and 3, Supplement 2," NUREG-1930, supp. 2 (Nov. 2014) (ADAMS Accession No. ML14310A803). The Staff plans to issue a further supplement to the FSEIS in 2015. *See* NRC Staff's 36th Status Report in Response to the Atomic Safety and Licensing Board's Order of February 16, 2012 (Feb. 2, 2015) at 4, 8.

<sup>11</sup> Consent Order (Approving Settlement of Consolidated Contention Riverkeeper EC-3 and Clearwater EC-1) (Oct. 17, 2012) (unpublished). The evidentiary hearing for "Track 2" contentions has not yet been scheduled. LBP-13-13, 78 NRC at 278-79. Additionally, other matters are pending. For example, in 2012, New York, Clearwater, and Riverkeeper moved for leave to file two new contentions based on the long-term onsite storage of nuclear waste at the Indian Point site. State of New York, Riverkeeper, Inc. and Hudson River Sloop Clearwater's Joint Contention NYS-39/RK-EC-9/CW-EC-10 Concerning the On-Site Storage of Nuclear Waste at Indian Point (July 8, 2012); Hudson River Sloop Clearwater, Inc.'s Motion for Leave to Add a New Contention Based upon New Information and Petition to Add New Contention (July 9, 2012). The Board held those contentions in abeyance pursuant to our direction. *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63, 68-69 (2012); Order (Holding Contentions NYS-39/RK-EC-9/CW-EC-10 and CW-SC-4 in Abeyance) (Aug. 9, 2012) (unpublished). Following our adoption of a revised Continued Storage Rule, we directed the Atomic Safety and Licensing Boards to reject "continued storage" contentions pending before them, with the exception of the contentions pending in this

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The evidentiary hearing involved enormous effort by the Board and the parties. The parties filed initial written statements of position, written testimony and exhibits, and rebuttal testimony for the Track 1 contentions between December 2011 and November 2012.<sup>12</sup> The Board received, admitted, and reviewed more than 1,000 exhibits amounting to tens of thousands of pages.<sup>13</sup> The Board held evidentiary hearings over 12 days in October, November, and December 2012.

In LBP-13-13, the Board resolved eight of the nine remaining contentions in favor of Entergy or the Staff. For three safety contentions — dealing with flow-accelerated corrosion, buried pipes, and non-environmentally qualified inaccessible cables, the Board found that Entergy had demonstrated that its aging management programs would adequately manage the effects of aging throughout the period of extended operation.<sup>14</sup> The Board also resolved five environmental contentions in favor of the Staff, finding that no further action was required to satisfy the requirements of the National Environmental Policy Act (NEPA).<sup>15</sup> But with respect to one environmental contention — CW-EC-3A — the Board found that the Staff’s environmental justice analysis in the FSEIS was insufficient and only met the requirements of NEPA when supplemented by the hearing record.<sup>16</sup>

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matter. *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 79-80 (2014). To the extent that CW-SC-4 and NYS-39/RK-EC-9/CW-EC-10 raised issues unresolved by the Continued Storage Rule, we directed the Board to rule on the admissibility of those challenges in this license renewal proceeding. *Id.* Those contentions remain pending before the Board. Order (Requesting Briefs on NYS-39/RK-EC-9/CW-EC-10 and CW-SC-4) (Sept. 17, 2014) (unpublished).

<sup>12</sup> LBP-13-13, 78 NRC at 275-79.

<sup>13</sup> *Id.* at 277.

<sup>14</sup> *See id.* at 544. Specifically, the Board found that Entergy had “demonstrated that the effects of aging from [flow-accelerated corrosion] on the intended functions of the piping and components susceptible to [flow-accelerated corrosion] will be adequately managed” (*id.* at 310 (Contention RK-TC-2)); that the effects of aging on buried pipes that “contain or may contain radioactive fluids can be adequately managed” (*id.* at 372 (Contention NYS-5)); and that its aging management program for non-environmentally qualified, inaccessible medium- and low-voltage cables provides reasonable assurance that the harmful effects of aging will be managed during the period of extended operation (*id.* at 402-03 (Contention NYS-6/7)).

<sup>15</sup> National Environmental Policy Act of 1969, 42 U.S.C. § 4321 *et seq.* The Board found that the Staff had taken the requisite “hard look” at the effects of license renewal on the property values of the surrounding area (LBP-13-13, 78 NRC at 504-05 (Contention NYS-17B)), and had adequately addressed public comments concerning the no-action alternative (*id.* at 521 (Contention NYS-37)). The Board found that Entergy’s population estimates used in its severe accident mitigation alternatives (SAMA) analysis, which the Staff later incorporated into the FSEIS, were reasonable (*id.* at 489 (Contention NYS-16B)). Finally, the Board also found that Entergy’s estimate of decontamination and cleanup costs associated with a severe accident, also incorporated into the FSEIS, was sufficiently site-specific and reasonable under NEPA (*id.* at 474 (Contention NYS-12C)). The Board’s decision with respect to Contention 12C currently is before us on appeal (discussed *infra* note 18).

<sup>16</sup> LBP-13-13, 78 NRC at 542-44.

The Board resolved one safety contention, NYS-8, in New York's favor. The Board agreed with New York that electrical transformers fit the definition of long-lived, passive components important to safety for which Entergy must have an adequate aging management program in place.<sup>17</sup>

As noted above, our decision today only addresses appeals of Board decisions related to Contentions NYS-8 and CW-EC-3A.<sup>18</sup> Specifically, Entergy and the NRC Staff both seek review of (1) the Board's ruling on NYS-8 and (2) the Board's underlying rationale (although not its ultimate conclusion) on CW-EC-3A.<sup>19</sup> Entergy also challenges the Board's admission of the two contentions and the Board's decisions on motions *in limine* related to CW-EC-3A.<sup>20</sup> For its part, Clearwater seeks review of the Board's ultimate conclusion on Contention CW-EC-3A. Clearwater argues that the record of decision is not sufficient to allow the NRC to make an informed decision on license renewal and that the

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<sup>17</sup> See *id.* at 448-49.

<sup>18</sup> New York has appealed the Board's ruling with respect to Contention 12C. See State of New York Petition for Review of Atomic Safety and Licensing Board Decision LBP-13-13 with Respect to Consolidated Contention NYS-12C (Feb. 14, 2014). The Staff and Entergy also have appealed an earlier interlocutory Board ruling resolving a second SAMA contention (NYS-35/36) in New York's favor. See LBP-11-17, 74 NRC 11 (2011). We have asked for further briefing with respect to Contentions NYS-12C and NYS-35/36. See CLI-15-2, 81 NRC 213 (2015); CLI-15-3, 81 NRC 217 (2015). We will address these appeals separately.

<sup>19</sup> NRC Staff's Petition for Review of LBP-13-13 in Part (Contentions NYS-8 and CW-EC-3A), and LBP-11-17 (Contention NYS 35/36) (Feb. 14, 2014) (Staff Petition); Applicant's Petition for Review of Board Decisions Regarding Contentions NYS-8 (Electrical Transformers), CW-EC-3A (Environmental Justice), and NYS-35/36 (SAMA Cost Estimates) (Feb. 14, 2014) (Entergy Petition). See also State of New York's Answer to Entergy and Staff Petitions for Review of Atomic Safety and Licensing Board Decisions LBP-08-13 and LBP-13-13 with Respect to Contention NYS-8 and for Interlocutory Review of LBP-10-13 and LBP-11-17 with Respect to Contention 35/36 (Mar. 25, 2014) (New York Answer); Hudson River Sloop Clearwater, Inc.'s Combined Answer in Opposition to the Applicant's Petition for Review and the NRC Staff's Petition for Review of Board Decision Regarding Contention CW-EC-3A (Mar. 26, 2014) (Clearwater Answer). Clearwater filed an unopposed motion for a short extension of time to file its combined answer, which we grant. See Hudson River Sloop Clearwater Inc.'s Unopposed Motion for 3 Minute Extension of Time to File Combined Answer Brief (Mar. 26, 2014). See generally NRC Staff's Reply to Hudson River Sloop Clearwater Inc.'s Answer in Opposition to the NRC Staff's Petition for Review of LBP-13-13 (Contention CW-EC-3A) (Apr. 9, 2014) (Staff Reply to Clearwater); NRC Staff's Reply to State of New York's Answer in Opposition to Staff Petition for Review of LBP-13-13 and LBP-11-17 (Apr. 9, 2014) (Staff Reply to New York); Entergy's Reply to New York State Answer to Entergy and Staff Petitions for Review Regarding Contentions NYS-8 and NYS-35/36 (Apr. 9, 2014) (Entergy Reply to New York); Entergy Reply to Clearwater Answer to Entergy and Staff Petitions for Review Regarding Contention CW-EC-3A (Apr. 9, 2014) (Entergy Reply to Clearwater).

<sup>20</sup> Entergy Petition at 9-12, 33-34.

NRC should supplement the FSEIS.<sup>21</sup> New York also filed an answer in support of Clearwater's appeal.<sup>22</sup>

## **B. License Renewal Process**

### ***1. Safety Review***

The goal of the NRC's license renewal safety review is to ensure that the licensee can successfully manage the detrimental effects of aging. As the Board explained in its partial initial decision, the license renewal regulations in 10 C.F.R. Part 54 focus on whether the licensee can manage the effects of aging on certain long-lived, passive components that are important to safety.<sup>23</sup> The license renewal review is not intended to duplicate the NRC's ongoing oversight of operating reactors.<sup>24</sup>

Part 54 requires applicants to demonstrate that they have programs in place that will effectively manage the effects of aging during the period of extended operation. Each applicant for a renewed license must first identify all structures, systems, and components (SSCs) that serve a function relating directly or indirectly to safety, as defined by 10 C.F.R. § 54.4.<sup>25</sup> These SSCs are all "within the scope" of license renewal. The applicant then performs an integrated plant

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<sup>21</sup> Hudson River Sloop Clearwater, Inc. Petition for Review (Feb. 14, 2014) (Clearwater Petition); see NRC Staff's Answer in Opposition to Hudson River Sloop Clearwater, Inc.'s Petition for Review of LBP-13-13, Regarding Contention CW-EC-3A (Environmental Justice) (Mar. 25, 2014) (Staff Answer to Clearwater); Applicant's Answer Opposing Hudson River Sloop Clearwater, Inc. Petition for Review of Board Decision Regarding Contention CW-EC-3A (Environmental Justice) (Mar. 25, 2014) (Entergy Answer to Clearwater); Hudson River Sloop Clearwater, Inc. Combined Reply to Answers of Applicant and NRC Staff to Clearwater, Inc.'s Petition for Review of LBP-13-13, Regarding Contention CW-EC-3A (Environmental Justice) (Apr. 7, 2014) (Clearwater Reply).

<sup>22</sup> State of New York Answer in Support of Hudson River Sloop Clearwater Inc.'s Petition for Review of the Atomic Safety and Licensing Board Decision LBP-13-13 with Respect to Contention CW-EC-3A (Mar. 11, 2014) (New York CW-EC-3A Answer); see also NRC Staff's Reply to State of New York's Answer in Opposition to Staff Petition for Review of LBP-13-13 (Contention CW-EC-3A) (Mar. 21, 2014) (Staff Reply to New York on CW-EC-3A); Entergy's Reply to New York State Answer Supporting Clearwater's Petition for Review of LBP-13-13 (Mar. 21, 2014) (Entergy Reply to New York on CW-EC-3A).

<sup>23</sup> See LBP-13-13, 78 NRC at 279-84.

<sup>24</sup> *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 8-10 (2001).

<sup>25</sup> The safety significance of an SSC is defined in the regulation in terms of its safety-related functions, and within the scope of license renewal are included those SSCs whose failure could prevent satisfactory accomplishment of the safety-related function. 10 C.F.R. § 54.4.

assessment to identify those structures and components that are subject to aging management review.<sup>26</sup>

Structures and components are subject to aging management review if they perform an intended function “without moving parts or without a change in configuration or properties”<sup>27</sup> and are not subject to routine replacement.<sup>28</sup> These structures and components are generally referred to as “passive” components, although the terms “active” and “passive” do not appear in the license renewal regulations. Rather, the Statement of Considerations for the 1995 License Renewal Rule used these terms to delineate between those components that require aging management review and those that do not.<sup>29</sup> The Board used the terms in this manner, as do we. “Active” components are excluded from aging management review on the basis of existing regulatory requirements for maintenance and monitoring of SSCs, including the Maintenance Rule.<sup>30</sup>

The license renewal applicant must demonstrate that the effects of aging will be managed for each passive, long-lived structure or component identified in the integrated plant assessment, such that the component will perform its intended function throughout the period of extended operation.<sup>31</sup> The license renewal application includes descriptions of the license renewal applicant’s aging management programs for these components. An NRC guidance document, the Generic Aging Lessons Learned Report (GALL Report), describes aging management programs that the Staff has found to be adequate.<sup>32</sup> The GALL

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<sup>26</sup> *Id.* § 54.21(a). The License Renewal Rule focuses on individual structures and components, rather than on the “system” level.

<sup>27</sup> *Id.* § 54.21(a)(1)(i).

<sup>28</sup> *Id.* § 54.21(a)(1)(ii).

<sup>29</sup> Ex. NYS000016, Nuclear Power Plant License Renewal; Revisions; Final Rule, 60 Fed. Reg. 22,461, 22,464, 22,471-72, 22,476-78 (May 8, 1995) (1995 Statement of Considerations).

<sup>30</sup> *Id.*, 60 Fed. Reg. at 22,471-72. *See generally* 10 C.F.R. § 50.65 (Requirements for monitoring the effectiveness of maintenance at nuclear power plants). “The maintenance rule requires that power reactor licensees monitor the performance or condition of systems, structures, and components against licensee-established goals in a manner sufficient to provide reasonable assurance that these systems, structures, and components are capable of fulfilling their intended functions.” Ex. NYS000016, 1995 Statement of Considerations, 60 Fed. Reg. at 22,470.

<sup>31</sup> 10 C.F.R. § 54.21(a)(3) (An integrated plant assessment must demonstrate that the effects of aging for each structure and component will be “managed so that the intended function(s) will be maintained consistent with the [current licensing basis] for the period of extended operation”).

<sup>32</sup> Exs. NYS00147A-NYS00147D, “Generic Aging Lessons Learned Report,” NUREG-1801 (Rev. 2 Dec. 2010). According to the GALL Report, an effective aging management program includes certain elements: the specific structures and components, preventive actions, and parameters monitored or inspected are clearly defined; detection of aging effects occurs prior to loss of function; monitoring and trending predicts the extent of aging to allow timely mitigative actions; acceptance criteria ensure that the component’s intended function is maintained; timely corrective actions; a confirmation process

(Continued)

Report and the Standard Review Plan for License Renewal (SRP-LR)<sup>33</sup> are the principal documents guiding the Staff's safety review of a license renewal application.<sup>34</sup>

In its partial initial decision, the Board found that Entergy's aging management programs with respect to flow-accelerated corrosion, certain inaccessible underground cables, and buried pipes all complied with the GALL Report.<sup>35</sup> But because the Staff has traditionally considered transformers to be "active" components, the GALL Report does not include an aging management program for transformers. As a result, although Entergy has programs and procedures in place for monitoring and maintaining transformers, including those safety-related transformers that are within the scope of license renewal, those programs have not been reviewed by the Staff as part of its review of the license renewal application.

## **2. *Environmental Review***

The decision to renew the operating license of an existing nuclear power plant is a "major federal action" under NEPA. Assessing the environmental impacts of extended operation involves consideration of the impacts of continued operation and any impacts associated with refurbishment activities during the period of extended operation.<sup>36</sup>

In the 1990s, the NRC determined that many of the environmental effects associated with renewing the licenses of existing facilities can be effectively assessed generically.<sup>37</sup> The environmental effects of existing plants are well un-

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is in place to ensure that preventive actions are adequate and corrective actions are completed and effective; administrative controls provide a formal review and approval process; and due consideration is given to operating experience. This provides objective evidence that aging will be adequately managed. See Ex. NYS00147A, GALL Report, at 6. For each component requiring an aging management program, an applicant can either show that its program conforms to the GALL Report, or it can show that its own program will nonetheless effectively manage the effects of aging throughout the period of extended operation.

<sup>33</sup> Ex. NYS000195, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," NUREG-1800 (Rev. 2 Dec. 2010).

<sup>34</sup> Part 54 also requires applicants to reassess any time-limited aging analyses — analyses that considered the effects of aging on a component based on the original license term of 40 years — to show either that the analyses will remain valid throughout the period of extended operation or that the effects of aging on the subject component will be managed during that time period. 10 C.F.R. §§ 54.3, 54.21(c).

<sup>35</sup> See LBP-13-13, 78 NRC at 310 (flow-accelerated corrosion), 372 (buried pipes), 402 (non-environmentally qualified inaccessible medium- and low-voltage cables).

<sup>36</sup> See Ex. NYS00131A, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," NUREG-1437 (May 1996), § 1.5, at 1-3 (GEIS). The complete GEIS is included in the record as Exs. NYS00131A-I.

<sup>37</sup> See generally Exs. NYS00131A-I, GEIS.

derstood from operating experience, and the future effects of continued operation are reasonably predictable.<sup>38</sup> Changes in the environment around nuclear power plants tend to be gradual, and such changes are expected to be within the range of operating experience.<sup>39</sup> Therefore, in 1996, the NRC developed a generic environmental impact statement for license renewal, which contains generic findings applicable to all nuclear power plants.<sup>40</sup>

In the GEIS, the NRC assessed the significance of environmental impacts associated with particular issues. For each issue, the NRC made a determination whether the GEIS analysis could be applied to all plants and whether additional plant-specific mitigation measures would be warranted.<sup>41</sup> The GEIS designated as “Category 1” those issues for which the Staff’s analysis demonstrated the following:

- (1) The environmental impacts associated with the issue have been determined to apply either to all plants or, for some issues, to plants having a specific type of cooling system or other specified plant or site characteristics;
- (2) A single significance level (i.e., small, moderate, or large) has been assigned to the impacts (except for collective off-site radiological impacts from the fuel cycle and from high-level waste and spent fuel); and
- (3) Mitigation of adverse impacts associated with the issue has been considered in the analysis and it has been determined that additional plant-specific mitigation measures are likely not to be sufficiently beneficial to warrant implementation.<sup>42</sup>

Issues not fitting all of the above criteria are classified as “Category 2” issues, for which a site-specific impacts analysis is required. The findings of the NRC’s review are summarized and codified in our regulations in 10 C.F.R. Part 51, Subpart A, Appendix B. Because the generic environmental analysis is incorporated into our regulations, Category 1 generic findings may not be challenged in individual license proceedings unless accompanied by a petition

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<sup>38</sup> *Id.* § 1.5, at 1-1.

<sup>39</sup> *Id.*

<sup>40</sup> Exs. NYS00131A-I, GEIS. The GEIS was revised in June 2013 “Generic Environmental Impact Statement for License Renewal of Nuclear Plants,” NUREG-1437, Rev. 1 (June 2013) (ADAMS Accession No. ML13106A241) (GEIS Rev. 1). The revision was finalized after the evidentiary hearing and is therefore not part of the record of this proceeding.

<sup>41</sup> See Ex. NYS00131A, GEIS, Executive Summary at xxxv; see also 10 C.F.R. Part 51, Subpart A, App. B, Table B-1.

<sup>42</sup> Ex. NYS00131A, GEIS § 1.5, at 1-5.

for rule waiver.<sup>43</sup> The environmental portion of a license renewal application, the applicant’s environmental report, may adopt the generic findings of the GEIS, but must also include site-specific analyses of Category 2 issues.<sup>44</sup> The Staff uses the applicant’s environmental report as a starting point for its own environmental review of the application, the results of which are published as a supplement to the GEIS.<sup>45</sup>

### C. Standard of Review

We defer to the Board’s factual findings unless they are clearly erroneous. We generally step in only to correct factual findings “not even plausible in light of the record reviewed in its entirety” — for example, where it appears that the Board has overlooked or misunderstood important evidence.<sup>46</sup> In contrast, with respect to legal issues, we review the Board’s rulings *de novo* and will reverse a Board’s legal rulings if they are contrary to established law.<sup>47</sup>

## II. DISCUSSION

### A. NYS-8: Transformers

We find that the issue involved in Contention NYS-8 raises substantial and important questions of law and material fact, and therefore merits our review.<sup>48</sup> The Board’s ruling on NYS-8 turned on whether transformers are “active” components, as the Staff has traditionally considered them, or “passive” components, as New York claimed and the Board ultimately concluded. We are convinced that transformers function by changing their properties, and are therefore properly considered active components. We find that the Board misinterpreted the regulation’s exclusion from aging management review of components that function

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<sup>43</sup> See 10 C.F.R. § 2.335; see also, e.g., *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 17-18 (2007) (*Vermont Yankee/Pilgrim*); *Turkey Point*, CLI-01-17, 54 NRC at 21-23. The GEIS also includes a process by which the NRC can seek to waive the application of the rule if a commenter on a draft supplemental EIS provides new, site-specific information demonstrating that the analysis of an impact codified in the rule is incorrect with respect to the particular plant. Ex. NYS00131A, GEIS § 1.7, at 1-11.

<sup>44</sup> 10 C.F.R. § 51.53(c).

<sup>45</sup> *Id.* § 51.95(c).

<sup>46</sup> See, e.g., *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-06-15, 63 NRC 687, 697 (2006); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-19, 62 NRC 403, 411 (2005).

<sup>47</sup> *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-10-17, 72 NRC 1, 11, 35 (2010).

<sup>48</sup> 10 C.F.R. § 2.341(b)(4)(i), (iii).



solely through a change in properties with no moving parts. In addition, the Board misinterpreted language in the Statement of Considerations for the 1995 License Renewal Rule that relates to the ability to monitor an active component. As a result the Board created an erroneous legal test for determining whether a component is active, which in turn led to an implausible finding of fact relating to the same issue. We therefore find that the Board erred in its factual and legal determinations that transformers are passive components that require aging management review at the time of license renewal.

### *1. Maintenance of “Active” and “Passive” Components*

As explained above, a license renewal application must demonstrate, among other things, that the licensee will adequately manage the effects of aging on passive, long-lived components so that their intended functions will be maintained consistent with the current licensing basis for the period of extended operation.<sup>49</sup> The regulation requires aging management review for those components that function “without moving parts and without a change in configuration or properties,” and includes a non-exhaustive list of components that either do or do not fit this description.<sup>50</sup> The 1995 Statement of Considerations cautioned, however, that “industry concepts of ‘passive’ . . . do not accurately describe the structures and components that should be subject to aging management review for license renewal.”<sup>51</sup>

NRC regulations require that all structures and components that are important to safety be maintained to manage the effects of aging. But most systems, structures, and components are adequately maintained under existing programs as required by the Maintenance Rule, 10 C.F.R. § 50.65, and other NRC regulations.<sup>52</sup> The 1995 Statement of Considerations discussed the relationship between the License Renewal Rule and the Maintenance Rule.<sup>53</sup> The 1995 Statement of Considerations explained that, while the Maintenance Rule applies to passive components as well as active ones, passive components would likely receive “minimal preventive

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<sup>49</sup> 10 C.F.R. § 54.21(a)(3).

<sup>50</sup> *Id.* § 54.21(a)(1)(i).

<sup>51</sup> See Ex. NYS000016, 1995 Statement of Considerations, 60 Fed. Reg. at 22,477.

<sup>52</sup> 10 C.F.R. § 50.65(b). The Maintenance Rule requires monitoring or preventive maintenance for SSCs that are safety-related or are relied upon to mitigate accidents or transients, are used in the facility’s emergency operating procedures, or the failure of which could cause a reactor scram or prevent the safety-related SSCs from performing a safety-related function. See Ex. ENT000101, Final Rule, Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, 56 Fed. Reg. 31,306 (July 10, 1991) (Maintenance Rule Statement of Considerations); Ex. ENT000102, Final Rule, Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, 58 Fed. Reg. 33,993 (June 23, 1993).

<sup>53</sup> Ex. NYS000016, 1995 Statement of Considerations, 60 Fed. Reg. at 22,462, 22,465, 22,469-72.

maintenance or monitoring to maintain [their] functionality” under that rule.<sup>54</sup> The License Renewal Rule generically excludes active components from aging management review because “[f]unctional degradation resulting from the effects of aging on active functions is more readily determinable, and existing programs and requirements are expected to directly detect the effects of aging.”<sup>55</sup> As the Staff explained in its hearing testimony, “[t]he Maintenance Rule, along with existing monitoring, surveillance, inspection and testing programs, serves the purpose for electrical transformers that an [aging management program] would serve for a passive component.”<sup>56</sup>

## **2. Transformer Description and Operation**

We provide a brief description of how a transformer functions to lay the groundwork for the controversy over whether the component is active or passive. A transformer is an electrical device that either converts alternating current at a certain voltage level to alternating current at a different level or that provides isolation to electrical circuits.<sup>57</sup> The Board explained that a transformer is formed by winding two coils of wire around an iron core, which effects a conversion between electricity and magnetic energy:

The coil or winding used to input power to the transformer is called the primary winding. The coil or winding used to output power from the transformer is called the secondary winding. The alternating current in the primary coil produces a magnetic field in the iron core that constantly varies in magnitude over time and induces a voltage in the secondary winding. Although there is a slight loss of power, the magnetic field is contained in the iron core and impacts the secondary coil. The voltages and currents at output terminals of the transformer are in close relationship to the ratio of the turns of wire that exist in the primary and secondary transformer windings.<sup>58</sup>

The parties recognize that some transformers, specifically station auxiliary trans-

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<sup>54</sup> *Id.*, 60 Fed. Reg. at 22,470.

<sup>55</sup> *Id.* at 22,472.

<sup>56</sup> Ex. NRC000031, NRC Staff’s Testimony of Roy Mathew and Sheila Ray Concerning Contention NYS-8 (Transformers) (Mar. 22, 2012), at 20 (NRC Staff NYS-8 Testimony).

<sup>57</sup> LBP-13-13, 78 NRC at 407 (citing Ex. ENTR00091, Testimony of Applicant Witnesses Roger Rucker, Steven Dobbs, John Craig, and Thomas McCaffrey Regarding Contention NYS-8 (Electrical Transformers) (Mar. 28, 2012), at 26-27 (Entergy NYS-8 Testimony)).

<sup>58</sup> *Id.* (internal citations and quotation marks omitted).

formers and the Unit 3 gas turbine auto-start transformer, perform license renewal intended functions and are therefore within the scope of license renewal.<sup>59</sup>

### **3. *The Board's Ruling***

The Board based its decision on three lines of reasoning. First, it looked at how a transformer performs its intended function to determine whether it undergoes “a change in configuration or properties” within the meaning of 10 C.F.R. § 54.21(a)(1)(i).<sup>60</sup> Second, because the 1995 Statement of Considerations distinguished between active and passive components largely on the ability to monitor the performance and condition of active components, the Board considered whether transformers are “readily monitorable” to predict and prevent failure.<sup>61</sup> Third, the Board compared transformers with other types of components listed in 10 C.F.R. § 54.21(a)(1)(i) as specifically falling into one category or the other, including electrical cables (expressly subject to aging management review) and transistors and batteries (expressly excluded from aging management review).<sup>62</sup> The Board found that all three considerations favored the interpretation that transformers are passive components subject to aging management review. Because Entergy’s transformers have not undergone such review, the Board held that Entergy has not demonstrated that it will adequately manage the effects of aging on these components during the period of extended operation as required by 10 C.F.R. § 54.21(a)(1).<sup>63</sup>

### **4. *Admissibility of Contention NYS-8***

We consider briefly the question of contention admissibility. Entergy argues that the Board should not have admitted Contention NYS-8 in the first instance because New York provided insufficient factual support for its claim.<sup>64</sup> We typically defer to a Board’s judgment on issues of whether a contention had

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<sup>59</sup> Ex. ENTR00091, Entergy NYS-8 Testimony, at 98; Ex. NRC000031, NRC Staff NYS-8 Testimony, at 11, 17; Ex. NYSR00003, Prefiled Written Testimony of Dr. Robert C. Degeneff Regarding Contention NYS-8 (Dec. 9, 2012), at 4 (New York NYS-8 Testimony); LBP-13-13, 78 NRC at 408 & n.1127.

<sup>60</sup> LBP-13-13, 78 NRC at 412-19.

<sup>61</sup> *Id.* at 419-32.

<sup>62</sup> *Id.* at 432-47.

<sup>63</sup> *Id.* at 449.

<sup>64</sup> Entergy Petition at 9-13. The Staff did not contest the admission of this contention in its petition for review.

adequate factual support to raise a genuine dispute. As we recently reiterated, we afford substantial deference to a licensing board's decision to admit a contention.<sup>65</sup>

In its original intervention petition, New York supported its contention with the declaration of Paul Blanch, an electrical engineer with 25 years' experience.<sup>66</sup> Among the assertions in his declaration, Mr. Blanch stated that he had reviewed Entergy's license renewal application, cited directly to the application, and observed that several transformers at Indian Point perform functions as described in 10 C.F.R. § 54.4.<sup>67</sup> He further stated that transformers function without moving parts or without a change in configuration or properties.<sup>68</sup> Finally, he asserted that failure to properly manage aging of transformers could result in loss of emergency power to safety equipment, and that the application included no aging management program for transformers.<sup>69</sup> With this support, New York argued that transformers are important to safety and cited specific portions of the application in support of its assertions.<sup>70</sup> In response to the proposed contention, Entergy and the Staff both argued that the applicable guidance documents considered transformers to be active components.<sup>71</sup> The Board admitted the contention, reasoning that the relevant guidance documents were not legally binding and finding that New York had established a genuine dispute over the proper classification of transformers.<sup>72</sup>

Entergy's argument on appeal rests largely on our 2012 decision in the *Seabrook* license renewal proceeding, where we found a similar contention "too thinly supported" to be admissible.<sup>73</sup> The petitioner in the *Seabrook* proceeding appeared to have copied, largely without change, the arguments and expert

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<sup>65</sup> *Crow Butte Resources, Inc.* (Marsland Expansion Area), CLI-14-2, 79 NRC 11, 26 (2014).

<sup>66</sup> New York State Notice of Intention to Participate and Petition to Intervene (Nov. 30, 2007) (New York Petition to Intervene); Declaration of Paul Blanch (Nov. 8, 2007) at 5-6 (enclosed in New York State Notice of Intention to Participate and Petition to Intervene and Supporting Declarations and Exhibits, Volume I of II (Nov. 30, 2007)) (Blanch Declaration).

<sup>67</sup> Blanch Declaration at 5-6.

<sup>68</sup> *Id.* at 5.

<sup>69</sup> *Id.* at 5-6.

<sup>70</sup> New York Petition to Intervene at 105 (citing Indian Point 2 Updated Final Safety Analysis Report (Rev. 20 2006); Indian Point 3 Updated Final Safety Analysis Report (Rev. 20 2006), (admitted as exhibits NYSR0013G, NYSR0014G)).

<sup>71</sup> Answer of Entergy Nuclear Operations, Inc. Opposing New York State Notice of Intention to Participate and Petition to Intervene (Jan. 22, 2008) at 69-73 (Entergy Board Answer); NRC Staff's Response to Petitions for Leave to Intervene Filed by (1) Connecticut Attorney General Richard Blumenthal, (2) Connecticut Residents Opposed to Relicensing of Indian Point, and Nancy Burton, (3) Hudson River Sloop Clearwater, Inc., (4) the State of New York, (5) Riverkeeper, Inc., (6) the Town of Cortlandt, and (7) Westchester County (Jan. 22, 2008) at 45 (NRC Staff Board Answer).

<sup>72</sup> LBP-08-13, 68 NRC at 88-89.

<sup>73</sup> See *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 315-22 (2012).

testimony that New York had used to support NYS-8 in this proceeding.<sup>74</sup> As a result, the contention we rejected in *Seabrook* was nearly identical to the one litigated here. Entergy's appeal reasons that if the contention in *Seabrook* was inadmissible, the nearly identical NYS-8 must also have been inadmissible here.

In relying on *Seabrook*, Entergy essentially faults the Board for not ruling as we did 4 years later after considering different arguments and a different record. Despite the similarities, the record we had before us in *Seabrook* differed substantially from the record the Board had before it in 2008. The *Seabrook* petitioner neither offered information specific to Seabrook Station nor challenged the Seabrook license renewal application.<sup>75</sup> In contrast, New York's contention and expert declaration specifically challenged portions of the Indian Point license renewal application.

New York provided application-specific support for the factual assertions in its contention sufficient to satisfy our contention admissibility requirements. Entergy argues that the expert opinion accompanying New York's intervention petition did not adequately counter the longstanding Staff position on transformers, but this is a merits determination. In ruling on the contention's admissibility, the Board weighed the arguments and support before it at the time. Given that record, the Board's decision was not unreasonable. We therefore defer to the Board's judgment in admitting NYS-8.

## **5. *The Board Erred in Concluding That Transformers Are "Passive" Components Under the License Renewal Rule***

### ***a. Relevant Guidance Designates Transformers as "Active"***

As an initial matter, the Staff and Entergy point out that all relevant license renewal guidance that speaks to transformers considers them to be active.<sup>76</sup> Guidance documents that are developed to assist in compliance with applicable regulations are, as Entergy and the Staff correctly observe, entitled to "special weight."<sup>77</sup> The Staff and Entergy argue that the Board dismissed the significance of the guidance documents and did not accord them the appropriate consideration. As discussed below, we agree.

The Staff has considered transformers to be exempt from aging management

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<sup>74</sup> See *id.* at 318-19 & n.108.

<sup>75</sup> See *id.*

<sup>76</sup> Staff Petition at 18-19; Entergy Petition at 21-22.

<sup>77</sup> See, e.g., *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 264 (2001); *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-05-15, 61 NRC 365, 375 n.26 (2005); *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-900, 28 NRC 275, 290 (1988); see also Entergy Petition at 21-23.

review since the early days of license renewal. The Standard Review Plan identifies transformers as active components not requiring an aging management plan.<sup>78</sup> The Staff's position originated with a 1997 letter from the Director of the License Renewal Project Directorate (the "Grimes Letter"), in which the Staff concluded that transformers were not subject to aging management review because transformers function through a change in state and can be readily monitored:

Transformers perform their intended function through a change in state by stepping down voltage from higher to a lower value, stepping up voltage to a higher value, or providing isolation to a load. Transformers perform their intended function through a change in state similar to switchgear, power supplies, battery chargers, and power inverters which have been excluded in § 54.21(a)(1)(i) from an aging management review. Any degradation of the transformer's ability to perform its intended function is readily monitorable by a change in the electrical performance of the transformer and the associated circuits. Trending electrical parameters measured during transformer surveillance and maintenance such as Doble test results, and advanced monitoring methods such as infrared thermography, and electrical circuit characterization and diagnosis provide a direct indication of the performance of the transformer. Therefore, transformers are not subject to an aging management review.<sup>79</sup>

Industry guidance on license renewal, NEI 95-10, refers to the Grimes Letter as the basis for the position that transformers need not be included in an integrated plant assessment.<sup>80</sup> Subsequently, the Staff developed Regulatory Guide 1.188 to provide guidance on the content of, and standard format for, a license renewal application. That guidance in turn endorsed the industry's approach in NEI 95-10 "without exceptions," reinforcing the view that transformers are not subject to aging management review.<sup>81</sup>

The Board considered the various documents that the Staff and Entergy provided to show there is a consensus that transformers are not properly subject to aging management review, including the Standard Review Plan, NEI 95-10, and Regulatory Guide 1.188.<sup>82</sup> The Board acknowledged that the interpretation

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<sup>78</sup> Ex. NYS000195, SRP-LR § 2.5.3.2, at 2.1-26.

<sup>79</sup> Ex. ENT000097, Grimes, Christopher I., NRC, Letter to Douglas J. Walters, NEI, "Determination of Aging Management Review for Electrical Components" (Sept. 19, 1997), Attachment at 2.

<sup>80</sup> Ex. ENT000098, Nuclear Energy Institute, Industry Guideline for Implementing the Requirements of 10 C.F.R. Part 54 — The License Renewal Rule (Rev. 6 June 2005), at B-14, C-14 (NEI 95-10). NEI 95-10 provides methods that the Staff considers acceptable for complying with the requirements of 10 C.F.R. Part 54 for preparing a license renewal application.

<sup>81</sup> Ex. ENT000099, Regulatory Guide 1.188, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses" (Rev. 1 Sept. 2005), at 4, 7 (Regulatory Guide 1.188).

<sup>82</sup> LBP-13-13, 78 NRC at 416-17.

expressed therein was “not beyond the bounds of reason.”<sup>83</sup> But the Board concluded that these were “not independent assessments of a transformer’s activity, but merely a repetition of the previous position expressed in the 1997 Grimes Letter,” which, the Board found, had “scant documentation justifying its technical conclusions.”<sup>84</sup> Therefore, the Board disregarded the guidance documents and made its own determination, based on the evidence presented about whether transformers change their configuration or properties and are readily monitorable.

To be sure, Staff guidance documents do not have the force of law and we are not bound to follow them.<sup>85</sup> But we see no unusual circumstance in this proceeding that makes the guidance document inapplicable to Indian Point or which would justify lightly setting the guidance aside.<sup>86</sup> While it is true, as the Board states, that the later guidance documents repeated the analysis contained in the Grimes Letter, we do not agree that repetition invalidated the guidance or diminished its persuasiveness. In analyzing whether various components should be classified as “active” or “passive,” the Grimes Letter explained that the Staff had compared transformers to the examples of electrical devices that were listed in the regulation as excluded from aging management review, including circuit breakers, relays, and switches.<sup>87</sup> The Grimes Letter pointed out that the subject electrical components are monitored in the same manner as the electrical components expressly excluded from aging management review by the regulation.<sup>88</sup> The Grimes Letter also explained that the Staff considered “stepping

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<sup>83</sup> *Id.* at 417.

<sup>84</sup> *Id.*

<sup>85</sup> *International Uranium (USA) Corp.* (Request for Materials License Amendment), CLI-00-1, 51 NRC 9, 19 (2000); *Curators of the University of Missouri* (TRUMP-S Project), CLI-95-1, 41 NRC 71, 150 (1995). In *Yankee Rowe*, we also acknowledged that a standard review plan did not have the “force and effect of law.” CLI-05-15, 61 NRC 375 n.26. *See also Shoreham*, ALAB-900, 28 NRC at 290 (guidance documents “set neither minimum nor maximum regulatory requirements,” although they are entitled to “special weight”).

<sup>86</sup> Where the guidance is not directly applicable to the issue at hand, we afford the presiding officer greater leeway in its application (*see, e.g., Curators of the University of Missouri*, CLI-95-1, 41 NRC at 150 (guidance formulated for use in nuclear power plant licensing was not applicable in a materials license proceeding); *Private Fuel Storage*, CLI-01-22, 54 NRC at 264-65 (where no Staff guidance was available for the particular type of facility undergoing license review, the Board reasonably selected standard for a facility most like the facility under review)).

<sup>87</sup> *See* Ex. ENT000097, Grimes Letter, Attachment at 2. In addition to transformers, the Grimes Letter evaluated the status of indicating lights, heat tracing systems, and electric heaters (found to be active); fuses (found to be passive); and recombiners (found to require plant-specific analysis). *Id.* at 1-4.

<sup>88</sup> *Id.* at 2. (“These techniques include performance or condition monitoring by testing and maintenance/surveillance programs that include instrument checks, functional tests, calibration functional tests, and response time verification tests. The results of these tests can be analyzed and trended to provide an indication of aging degradation for these electrical components . . .”).

up” and “stepping down” voltage and providing isolation to electric currents to be active functions.<sup>89</sup>

Although we consider all the evidence to determine whether Entergy’s and the Staff’s evidence so overwhelmed that of New York as to make the Board’s factual findings (and resulting legal conclusions) clearly erroneous, the longstanding guidance of the NRC Staff weighs in the Staff’s and Entergy’s favor. The Board did not provide sufficient justification to decline to accord it the “special weight” appropriate for Staff guidance.

*b. Transformers Function Through a Change in “Properties”*

The Staff and Entergy argue that a transformer is an “active” component because it undergoes a change in properties when it performs its intended function, as described in 10 C.F.R. § 54.21(a)(1)(i).<sup>90</sup> The Staff and Entergy explained, in their prefiled written testimony and during the evidentiary hearing, that a transformer changes the voltage and current of electricity passing through it by means of a changing magnetic flux in its core.<sup>91</sup> They argue that this change in magnetic flux is a change in “properties” as the regulation describes.<sup>92</sup> For the reasons set forth below, we agree.

The Board held that a transformer does not perform its intended function through a change in properties or state. It accepted the theory of New York’s expert, Dr. Robert Degeneff, that voltage, current, and magnetism are all properties of the electricity that passes through a transformer, not of the transformer itself.<sup>93</sup> In the Board’s view, it is the electricity, not the transformer, that undergoes a change in properties:

[T]he change in magnetism does not occur in the transformer itself . . . but, rather, is caused by the changes in the alternating current flowing through the transformer. To accept Entergy’s argument one also would have to consider cables to be “active” devices because of this change in magnetism.<sup>94</sup>

The Board rejected the argument of Entergy’s expert, Dr. Steven Dobbs, that a

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<sup>89</sup> *Id.*

<sup>90</sup> Staff Petition at 16-17; Entergy Petition at 14-16.

<sup>91</sup> See, e.g., Ex. NRC000031, NRC Staff NYS-8 Testimony, at 6, 11; Ex. ENTR00091, Entergy NYS-8 Testimony, at 10-11, 33-36; Tr. at 4335-37 (Dobbs), 4354-55 (Ray and Mathew).

<sup>92</sup> Staff Petition at 16; Entergy Petition at 15.

<sup>93</sup> LBP-13-13, 78 NRC at 418; see also *id.* at 415 (citing Ex. NYSR00414, New York NYS-8 Rebuttal Testimony, at 11-12; Tr. at 4343 (Degeneff)).

<sup>94</sup> *Id.* at 447.



transformer is “active” when it is “energized from an electrical source.”<sup>95</sup> The Board found that by this reasoning, *all* electrical devices would be considered active when they are turned on.<sup>96</sup> The Board also found compelling Dr. Degeneff’s representation that it is the prevailing view of the electrical engineering community that transformers are “passive.”<sup>97</sup> The Board concluded that a transformer is not active because its parts are the same “prior to, during, and after being energized, similar to electrical cables.”<sup>98</sup>

As an initial matter, the Board’s emphasis on whether the transformers’ “parts change” during operation misinterprets the applicable regulation. The regulation on its face excludes from aging management review components that function *solely* through a change of properties with no moving parts.

In addition, we find that the Board erred as a factual matter in finding that a transformer does not function through a change in properties. The evidence shows that a transformer performs its intended function through a change in magnetic flux, which is a property of the transformer. Dr. Dobbs, in his written testimony, explained that the transformer changes the voltage of the current entering it through a change in its magnetism:

[T]ransformers are made with magnetic core materials, the magnetism of which can be changed by applying electric current to the primary winding. A transformer’s magnetism can be made to vary between very strong (full load) and very weak (no load). In fact a transformer is designed to change its magnetism, which clearly is a change in its properties and in some cases, a change in state from being “On” to being “Off” (or vice versa). . . . These changes in a transformer’s electromagnetic properties result directly from the transformer performing its intended function of supplying a load circuit with current at a specific voltage under varying conditions.<sup>99</sup>

Magnetic flux, when used in different applications, can result in converting electrical energy to mechanical force (as in a motor), in converting mechanical

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<sup>95</sup> *Id.* at 418 (citing Ex. ENTR00091, Entergy NYS-8 Testimony, at 11).

<sup>96</sup> *Id.*

<sup>97</sup> *Id.* (citing Tr. at 4442 (Degeneff)); *see also* Ex. NYSR00003, New York NYS-8 Testimony, at 6, 8-9; Ex. NYSR00414, New York NYS-8 Rebuttal Testimony, at 6-8). In its prefiled testimony, Entergy argued that the electrical engineering community considers transformers to be, not “passive” components, but “static” ones. Ex. ENTR00091, Entergy NYS-8 Testimony, at 12, 52-53. According to Dr. Dobbs, the electrical engineering community’s concept of “static” components also applies to transistors and battery chargers, both of which are specifically excluded from aging management review by 10 C.F.R. § 54.21(a)(1)(i). *Id.* But as noted above, the NRC explicitly stated in the 1995 Statement of Considerations that the components subject to aging management review under the regulation would not necessarily coincide with industry concepts of “passive” components. Ex. NYS000016, 1995 Statement of Considerations, 60 Fed. Reg. at 22,477.

<sup>98</sup> LBP-13-13, 78 NRC at 447.

<sup>99</sup> Ex. ENTR00091, Entergy NYS-8 Testimony, at 35.

force into electricity (as in a generator), or — as in the case of a transformer — in changing the magnitude of voltage and current.

A transformer's function is similar to other "active" electrical components listed in 10 C.F.R. § 54.21(a)(1)(i). The Grimes Letter recognized this similarity in determining that "transformers perform their intended function through a change in their state similar to switchgear, power supplies, battery chargers and power inverters" (all of which are excluded from aging management review by regulation).<sup>100</sup> For example, a battery charger uses changes in electrical and magnetic properties to convert alternating current power into the direct current it supplies to the battery being charged.<sup>101</sup> And a power inverter uses a similar principle in reverse to transform direct current input to alternating current output (possibly at a different voltage).<sup>102</sup> Just as with transformers, these active components work as electrical current from another power source passes through them, even though their internal parts may be the same "prior to, during, and after being energized," as the Board said of transformers.<sup>103</sup>

A comparison of transformers and transistors is especially apt. The 1995 Statement of Considerations used the transistor as an example of a component that functions through a change of "state" without movement.<sup>104</sup> A transistor is a three-terminal device made of semiconductor material (usually silicon), which can change its resistivity, or state, from low resistivity (in which state it is a conductor) to high (in which state it is an insulator).<sup>105</sup> The change in a transistor's resistivity is achieved by "applying external voltages to 'bias' the transistor into the desired state."<sup>106</sup> The change in the transistor's state involves a change in its internal electrical fields, directly analogous to the change in the magnetic fields inside a transformer through which the transformer steps up or down the voltage and current of the electricity passing through it.<sup>107</sup> Entergy explained in its prefiled testimony that "the changing resistivity of the transistor

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<sup>100</sup> Ex. ENT000097, Grimes Letter, Attachment at 2.

<sup>101</sup> See Ex. NRC000031, NRC Staff NYS-8 Testimony, at 21.

<sup>102</sup> Ex. ENTR000091, Entergy NYS-8 Testimony, at 81-82.

<sup>103</sup> LBP-13-13, 78 NRC at 418.

<sup>104</sup> Ex. NYS000016, 1995 Statement of Considerations, 60 Fed. Reg. at 22,477. The 1995 Statement of Considerations explained that "'a change in configuration or properties' should be interpreted to include 'a change in state' which is a term sometimes found in the literature relating to 'passive.'" *Id.*

<sup>105</sup> Ex. ENTR000091, Entergy NYS-8 Testimony, at 73-74.

<sup>106</sup> *Id.* at 74.

<sup>107</sup> *Id.* Although it did not discuss transistors specifically in its findings, the Board generally cited the testimony of Dr. Degeneff in finding that transformers are more similar to passive devices than they are to active ones. LBP-13-13, 78 NRC at 444. Dr. Degeneff testified that "resistance" is a property of a transistor, whereas a changing magnetic field is not a "property" of a transformer. *Id.* at 440 (citing Ex. NYSR00414, New York NYS-8 Rebuttal Testimony, at 28-29). We disagree with that conclusion for the reasons given here.

and the changing magnetism of the transformer are both created and observed at the electrical terminals of the components where the voltages and currents vary during operation.”<sup>108</sup> According to Entergy’s expert, because the changing electromagnetic fields in each device determine the terminal voltages and currents, “the terminal voltages and currents also must be considered properties of both devices.”<sup>109</sup>

As another example, from the standpoint of electrical design and operating and functional characteristics, the transformer is akin to an induction motor. Both the induction motor and the electrical transformer operate on Faraday’s law of electromagnetic induction.<sup>110</sup> An induction motor is fundamentally a transformer in which the motor’s stator is analogous to the primary winding in the transformer and the rotor is analogous to the transformer’s secondary winding. In an electrical transformer, when voltage is applied to the primary winding, it draws load current and magnetizing current, which is required to magnetize the core. In a transformer, this magnetizing current produces flux which travels to the transformer’s secondary winding.<sup>111</sup> In a motor, when voltage is applied to the stator winding it produces a rotating magnetic field. The resulting magnetic flux induces an electromagnetic field in the rotor, similar to the electromagnetic field induced in the secondary winding of the transformer. The rotor turns to oppose the rotating stator magnetic field. Aside from the difference that the induction motor’s rotor turns while the transformer’s secondary winding remains stationary, the principles of operation are the same. Thus, induction motors can be described as rotating transformers.

The Board’s conclusion that a transformer is no more active than a cable disregards the difference between the transformer’s active use of electromagnetic induction and the incidental magnetic flux that occurs as a side effect to the flow of electricity.<sup>112</sup> While it is true that current flowing through a cable will produce some magnetic flux, the flux is a byproduct of the cable’s primary function.

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<sup>108</sup> Ex. ENTR00091, Entergy NYS-8 Testimony, at 75.

<sup>109</sup> *Id.*

<sup>110</sup> *Id.* at 28. See also Ex. ENT000108, Declaration of Steven E. Dobbs in Support of Entergy’s Motion for Summary Disposition of New York State Contention 8 (Aug. 12, 2009), at 2-7. Electromagnetic induction (or induction) is a process where a conductor placed in a changing magnetic field (or a conductor moving through a stationary magnetic field) causes the production of a voltage across the conductor. This process of electromagnetic induction, in turn, causes (or induces) an electrical current. Faraday’s law mathematically relates the rate of change of the magnetic field flux with induced voltage. Simply put, Faraday’s law states that a magnetic field of changing intensity perpendicular to a wire will induce a voltage along the length of that wire. The amount of voltage induced depends on the rate of change of the magnetic field flux and the number of turns of wire (if coiled) exposed to the change in flux.

<sup>111</sup> Ex. ENTR00091, Entergy NYS-8 Testimony, at 27-29.

<sup>112</sup> See LBP-13-13, 78 NRC at 447.

In a cable, magnetic flux actually impedes the component's sole function of conducting electrical current.<sup>113</sup> Therefore, a cable does not "function" through changing magnetic flux.<sup>114</sup> For this reason, we find the Board's comparison of transformers to cables inapposite. The Board's comparison disregards the fact that the change in magnetism around a cable is not the means through which the cable performs its function. The Board similarly does not acknowledge the fact that the transformer, unlike the cable, uses this flux to perform the active function of altering the magnitude of current and voltage of the electricity that passes through it.

New York argues before us that the properties of a transformer are its "turns ratio, winding conductor dimensions, insulation type and thickness, core dimensions, and cooling capacity," none of which change.<sup>115</sup> But this definition would restrict a component's "properties" to those characteristics that it maintains when it is "switched off." This narrow definition of "properties" would exclude other components such as induction motors and generators that are expressly listed as active in section 54.21(a)(1)(i). We decline to adopt New York's restrictive view of what constitutes a component's properties.

Our review of the factual record in its entirety demonstrates that the Board's findings are implausible. We find that the evidence is clear that transformers function through a change in properties, as the Staff has traditionally viewed them. As such, they are properly considered active components and excluded from aging management review by the terms of 10 C.F.R. § 54.21(a)(1)(i).

*c. The Board Misinterpreted the 1995 Statement of Considerations with Respect to the Ability to Monitor Active Components*

The Board also considered whether transformers can be easily monitored for age-related degradation, because the 1995 Statement of Considerations distinguished between active and passive components partly on the basis of the relative ease of monitoring active components. The Board considered the methods Entergy uses to determine whether its transformers are currently functional, as well as its programs for maintaining and monitoring transformers for aging degradation. The Board concluded that transformers are not "readily monitorable," and that this conclusion supported its overall finding that transformers require an aging management program.<sup>116</sup>

On appeal, the Staff and Entergy argue that the Board misinterpreted what

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<sup>113</sup> See Tr. at 4398-99 (Dobbs); see also Ex. ENTR00091, Entergy NYS-8 Testimony, at 65-67.

<sup>114</sup> See Ex. ENTR00091, Entergy NYS-8 Testimony, at 67.

<sup>115</sup> New York Answer at 18.

<sup>116</sup> LBP-13-13, 78 NRC at 429.

the 1995 Statement of Considerations meant by describing active components as “readily monitorable.”<sup>117</sup> The Staff and Entergy argue that active components are excluded from aging management review because their function can be directly verified (and their failure immediately detected).<sup>118</sup>

In the 1995 Statement of Considerations, the NRC stated that compared with active components, passive components “generally do not have performance and condition characteristics that are as readily monitorable.”<sup>119</sup> The NRC explained that licensees will be able to verify directly that active components remain functional, and provided examples of such components:

Performance and condition monitoring for systems, structures, and components typically involves functional verification, either directly or indirectly. Direct verification is practical for active functions such as pump flow, valve stroke time, or relay actuation where the parameter of concern (required function), including any design margins, can be directly measured or observed.<sup>120</sup>

These examples suggest that the “direct verification” to which the statement refers is verification that the component is currently working (although the Board did not take that view). The NRC provided two examples of passive functions — pressure boundary and structural integrity — that “are generally verified indirectly, by confirmation of physical dimensions or component physical condition.”<sup>121</sup> The NRC went on to determine that exemption from aging management review for components that perform active functions is justified because of existing maintenance and monitoring programs under the Maintenance Rule.<sup>122</sup>

At the evidentiary hearing, Entergy presented evidence that it continuously monitors transformers to assure that they are working and performs various tests both online and offline to track the harmful effects of aging. Both the Staff and Entergy explained that monitoring a transformer’s electrical currents at the terminal will indicate degradation, through a change in the transformer’s electrical output.<sup>123</sup> In addition, both Entergy and the Staff discussed the various tests

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<sup>117</sup> Staff Petition at 16-18, 21; Entergy Petition at 16-19.

<sup>118</sup> See Staff Petition at 21 & n.90; Entergy Petition at 17.

<sup>119</sup> Ex. NYS000016, 1995 Statement of Considerations, 60 Fed. Reg. at 22,477.

<sup>120</sup> *Id.* The Maintenance Rule also requires monitoring of a component’s “performance *or* condition.” 10 C.F.R. § 50.65(a)(1). The 1991 Statement of Considerations for the Maintenance Rule noted that monitoring “can be performance oriented (such as the monitoring of reliability and availability), condition-oriented (parameter trending) or both.” Ex. ENT000101, Maintenance Rule Statement of Considerations, 56 Fed. Reg. at 31,308.

<sup>121</sup> Ex. NYS000016, 1995 Statement of Considerations, 60 Fed. Reg. at 22,471.

<sup>122</sup> *Id.* at 22,471-72.

<sup>123</sup> See Ex. NRC000031, Staff NYS-8 Testimony, at 17, Tr. at 4410-13 (Mathew) (monitoring at terminals can show over-current and under-voltage), 4396-97 (Dobbs).

Entergy employs to detect various aging mechanisms.<sup>124</sup> Such tests are performed when the transformer is both online and offline.<sup>125</sup> In its prefiled testimony, Entergy provided evidence that the transformer maintenance plan addressed every aging mechanism that New York’s expert identified as requiring monitoring.<sup>126</sup> New York argued, however, that transformers are not readily monitorable because “[a]ge related degradation will not be observable through changes in the operating characteristics of a transformer during its normal operation.”<sup>127</sup>

Looking to the 1995 Statement of Considerations for guidance, the Board first determined that monitoring of an active component should be able to detect functional degradation so that necessary maintenance and repairs can be performed prior to ultimate failure.<sup>128</sup> It also found that the “ability to detect incremental functional degradation (as opposed to gross failure) is the important criterion for [a system, structure, or component] to be considered ‘readily’ monitorable.”<sup>129</sup> Applying this interpretation to transformers, the Board found that transformers are not readily “monitorable” because age-related degradation would “not be reflected in any noticeable change to the electrical characteristics of transformer operations.”<sup>130</sup> The Board found that none of the various tests Entergy performs can detect a transformer’s degradation by monitoring its “allegedly ‘active’ function[.]” — its electrical output.<sup>131</sup> Although the Board acknowledged that a transformer’s performance can be “continuously” monitored by measuring the voltage and currents at the terminals, it found that this will only indicate what the Board termed “gross failure,” that is, whether the transformer is performing its intended function or not.<sup>132</sup>

The Board therefore concluded that the inability to track incremental degradation of a transformer solely through monitoring its performance weighed toward subjecting the transformer to aging management review.<sup>133</sup> The Board’s findings

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<sup>124</sup> See Ex. ENTR00091, Entergy NYS-8 Testimony, at 96-104 (citing Ex. ENT000125, “Indian Point Energy Center Large Power Transformer Life Cycle Management Plan” (Indian Point Transformer Management Plan)); see also Ex. NRC000031, Staff NYS-8 Testimony, at 15-18. See generally Tr. at 4264-72 (McCaffrey, Mathew, and Ray), 4275 (Ray), 4280 (McCaffrey).

<sup>125</sup> Tests performed while the transformer is online include dissolved gas analysis, oil quality analysis, and furanic oil compound analysis. See Tr. at 4254 (McCaffrey). Tests performed offline include power factor, capacitance, hot collar, excitation current, leakage current, transformer turns ratio, and insulation resistance analyses. Tr. at 4253-54 (McCaffrey).

<sup>126</sup> Ex. ENTR00091, Entergy NYS-8 Testimony, at 102-04.

<sup>127</sup> Ex. NYSR00003, New York NYS-8 Testimony, at 29.

<sup>128</sup> LBP-13-13, 78 NRC at 420.

<sup>129</sup> *Id.* at 421.

<sup>130</sup> *Id.* at 429.

<sup>131</sup> *Id.* at 430.

<sup>132</sup> *Id.* (citing Ex. NYSR00414, New York NYS-8 Rebuttal Testimony, at 36-39).

<sup>133</sup> *Id.* at 432.

effectively created a standard by which a component is not “readily monitorable” unless it can be monitored for incremental degradation, through flagging performance, which is measured online and signals impending failure so that repairs can be made or replacement performed prior to component failure.

We conclude that the Board erred in effectively formulating a test for active components that conflated the idea of “direct verification” of performance with the need for performance and condition monitoring. The portion of the 1995 Statement of Considerations that the Board cited for the idea that monitoring must detect incremental degradation related to the general purpose of maintenance, not to the distinction between active and passive components.<sup>134</sup> While the Board is correct that managing the effects of aging requires the ability to detect degradation prior to component failure, the License Renewal Rule does not require that “direct verification” of a component’s active function indicate incremental degradation. The Board thus took an unnecessarily narrow view of the term “readily monitorable” to distinguish between active and passive components. Such a test is inconsistent with the agency’s intent to exclude active components from aging management review under the License Renewal Rule.

Consideration of other components that are specifically excluded from aging management review confirms the view that the essential distinction between active and passive components is the ability to verify functionality *directly*, not incrementally. For example, transistors and circuit boards cannot be monitored for incremental degradation through “performance monitoring,” yet both are classed as “active” components.<sup>135</sup> Active electrical components are monitored by their output performance — in other words, their “terminal characteristics.”<sup>136</sup> Moreover, electrical components such as circuit breakers, relays, and switches (each is listed as components excluded from aging management review in 10 C.F.R. § 54.21(a)(1)(i)), and transformers are all monitored in a similar way.<sup>137</sup> This evidence supports the Staff’s interpretation that components whose function can be confirmed directly — such as transformers — are appropriately classed as “active” components. We conclude that the Board created a standard for distinguishing between active and passive components that is not consistent with our regulations, and which therefore constitutes an error of law.<sup>138</sup>

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<sup>134</sup> *Id.* at 419-20 (citing Ex. NYS000016, 1995 Statement of Considerations, 60 Fed. Reg. at 22,469).

<sup>135</sup> Ex. ENTR00091, Entergy NYS-8 Testimony, at 100.

<sup>136</sup> Tr. at 4396-97 (Dobbs).

<sup>137</sup> Ex. NRC000031, NRC Staff NYS-8 Testimony, at 12-13. Tests for these components include “instrument checks, functional tests, calibration tests, and response time verification,” which are trended and analyzed for indications of component degradation. *Id.*

<sup>138</sup> Entergy also challenges the Board’s third line of reasoning, which compared transformers to the components specifically listed in 10 C.F.R. § 54.21(a)(1)(i) as either requiring aging management

(Continued)

On appeal, New York additionally argues that “the purpose of the license renewal rule is not merely to detect functionality or performance, but instead, to detect aging (i.e., functional) degradation.”<sup>139</sup> While we agree with New York on this point, it is equally true that the purpose of *both* the License Renewal Rule and the Maintenance Rule (as well as other requirements related to maintenance) is to counter the effects of aging so that a component’s intended function is maintained. In this vein, we are persuaded that transformers are monitored for indications of aging degradation by a variety of means. In sum, we find that the Board erred in its formulation and application of the concept of ready monitorability.

*d. Conclusion*

For the reasons set forth above, we hold that the Board’s findings of fact with respect to transformers are not plausible in light of the record viewed as a whole. Entergy and the NRC Staff have presented convincing arguments that transformers appropriately are classified as active components. Therefore, any purported deficiencies in the Indian Point Transformer Management Plan are addressed under Part 50 and as part of the Staff’s ongoing oversight activities, rather than in the context of license renewal.<sup>140</sup> We reverse the Board’s merits decision in LBP-13-13 with respect to Contention NYS-8. We conclude that aging management review is not needed to ensure that transformers are appropriately monitored and maintained during the period of extended operation.

**B. CW-EC-3A: Environmental Justice**

***1. Background***

Clearwater’s Contention CW-EC-3A, as originally submitted, argued that the Staff’s environmental justice analysis in the FSEIS failed to recognize that a severe accident at Indian Point would have potentially greater impacts to certain

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review or not. Entergy Petition at 19-21. *See* LBP-13-13, 78 NRC at 444-47. Given its findings with respect to whether transformers change properties and are “readily monitorable,” the Board’s finding that transformers are more like the listed passive components than they are like listed active components was, perhaps, a foregone conclusion. In view of our findings with respect to the same matters, we need not address the validity of the Board’s comparisons.

<sup>139</sup> New York Answer at 22.

<sup>140</sup> The Indian Point Transformer Management Plan (and related inspection, maintenance and monitoring procedures) are not before us today, and we do not review their adequacy. This program is subject to the inspection and enforcement tools that are applied as part of routine plant operations. As always, any member of the public may seek enforcement action associated with matters affecting plant operation, including the vitality of component maintenance programs, pursuant to 10 C.F.R. § 2.206.



disadvantaged populations surrounding the facility. Clearwater questioned the effectiveness of Entergy's emergency planning for Indian Point to meet the particular needs of people who, according to Clearwater, are less able to evacuate or effectively shelter in place relative to the general population. In LBP-13-13, the Board agreed with Clearwater that the difference in ability to evacuate in an emergency could cause a "disproportionate and adverse" effect on low-income and minority populations, but it found that the hearing record itself served to supplement the environmental justice discussion in the FSEIS.<sup>141</sup> The Board therefore ruled in favor of the Staff in finding that no further supplementation of the FSEIS was needed. Parties on both sides of the issue now seek our review.

The NRC Staff and Entergy seek partial review of the Board's ruling on the ground that the contention itself — even though ultimately resolved in the Staff's favor — raised issues that are outside the scope of license renewal and, in part, already determined generically.<sup>142</sup> Both the Staff and Entergy ask us to set aside the underlying rationale that the "impacts" of emergency response actions must be considered in a license renewal environmental analysis.<sup>143</sup> Entergy further argues that the Board's factual finding of a disproportionate effect was not supported.<sup>144</sup> In addition, Entergy claims that the Board erred both in admitting the contention and in denying motions *in limine* filed by both itself and the Staff.<sup>145</sup> The Staff and Entergy ask that the erroneous rulings be set aside so that future boards will not be persuaded by what they see as this Board's flawed reasoning.<sup>146</sup>

Clearwater appeals the Board's ruling that the FSEIS, as supplemented by the adjudicatory record, contained a sufficient environmental justice analysis.<sup>147</sup> Clearwater argues that the evidence adduced at hearing only touched on specific examples of how various minority and low-income populations could be disproportionately and adversely affected by renewal of the Indian Point operating licenses. It asks us to remand the FSEIS to the Staff for a "detailed examination, discussion, and analysis" of these effects, including potential "mitigation measures" and recirculation for further public comment.<sup>148</sup> New York submitted an answer supporting Clearwater's petition for review.<sup>149</sup>

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<sup>141</sup> LBP-13-13, 78 NRC at 521-44.

<sup>142</sup> See Staff Petition at 24-41; Entergy Petition at 24-43.

<sup>143</sup> Staff Petition at 31-41; Entergy Petition at 37-39.

<sup>144</sup> Entergy Petition at 41-42.

<sup>145</sup> *Id.* at 33-37.

<sup>146</sup> Staff Petition at 25; Entergy Petition at 31.

<sup>147</sup> See generally Clearwater Petition.

<sup>148</sup> *Id.* at 4.

<sup>149</sup> New York CW-EC-3A Answer. See 10 C.F.R. § 2.341(b)(3) (any other party to the proceeding may file an answer "supporting or opposing" Commission review).

We find that all three petitions for review raise substantial questions of law and procedure, and therefore we grant review.<sup>150</sup> We affirm the Board's decision as to CW-EC-3A in part and reverse it in part. Although this contention ultimately was resolved in the Staff's favor, we will take review as a matter of discretion because the Board's ruling raises substantial questions of precedential importance.<sup>151</sup> Here, the Board's ruling, if left to stand, reasonably would be expected to have a significant impact on future license renewal proceedings, both by widening the scope of inquiry to encompass emergency planning issues, and by restricting the Staff's ability to rely on the GEIS.

For the reasons discussed below, we reverse the Board's ruling insofar as it required the Staff's environmental justice analysis to discuss emergency planning measures and to revisit impacts analyses already determined in the GEIS. But we affirm the Board's underlying procedural ruling that a hearing record and Board decision may, as a general matter, supplement an environmental impact statement as well as its conclusion that this record needed no further supplementation.

*a. Environmental Justice and CW-EC-3A*

The term "environmental justice" refers to the federal policy established in 1994 by Executive Order 12898, which directed federal agencies to identify and address "disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations."<sup>152</sup> Executive Order 12898 did not, in itself, create new substantive authority for federal agencies; therefore, the NRC determined at the time that it would endeavor to carry out these environmental justice principles as part of the agency's responsibilities under NEPA.<sup>153</sup> In a 2004 policy statement on environmental justice matters, we reiterated our commitment to consider, in NEPA reviews, factors "peculiar" to minority and low-income populations

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<sup>150</sup> 10 C.F.R. § 2.341(a)(4)(iii), (iv).

<sup>151</sup> See *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), ALAB-577, 11 NRC 18, 23-25 (1980), *modified*, CLI-80-12, 11 NRC 514 (1980); see also *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-252, 8 AEC 1175, 1177-78 (1975) (holding that a party may seek reconsideration of an earlier ruling whereby the party was not actually prejudiced, where the ruling "could well have an impact upon the course of many licensing hearings").

<sup>152</sup> Ex. ENT000259, "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations," Exec. Order No. 12898, 59 Fed. Reg. 7629 (Feb. 16, 1994) (E.O. 12898).

<sup>153</sup> See Selin, Ivan, NRC Chairman, Letter to President Clinton (Mar. 31, 1994) (ADAMS Accession No. ML033210526). See generally Ex. ENT000260, Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions, 69 Fed. Reg. 52,040, 52,040-41 (Aug. 24, 2004) (Environmental Justice Policy Statement).

(environmental justice populations) and to “identify significant impacts, if any, that will fall disproportionately on minority and low-income communities” due to these factors.<sup>154</sup> The NRC Staff developed its own guidance, using the Council on Environmental Quality’s guidelines for implementing environmental justice as a reference.<sup>155</sup> As particularly relevant here, the Staff’s guidance governing its environmental review of license renewal applications sets forth its procedures for identifying and analyzing environmental justice issues.<sup>156</sup>

At the outset of the proceeding, Clearwater proposed several bases for its environmental justice contention, but the Board accepted only the argument relating to emergency evacuation in the event of a severe accident at Indian Point.<sup>157</sup> The Board rejected the Staff’s and Entergy’s arguments that the contention impermissibly challenged “emergency planning.”<sup>158</sup> While the Board acknowledged that emergency planning is not a license renewal issue with respect to *safety* contentions under Part 54 regulations, it reasoned that Part 51 environmental contentions may be broader in scope.<sup>159</sup> The Board therefore admitted the narrowed contention as CW-EC-3 (Clearwater Environmental Contention 3) and later admitted an amended version of the contention, addressing the Staff’s analysis in the FSEIS, which it designated CW-EC-3A:

Entergy’s environmental report and the Final Supplemental Environmental Impact Statement contain seriously flawed environmental justice analyses that do not adequately assess the impacts of relicensing Indian Point on the minority, low-income and disabled populations in the area surrounding Indian Point.<sup>160</sup>

At the same time, the Board rejected additional proposed amendments to the contention on grounds of timeliness and materiality.<sup>161</sup>

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<sup>154</sup> Ex. ENT000260, Environmental Justice Policy Statement, 69 Fed. Reg. at 52,048.

<sup>155</sup> Ex. ENT000261, NRR, Procedural Guidance for Preparing Environmental Assessments and Considering Environmental Issues, App. D (Rev. 1) (May 24, 2004) (NRR Procedural Guidance); *see also* Ex. ENT000266, Council on Environmental Quality, Environmental Justice Guidance Under the National Environmental Policy Act (Dec. 10, 1997) (CEQ Guidance).

<sup>156</sup> Ex. ENT000261, NRR Procedural Guidance, App. D.

<sup>157</sup> LBP-08-13, 68 NRC at 196-201. The Board rejected as factually unsupported Clearwater’s arguments relating to a claimed disproportionate rate of cancers in the area and subsistence fishing. *Id.* at 200. Clearwater does not appeal the Board’s contention admissibility determination.

<sup>158</sup> NRC Board Answer at 98; Answer of Entergy Nuclear Operations, Inc. Opposing Hudson River Sloop Clearwater Inc.’s Petition to Intervene and Request for Hearing (Jan. 22, 2008) at 63-64.

<sup>159</sup> LBP-08-13, 68 NRC at 201.

<sup>160</sup> Order (Ruling on Pending Motions for Leave to File New and Amended Contentions) (July 6, 2011), at 52-60, 72 (unpublished).

<sup>161</sup> *Id.* at 56-60. Clearwater does not challenge this ruling.

*b. FSEIS Environmental Justice Analysis*

Environmental justice is a “Category 2” issue that must be considered in each license renewal review.<sup>162</sup> In accordance with its guidance, the Staff’s environmental justice review for license renewal consists of: (1) identifying the locations of environmental justice populations that may be affected by the license renewal, (2) determining whether there would be any potential human health or environmental effects to these populations, and (3) determining if any such effects may be disproportionately high and adverse when compared with effects on the general population.<sup>163</sup> Applying these standards, the Staff found no disproportionately high and adverse impacts to minority and low-income populations from the continued operation of Indian Point Units 2 and 3 during the license renewal period.

The FSEIS addresses environmental justice primarily in Chapter 4, “Environmental Impacts of Operation.”<sup>164</sup> Chapter 4 first describes the methods the Staff used to identify minority and low-income populations that may be affected by the proposed license renewal.<sup>165</sup> Chapter 4 then documents the Staff’s examination of potential human health or environmental effects on these populations to determine if these effects could be disproportionately high and adverse. Among the effects considered are socioeconomic impacts to minority and low-income populations, such as to employment and to the tax base. The Staff concluded that employment levels and tax revenue would not change during the license renewal term, resulting in no additional socioeconomic impact to minority and low-income populations during the period of extended operation beyond what is currently being experienced.<sup>166</sup>

Chapter 4 of the FSEIS then discusses the potential radiological impacts to the environmental justice population, both from continuing normal operations and from potential accidents during the period of extended operation. The

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<sup>162</sup> 10 C.F.R. Part 51, Subpart A, App. B, Table B-1.

<sup>163</sup> See Staff Petition at 30 (citing Ex. NRC000063, NRC Staff Testimony of Jeffrey J. Rikhoff and Patricia A. Milligan Regarding Contention CW-EC-3A (Environmental Justice) (Mar. 30, 2012), at 11-12 (Staff Environmental Justice Testimony); see also Ex. ENT000261, NRR Procedural Guidance, at D-3 to D-11.

<sup>164</sup> Ex. NYS00133B, FSEIS § 4.4.6. Environmental justice is also discussed in Chapter 8, “Environmental Impacts of Alternatives to License Renewal,” with respect to the alternatives of renewing the Indian Point licenses with a closed cycle cooling system and of not renewing the licenses (which assumes that replacement power would be needed). The Staff did not find that any disproportionately high and adverse impacts to minority and low-income populations were likely to occur with the alternatives analyzed in Chapter 8. See Ex. NYS00133C, FSEIS § 8.1.1, at 8-18; § 8.2, at 8-26; § 8.3.1, at 8-36 to 8-37; see also *id.*, Tables 8-1, 8-2, 8-3, 9-1.

<sup>165</sup> Ex. NYS00133B, FSEIS § 4.4.6, at 4-49 to 4-53. Clearwater does not challenge the Staff’s identification of minority and low-income populations on appeal.

<sup>166</sup> *Id.* § 4.4.6, at 4-53.

Staff concluded that severe accidents would cause no “disproportionately high” effects on the environmental justice population, because the probability-weighted consequences of such an accident are low for all populations, or, in FSEIS terms, they have a “small” impact:

Potential impacts to minority and low-income populations would mostly consist of radiological effects; however radiation doses from continued operations associated with license renewal are expected to continue at current levels, and would remain within regulatory limits. Chapter 5 discusses the environmental impacts from postulated accidents that might occur during the license renewal term, which include both design basis and severe accidents. In both cases, the Commission has generically determined that impacts associated with such accidents are SMALL because nuclear plants are designed and operated to successfully withstand design basis accidents, and the probability weighted impacts risks associated with severe accidents [are] also SMALL.<sup>167</sup>

Therefore, the Staff concluded that continuing operations would have minimal radiological impact to minority and low-income populations.

Chapter 5 of the FSEIS relies on Chapter 5 of the GEIS, which explains how the Staff arrived at the determination that the “probability-weighted consequences” of postulated accidents during the period of extended operation are small.<sup>168</sup> As relevant here, the GEIS estimated the future risks associated with extending the licenses of existing reactors for an additional 20 years. The GEIS examined the severe accident consequence analyses from twenty-eight nuclear sites (comprising the forty then-most-recently licensed operating units) to extrapolate the accident consequences for all plants.<sup>169</sup> The GEIS identified severe accident consequences as a Category 1 issue and found that the probability-weighted impacts of such accidents are small for all plants.<sup>170</sup> As a general matter, GEIS Chapter 5 reflects the Commission’s generic determination that the impacts from postulated accidents that might occur during the period of extended operation are small, because nuclear plants are designed and operated to successfully withstand design basis accidents and the probability of severe accidents is so low. Chapter 5 of the

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<sup>167</sup> *Id.* Design basis accidents are accidents the calculated probability of which is considered sufficiently high that the facility must be designed to withstand them without undue hazard to public health and safety. Severe accidents are those which could cause substantial damage but which are deemed so unlikely that the overall risk from them is small. *See* Ex. NYS00131C, GEIS § 5.2.1.

<sup>168</sup> *See* Ex. NYS00131C, GEIS, ch. 5.

<sup>169</sup> Ex. NYS00131C, GEIS § 5.3.3. A summary of the methodology used is given in section 5.3.3.2.1, at 5-19.

<sup>170</sup> *See id.* § 5.5 at 5-114 to 5-115. The GEIS separately analyzed impacts from atmospheric releases, fallout to open bodies of water, and groundwater contamination.

FSEIS therefore relies on the GEIS's generic finding that the probability-weighted consequences of severe accidents are "small."<sup>171</sup>

Consistent with Executive Order 12898, the Staff also examined special pathways of exposure that could lead to a higher level of radiation exposure in minority and low-income populations in the area "including subsistence consumption of fish, native vegetation, surface waters, sediments, and local produce."<sup>172</sup> Because Indian Point's radiological environmental monitoring program showed that routine operations have had "no significant or measurable radiological impact on the environment," the Staff concluded that "no disproportionately high and adverse human health impacts would be expected in special pathway receptor populations."<sup>173</sup>

*c. The Evidentiary Hearing and the Board's Decision*

Before the Licensing Board, Clearwater's case turned on its claim that the emergency preparedness plans for Indian Point would not provide equivalent protection for all segments of the population surrounding Indian Point.<sup>174</sup> Clearwater offered written and oral testimony of several witnesses who addressed subjects including the obstacles to evacuating prisons, hospitals, nursing homes, and other institutions.<sup>175</sup> Clearwater argued that certain populations, such as hospital patients

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<sup>171</sup> Ex. NYS00133B, FSEIS § 5.1, at 5-3 to 5-4.

<sup>172</sup> *Id.* § 4.4.6, at 4-54; *see also* Ex. ENT000259, E.O. 12898, 59 Fed. Reg. at 7631-32.

<sup>173</sup> *See* Ex. NYS00133B, FSEIS § 4.4.6, at 4-56. Entergy's radiological monitoring program is discussed in more detail in Ex. NYS00133A, FSEIS § 2.2.7.

<sup>174</sup> *See generally* Ex. CLER00002, Initial Statement of Position for Clearwater's Contention EC-3A Regarding Environmental Justice (Dec. 22, 2011), at 19-32 (Clearwater Position Statement). Clearwater addressed some groups — incarcerated persons, children, the elderly, and the disabled — who are not considered environmental justice populations *per se*. Executive Order 12898 specifically directs agencies only to consider special impacts to "minority and low-income populations." Clearwater provided evidence for its assertion that there is overlap among incarcerated persons, children, the elderly, and the disabled and environmental justice populations. *See, e.g.*, Ex. CLE000003, Testimony of Dr. Michael Edelstein in Support of Hudson River Sloop Clearwater, Inc.'s Contention Regarding Environmental Justice (Dec. 22, 2011), at 2 (Edelstein Testimony) (89% of Sing Sing Correctional Facility population is minority); Ex. CLE000010, Initial Prefiled Written Testimony of Manna Jo Greene Regarding Clearwater's Environmental Justice Contention EC-3A (Dec. 22, 2011), at 6-7, 14 (Greene Testimony) (Head Start day-care centers and nursing homes largely serve low-income populations).

<sup>175</sup> *See* Ex. CLE000003 (Edelstein Testimony) (impacts on prisoners); Ex. CLE000004, Testimony of Anthony Papa in Support of Hudson River Sloop Clearwater, Inc.'s Contention Regarding Environmental Justice (EC-3A) (Oct. 11, 2011) (Papa Testimony) (impacts on prisoners); Ex. CLE000005, Initial Prefiled Written Testimony of Erik A. Larsen, MD, FACEP Regarding Clearwater's Environmental Justice Contention EC-3A (Dec. 22, 2011) (care of ambulatory and nonambulatory patients

(Continued)

and nursing home residents, would not be able to evacuate and would therefore have to “shelter in place,” which Clearwater argued is a less desirable alternative to evacuation.<sup>176</sup> Clearwater also argued that there would not be adequate public transportation to evacuate low-income or disabled people who do not own their own vehicles.<sup>177</sup> In addition, it claimed that language barriers would prevent some minority populations from understanding emergency instructions.<sup>178</sup>

The Board rejected efforts by both the NRC Staff and Entergy to exclude emergency planning issues from the hearing at the contention admissibility stage and throughout the proceeding. In response to Clearwater’s prefiled testimony and exhibits, Entergy filed a motion *in limine* challenging all or portions of several Clearwater submissions.<sup>179</sup> The Board denied the motion in its entirety, finding that it was “capable of distinguishing between disparaging comments against Indian Point’s emergency plans and Clearwater’s witnesses’ descriptions of how certain [environmental justice] populations will be adversely harmed by a severe accident compared to the general population.”<sup>180</sup> The Board later denied, from the bench and without explanation, motions *in limine* by both Entergy and the Staff with respect to Clearwater’s rebuttal testimony.<sup>181</sup>

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under evacuation conditions); Ex. CLE000010, Greene Testimony (emergency planning issues associated with day-care centers, nursing homes, hospitals, homeless shelters, and jails); Tr. at 2799-801 (Dr. Edelstein on prison conditions), 2803-06 (Mr. Papa on conditions associated with evacuation at the Sing Sing Correctional Facility).

<sup>176</sup> Ex. CLER000002, Clearwater Position Statement, at 2, 24, 26; see Ex. CLE000006, Testimony of John Simms in Support of Hudson River Sloop Clearwater, Inc.’s Contention Regarding Environmental Justice (Oct. 11, 2011) (assisted living facility resident’s perspective on obstacles to evacuation or sheltering in place); Ex. CLE000009, Initial Prefiled Written Testimony of Stephen Filler Regarding Clearwater’s Environmental Justice Contention EC-3A (Dec. 22, 2011) (attorney’s analysis of the emergency plans of Westchester County, Rockland County, and New York State concerning provisions for sheltering nonambulatory populations in place).

<sup>177</sup> Ex. CLER000002, Clearwater Position Statement, at 2, 27-28, 29-31. See also Ex. CLE000007, Initial Prefiled Written Testimony of Aaron Mair Regarding Clearwater’s Environmental Justice Contention (Dec. 22, 2011), at 8-9.

<sup>178</sup> Ex. CLER000002, Clearwater Position Statement, at 28, 32; Ex. CLE000008, Initial Prefiled Written Testimony of Dolores Guardado Regarding Clearwater’s Environmental Justice Contention EC-3A (Dec. 22, 2011) (impacts to Hispanic community).

<sup>179</sup> Specifically, Entergy sought to exclude: (1) portions of the testimony of Dr. Edelstein, Mr. Mair, and Mr. Filler; (2) all of the testimony of Ms. Greene, Dr. Larson, Mr. Papa, Mr. Simms, and Ms. Guardado; and (3) eleven other exhibits in their entirety, to which these witnesses had referred in the challenged testimony. See Entergy’s Motion in Limine to Exclude Portions of Prefiled Testimony and Exhibits for Contention CW-EC-3A (Environmental Justice) (Jan. 30, 2012) at 7-24.

<sup>180</sup> See Order (Granting in Part and Denying in Part Applicant’s Motions *in Limine*) (Mar. 6, 2012) at 35 (unpublished).

<sup>181</sup> See Tr. at 1265 (Oct. 15, 2012); Entergy’s Motion *in Limine* to Exclude Portions of Clearwater’s Rebuttal Filings on Contention CW-EC-3A (Environmental Justice) (July 30, 2012) (seeking to  
(Continued)

At the evidentiary hearing, the Board first questioned the Staff's methodology for identifying minority and low-income populations.<sup>182</sup> The Board then questioned the Staff and Entergy's witnesses about emergency planning, such as thresholds for evacuation and the provisions made for various populations.<sup>183</sup> Clearwater presented testimony from nine witnesses concerning factors that Clearwater believes would interfere with either timely evacuation or effective sheltering in place.<sup>184</sup>

In its partial initial decision, the Board held that the Staff's FSEIS failed to take a "hard look" at the question whether renewing the Indian Point operating licenses would have "disproportionate and adverse" impacts on the minority and low-income populations when compared to the impacts on the non-environmental justice population. The Board found that "while the risk to both the environmental justice and non-environmental justice population is small, the higher risk to environmental justice populations should be discussed."<sup>185</sup>

The Board found that the Staff had failed to follow its own internal procedure for determining if the proposed action would have disproportionately high and adverse effects on environmental justice populations and, as a consequence, that the Staff's environmental justice analysis fell short in two respects.<sup>186</sup> First, the Board held that the Staff incorrectly compared the effects on the environmental justice populations during the period of extended operation to the effects on the same population from current operations. The Board found that the correct comparison is, rather, whether environmental justice populations would suffer "disproportionate and adverse effects" during the period of extended operations in comparison to the general population.<sup>187</sup> Second, the Board found that the FSEIS should analyze whether certain members of the public might not be able to evacuate as quickly, or shelter in place as effectively, as the general population.<sup>188</sup> The Board reasoned that "this type of total population analysis without a specific

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eliminate challenges to the emergency plans, discussions of non-environmental justice populations, and new arguments concerning evacuations necessitated by terrorist attacks on Indian Point); NRC Staff's Motion *in Limine* to Exclude Portions of Prefiled Rebuttal Testimony and Rebuttal Exhibits Regarding Contention CW-EC-3A (Environmental Justice) (July 30, 2012) (seeking to eliminate challenges to the emergency plans, discussions of non-environmental justice populations, and testimony not responsive to prior testimony).

<sup>182</sup> See Tr. at 2735-57.

<sup>183</sup> Tr. at 2758-83.

<sup>184</sup> Tr. at 2783-866.

<sup>185</sup> See LBP-13-13, 78 NRC at 543.

<sup>186</sup> LBP-13-13, 78 NRC at 543; see also *id.* at 540 (citing Ex. ENT000261, NRR Procedural Guidance).

<sup>187</sup> *Id.* at 541.

<sup>188</sup> *Id.* at 540-41.



[environmental justice] population analysis defeats the purpose of [environmental justice] analyses under NEPA.”<sup>189</sup>

Despite finding these shortcomings in the Staff’s analysis, the Board rejected Clearwater’s argument that the FSEIS should be remanded to the Staff for further discussion and analysis of mitigation measures. Relying on our 1998 decision in *Louisiana Energy Services*,<sup>190</sup> the Board held that the FSEIS was supplemented by its decision as well as by the hearing record.<sup>191</sup> Specifically, the Board held that the testimony of Clearwater’s witnesses “sufficiently illustrated the potentially disproportionate and adverse impacts on the environmental justice population surrounding Indian Point in the event of a severe accident.”<sup>192</sup> Therefore, the Board ultimately ruled in the Staff’s favor, holding that the “record now contains evidence of informed public participation and adequate analysis to foster informed decisionmaking” and that the NRC had therefore met its burden under NEPA.<sup>193</sup>

## **2. The Staff’s and Entergy’s Petitions for Review**

Although the Staff’s and Entergy’s petitions do not align in all respects, they agree in their principal objection to the Board’s ruling: that the Board’s decision impermissibly expands the scope of license renewal to consider questions of emergency planning and “impermissibly alter[s] the generic conclusions regarding the environmental effect of license renewal.”<sup>194</sup> Both also argue that, while the Board correctly resolved Contention CW-EC-3A in favor of the Staff, it employed an incorrect rationale. Entergy and the Staff ask us to find that the discussion of environmental impacts to “environmental justice populations” in the FSEIS satisfied the NRC’s obligations under NEPA. We therefore discuss these two appeals together. We find, for the reasons discussed below, that the contention was legally flawed and raised issues outside the scope of license renewal.

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<sup>189</sup> *Id.* at 541.

<sup>190</sup> *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 89 (1998).

<sup>191</sup> LBP-13-13, 78 NRC at 542-43; *see also id.* at 543 n.2107 (“the Commission and the public have been presented with the relevant [environmental justice] facts so that an informed decision can be made”). *See* 10 C.F.R. §§ 52.102, 52.103 (the decision of the Board or Commission becomes the record of decision, which may also incorporate the final environmental impact statement); *see also Nuclear Innovation North America LLC* (South Texas Project, Units 3 and 4), CLI-11-6, 74 NRC 203, 208-09 (2011); *Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 526 (2008), *petition for review denied on other grounds*, *San Luis Obispo Mothers for Peace v. NRC*, 635 F.3d 1109 (9th Cir. 2011); *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 53 (2001).

<sup>192</sup> LBP-13-13, 78 NRC at 543.

<sup>193</sup> *Id.* at 543-44.

<sup>194</sup> Staff Petition at 24-29; Entergy Petition at 27-36.

a. *The Board Erred in Allowing Collateral Attacks on Indian Point  
Emergency Plans*

The Staff and Entergy both argue that the Board's ruling should be reversed because emergency planning is a safety issue that is appropriately addressed as part of a facility's current licensing basis. The adequacy of emergency planning is evaluated by the Commission on an ongoing basis as part of its oversight of operating reactors under 10 C.F.R. Part 50. Entergy and the Staff argue that emergency planning therefore falls outside the scope of this license renewal proceeding. We agree. As discussed below, we hold that the Board erred in requiring the Staff to reevaluate emergency preparedness in the context of a license renewal NEPA analysis. And although the Board has considerable discretion in the conduct of the evidentiary hearing, we find that its denial of the motions *in limine* in this instance resulted in a hearing beyond the scope of license renewal and constituted procedural error.

The NRC expressly considered whether to include a review of emergency planning considerations when it promulgated the License Renewal Rule. In the 1991 Statement of Considerations for the first License Renewal Rule, the Commission explained that the licensee must maintain an emergency plan, review it annually through an independent reviewer, and conduct periodic exercises to measure the plan's effectiveness.<sup>195</sup> The Indian Point emergency plans, like those of any facility, are subject to ongoing regulatory oversight and periodic assessment. For example, the offsite emergency plans are reviewed biennially by the NRC and the Federal Emergency Management Agency (FEMA) in a comprehensive emergency preparedness exercise.<sup>196</sup> In response to public comment on the subject, the Commission determined that these periodic reviews and exercises ensure that the plans will be "adequate throughout the life of any plant even in the face of changing demographics and other site-related factors."<sup>197</sup> For these reasons, the Commission amended its emergency planning regulation to provide specifically that "[n]o finding under this section is necessary for issuance of a renewed nuclear power reactor operating license."<sup>198</sup>

Because emergency planning is addressed as part of ongoing plant oversight and is appropriately outside the scope of license renewal, the license renewal environmental review may not serve as a "back door" to litigating the effectiveness of site emergency plans. In the recently revised GEIS, the NRC reconsidered the emergency planning issue in response to public comments and reconfirmed that

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<sup>195</sup> Ex. ENT000270, 1991 Statement of Considerations, 56 Fed. Reg. at 64,966-67; see 10 C.F.R. § 50.54(q) (emergency planning requirements).

<sup>196</sup> See 10 C.F.R. § 50.47(a)(2); 10 C.F.R. Part 50, Appendix E, § IV.F.2.

<sup>197</sup> Ex. ENT000270, 1991 Statement of Considerations, 56 Fed. Reg. at 64,966.

<sup>198</sup> 10 C.F.R. § 50.47(a)(1)(i).

“there is no need for a special review of emergency planning issues in the context of an environmental review for license renewal” because emergency planning is reviewed and updated throughout the life of an operating plant:

[T]he programs for emergency preparedness at nuclear power facilities apply to all nuclear power facility licensees and require the specified levels of protection from each licensee regardless of plant design, construction, or license date. Requirements related to emergency planning . . . will continue to apply to facilities with renewed licenses. Through its standards and required exercises, the Commission reviews existing emergency preparedness plans throughout the life of any facility keeping up with changing demographics and other site-related factors.<sup>199</sup>

In making this determination, the Commission again referenced the 1991 Statement of Considerations for the original License Renewal Rule to reaffirm that emergency planning is not a license renewal issue.<sup>200</sup>

Emergency plans are approved by the NRC and FEMA and are updated on an ongoing basis.<sup>201</sup> Carrying out the offsite emergency plans is primarily the responsibility of the counties surrounding the plant, with the support of the States in which the counties are located. As explained below, emergency plans include provisions to address the very concerns that Clearwater raised in its contention.

In contrast to this ongoing review, the FSEIS is a “‘snapshot’ in time” of expected environmental consequences.<sup>202</sup> Although an environmental impact statement should discuss reasonably foreseeable environmental impacts associated with a proposed action, as well as measures to mitigate such impacts, it is not the appropriate vehicle to address the evolving circumstances that are inherent in emergency preparedness, such as changing demographics and changing offsite infrastructure. Rather, it is appropriate for the Staff to assume for purposes of its NEPA analysis that an effective emergency plan will be in place throughout the life of the plant. We find that the Board erred in admitting and litigating a contention that constituted an impermissible collateral attack on emergency preparedness plans, which are outside the scope of this proceeding.

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<sup>199</sup> GEIS (Rev. 1) § 1.7.3, at 1-14 to 1-15; *see also* § 1.9, at 1-31.

<sup>200</sup> *See* Ex. ENT000270, 1991 Statement of Considerations, 56 Fed. Reg. at 64,966.

<sup>201</sup> *See* 10 C.F.R. § 50.47; *see also* Ex. NRC000063, Staff Environmental Justice Testimony, at 8, 23, 24-25.

<sup>202</sup> *Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4), CLI-12-7, 75 NRC 379, 391-92 (2012).

*b. The Board Erred in Allowing a Collateral Attack on the GEIS Category 1 Finding Associated with Severe Accident Consequences*

In LBP-13-13, the Board found that the Staff’s environmental justice analysis improperly failed to assess the “disproportionate and adverse” impacts to “environmental justice populations” that might result from actions taken in response to a severe accident.<sup>203</sup> In making this ruling, the Board in effect improperly allowed Clearwater to challenge the GEIS’s generic finding regarding severe accident consequences.<sup>204</sup> Although environmental justice, as stated above, is a Category 2 issue that must be addressed in individual license renewal proceedings, the environmental impact of severe accidents has been assessed generically through rulemaking and may not be revisited in individual licensing actions. As reflected in the GEIS, and codified in 10 C.F.R. Part 51, Table B-1, the probability-weighted environmental consequences of severe accidents are small.<sup>205</sup> The FSEIS specifically relied on this generic determination in the GEIS.<sup>206</sup>

The Board found that the Staff improperly used the FSEIS finding regarding the environmental consequences of severe accidents to “exempt itself” from evaluating the potential “disproportionate and adverse” effects of a severe accident on the environmental justice population.<sup>207</sup> The Board cited the U.S. Court of Appeals for the District of Columbia Circuit in *New York v. NRC* for the proposition that only if the probability of a severe accident is so small as to be effectively zero could the Staff “dispense with the consequences portion of the analysis.”<sup>208</sup>

As an initial matter, the Board’s repeated reference to a finding of “dispropor-

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<sup>203</sup> LBP-13-13, 78 NRC at 539; *see also id.* at 540, 541, 542.

<sup>204</sup> *See* 10 C.F.R. § 2.335. The Supreme Court has approved our use of rulemaking to address generic issues. *See Baltimore Gas & Electric Co. v. Natural Resources Defense Council, Inc.*, 462 U.S. 87, 98 (1983). Where special circumstances make a generic rule inapplicable to a particular proceeding, a participant may petition for a rule waiver or exception. *See* 10 C.F.R. § 2.335(b); *Vermont Yankee/Pilgrim*, CLI-07-3, 65 NRC at 20 (“In theory, Commission approval of a waiver could allow a contention on a Category 1 issue to proceed where special circumstances exist.”). Clearwater did not seek a waiver, nor do we find that Clearwater provided sufficient information to call into question the generic determination regarding severe accident consequences as it relates to Indian Point.

<sup>205</sup> Ex. NYS00131C, GEIS § 5.5, at 5-114 to 5-115.

<sup>206</sup> Ex. NYS00133A, FSEIS § 4.4.6.

<sup>207</sup> LBP-13-13, 78 NRC at 542; *see also id.* at 387 (“[W]hile the risk to both the [environmental justice] and [non-environmental justice] population is small, the higher risk to the [environmental justice] population should be discussed in an adequate [environmental justice] analysis.”).

<sup>208</sup> *New York*, 681 F.3d 471, 482 (D.C. Cir. 2012). The court made this statement in the context of its decision to vacate the agency’s 2010 Waste Confidence Decision and Temporary Storage Rule. As relevant here, the court found fault with the NRC’s analysis of spent fuel fires, arguing that the NRC improperly failed to assess the consequences of such fires.

tionate and adverse” impacts misstates the provisions of Executive Order 12898: the Executive Order directs agencies to examine “*disproportionately high and adverse*” impacts to environmental justice populations.<sup>209</sup> Although the Board briefly acknowledged the GEIS’s generic determination that the probability-weighted impacts of a severe accident are small, the remainder of its ruling assumes the magnitude of this impact determination is irrelevant. By the terms of the Executive Order, magnitude is relevant. In addition, Council on Environmental Quality guidance on environmental justice provides that in determining whether health effects are “disproportionately high and adverse,” agencies should consider whether the risks are “significant (as employed by NEPA) or above generally accepted norms.”<sup>210</sup> As discussed further below, estimated doses to *all* populations in the event of a severe accident are expected to be within regulatory limits, that is, within generally accepted norms.<sup>211</sup>

Moreover, the Board’s reliance on the court’s holding in *New York v. NRC* is misplaced. The court in *New York* stated that an agency conducting a NEPA analysis “must examine both the probability of a given harm occurring *and* the consequences of that harm if it does occur.”<sup>212</sup> In the license renewal GEIS, the Staff did not “dispense with the consequences portion of the analysis.” Rather, the Staff assessed the severe accident consequences for a large number of licensed facilities in reaching its determination and came to the conclusion that the probability-weighted consequences of a severe accident are small for all plants.<sup>213</sup> In performing the environmental justice assessment for Indian Point, the Staff reasonably relied on its generic analysis, which took consequences into account.<sup>214</sup>

We find that the Staff reasonably relied on its findings in the GEIS that the probability-weighted consequences of a severe accident are small for all populations. As the Staff observes, the GEIS evaluation took into account emergency response effectiveness and warning time as part of its consideration of

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<sup>209</sup> Ex. ENT000259, E.O. 12898, 59 Fed. Reg. at 7629 (emphasis added).

<sup>210</sup> Ex. ENT000266, CEQ Guidance, at 26.

<sup>211</sup> Ex. NRC000063, Staff Environmental Justice Testimony, at 12.

<sup>212</sup> *New York v. NRC*, 681 F.3d at 482.

<sup>213</sup> See, e.g., Ex. NYS00131C, GEIS, at 5-29, Table 5-5 (information used for regression analyses for expected early, latent, and total dose at twenty-eight nuclear plant sites for the license renewal period).

<sup>214</sup> We recently reaffirmed, in the *Pilgrim* license renewal proceeding, that the GEIS findings with respect to severe accident consequences are not subject to challenge in individual license renewal proceedings. *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, CLI-10-11, 71 NRC 287, 316 (2010).

severe accident consequences.<sup>215</sup> Clearwater provided no evidence that radiation doses received by any group as a result of a severe accident would exceed federal guidelines. The Board therefore erred in holding that the Staff must analyze “possible disproportionate and adverse” impacts to some populations when the Staff has generically determined that the societal and economic impacts from severe accidents are small for all plants.

*c. The Board Erred in Finding That the Staff Analyzed the Wrong Variables in Its Environmental Justice Review*

The Staff asks us to set aside the Board’s finding that it “analyzed the wrong variables” in its environmental justice analysis.<sup>216</sup> The Board, citing the Staff’s hearing testimony, found that the Staff compared impacts on minority and low-income populations during the period of extended operation to the impacts of current operation on the same groups. The Board held that “the correct analysis” would compare impacts to “environmental justice populations” with the impacts to the general population during the period of extended operation.<sup>217</sup> We find that the Board did not misstate the applicable rule, but that it clearly erred by misinterpreting the Staff’s analysis.

On appeal, the Staff explains that it used the current human health and environmental effects as a “baseline” for assessing potential impacts to minority and low-income populations during the period of extended operation.<sup>218</sup> Because it initially determined that the current impacts to “environmental justice populations” are small, and because it expects those impacts to remain unchanged during the period of extended operation, the Staff concluded that there would be no disproportionately high and adverse impacts on environmental justice populations during the period of extended operation.<sup>219</sup>

The Staff’s guidance describes the procedure it follows in performing its environmental justice analysis.<sup>220</sup> After identifying the locations of minority

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<sup>215</sup> Ex. NYS00131C, GEIS, at 5-102 (discussing uncertainties associated with modeling the atmospheric transport of radioactivity that could affect the magnitude of early and late health consequences in the event of a severe accident). In addition, when preparing the GEIS, the Staff reviewed the Final Environmental Statements for plants that had addressed severe accidents. The Staff concluded that those evaluations “consider[ed] the effects of site-specific emergency planning in calculating exposures and risks to the public.” *Id.* § 5.3.3.2.1, at 5-26. The Staff found that these reviews “include sites with populations that reasonably cover the range of populations at all 74 sites” and thereby “[the] GEIS analysis should reasonably account for the effects of emergency planning.” *Id.*

<sup>216</sup> Staff Petition at 40-41.

<sup>217</sup> LBP-13-13, 78 NRC at 541 (citing Tr. at 2751-52, 2476 (Rikhoff)); *see also id.* at 540-41, 543.

<sup>218</sup> Staff Petition at 40.

<sup>219</sup> *Id.* at 41.

<sup>220</sup> Ex. ENT000261, NRR Procedural Guidance, App. D.

and low-income populations within a 50-mile radius of the facility, the Staff determines whether there are “potentially significant environmental impacts” to minority and low-income populations.<sup>221</sup> The Staff then determines whether the impacts would be “disproportionately high and adverse” when compared to the general population. The guidance directs the Staff to consider the following questions:

- Are the radiological or other effects significant or above generally accepted norms? Is the risk or rate of hazard significant and appreciably in excess of the general population? Do the radiological or other health effects occur in groups affected by cumulative or multiple adverse exposures from environmental hazards?
- Is there an impact on the natural or physical environment that significantly and adversely affects a particular group? Are there any significant adverse impacts on a group that appreciably exceed those on the general population? Do the environmental effects occur or would they occur in groups affected by cumulative or multiple adverse exposure from environmental hazards?<sup>222</sup>

Applying these standards, and relying on the GEIS determination that the probability-weighted consequences of severe accidents are small, the Staff determined that there would be no “potentially significant environmental impacts to” environmental justice populations. The Board acknowledged that this procedural guidance, which is based on CEQ guidelines, complies with NEPA.<sup>223</sup>

The environmental justice discussion in the FSEIS states that radiation doses “are expected to continue at current levels and would remain within regulatory limits. Therefore, there would be no additional human health impact . . . on minority and low-income people.”<sup>224</sup> At the hearing, Staff witness Jeffrey Rikhoff testified that the Staff looked for increased effects during the period of extended operation:

From an operational standpoint, we could not discern that there would be an increase in the workforce at the plant or that radiological effects would be increased. So we had . . . no effect to investigate, no increased new or added effect that we would be required to investigate under our current guidance.<sup>225</sup>

The Board cited Mr. Rikhoff’s testimony in concluding that the correct compari-

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<sup>221</sup> See *id.* at D-8 to D-9.

<sup>222</sup> *Id.* at D-10.

<sup>223</sup> LBP-13-13, 78 NRC at 540.

<sup>224</sup> Ex. NYS00133B, FSEIS § 4.4.6, at 4-53.

<sup>225</sup> Tr. at 2752 (Rikhoff).

son had not been made.<sup>226</sup> But the comparison would be incorrect only if identified environmental justice populations were already experiencing “disproportionately high and adverse” environmental effects; we find no evidence of such circumstances in the record. As discussed above, Clearwater did not establish that there would be any such effects.

We agree with the Board that an environmental justice analysis correctly compares impacts to minority and low-income populations to those experienced by the general population, but we find that this is what the Staff did in its analysis. In contrast, Clearwater did not demonstrate a disparity between impacts to the environmental justice population and impacts to the general population, such that impacts to the former would be disproportionately high and adverse, either currently or during the period of extended operation. For these reasons, we find that the Board erred in finding that the Staff compared the wrong variables in its environmental justice analysis. We reverse the Board’s decision on this point.

*d. The Board’s Decision Does Not Reflect How It Weighed the Evidence*

Entergy also argues that the Board erred in denying its motions *in limine*, which sought to exclude emergency planning issues from the evidentiary hearing.<sup>227</sup> As a general matter, the boards have considerable discretion in their evidentiary rulings.<sup>228</sup> But after denying the motions *in limine*, the Board failed to “distinguish between attacks on the emergency plan” and evidence concerning a disproportionately large and adverse impact on minority and low-income populations. The Board did not parse the evidence to demonstrate how it used Clearwater’s witness testimony to supplement the record, nor did it address the Staff’s and Entergy’s contrary witness testimony in its decision. As a result, neither the parties nor the public can understand whether — and how — the Board considered and weighed that contrary testimony. The absence of such reasoning constitutes reversible procedural error. In the end, the error was not prejudicial since the Staff — as a technical matter — prevailed on the contention.

Although the Board ultimately found that the FSEIS did not need further supplementation, the Board’s decision presented only Clearwater’s testimony that certain populations would be left behind in the event of a severe accident. Instead of providing a clearly reasoned decision as to which, if any, of Clearwater’s concerns presented a realistic obstacle to effective emergency preparedness, the Board simply recounted the testimony.<sup>229</sup> To be sure, even had the Board provided

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<sup>226</sup> LBP-13-13, 78 NRC at 532-33.

<sup>227</sup> Entergy Petition at 36-37.

<sup>228</sup> See, e.g., *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-21, 60 NRC 21, 27 (2004).

<sup>229</sup> LBP-13-13, 78 NRC at 530-39.



a thorough discussion of all the parties' evidence and witness credibility, it would not resolve the Staff's and Entergy's fundamental objection that the emergency planning contention was litigated at all. But the Board did not present and discuss the evidence provided by the Staff and Entergy to show that the plans take into account the safety of all potentially affected populations.

The Staff's and Entergy's presentations before the Board provided evidence that the needs of "movement restricted" people are already considered — and provided for — in emergency planning.<sup>230</sup> Each county surrounding Indian Point has an emergency plan that includes plans for transporting people who do not have access to a vehicle by bus to reception centers outside the emergency planning zone.<sup>231</sup> The State of New York also has a Radiological Emergency Preparedness Plan that sets forth its role in assisting the counties surrounding the four nuclear power plant facilities that could impact its residents.<sup>232</sup> The county emergency plans provide for moving schoolchildren to predetermined, alternative locations to be reunited with their parents should their schools be evacuated.<sup>233</sup> In addition, these emergency plans take into account persons who would need assistance to evacuate, such as residents of hospitals and nursing homes.<sup>234</sup> People who would need assistance in evacuating but do not live in a special facility may identify themselves to emergency planners in advance of an emergency by mailing in a postcard, or during an emergency by calling a telephone number that will be furnished through the news media.<sup>235</sup> The record also reflects that correctional facilities have evacuation plans, although sheltering in place would "likely be the initial protective action."<sup>236</sup>

The Staff and Entergy also provided evidence that sheltering in place is not

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<sup>230</sup> See, e.g., Ex. NRC000063, Staff Environmental Justice Testimony, at 26; Ex. ENT000258, Testimony of Entergy Witnesses Donald P. Cleary, Jerry L. Riggs, and Michael J. Slobodien Regarding Contention CW-EC-3A (Environmental Justice) (Mar. 29, 2012), at 49-61 (Entergy Environmental Justice Testimony); Tr. at 2769 (Slobodien).

<sup>231</sup> See, e.g., Ex. ENT00286A, "Rockland County Radiological Emergency Preparedness Plan" (May 2010), at III-35 to III-42 (Rockland Emergency Plan); ENT00285A, "Westchester County Radiological Emergency Plan for the Indian Point Energy Center," at III-32 (Westchester Emergency Plan); see also Ex. ENT000287, Westchester County Indian Point Emergency Planning Guide (2010-2011), at 9-13 (Westchester Planning Guide); Ex. ENT000288, Rockland County Emergency Planning for Indian Point Booklet (2011-2012), at 12-17 (Rockland Planning Guide).

<sup>232</sup> See generally Ex. ENT000272, "New York State Radiological Emergency Preparedness Plan for Commercial Nuclear Power Plants" (March 2011) (New York Emergency Plan).

<sup>233</sup> See, e.g., Ex. ENT000288, Rockland Planning Guide, at 6-7 (unnumbered); Ex. ENT000287, Westchester Planning Guide, at 7-8.

<sup>234</sup> See, e.g., Ex. ENT00286A, Rockland Emergency Plan, at III-39 to III-40; ENT00285A, Westchester Emergency Plan, at III-32; Ex. ENT000272, New York Emergency Plan, at III-35.

<sup>235</sup> Ex. ENT000272, New York Emergency Plan, at III-35.

<sup>236</sup> See Ex. ENT000258, Entergy Environmental Justice Testimony, at 53-55.

necessarily an inferior option compared to evacuation. According to Entergy's prefiled testimony, sheltering in place is an appropriate option for protective action in accordance with FEMA regulations and Environmental Protection Agency guidelines.<sup>237</sup> Staff witness Patricia Milligan testified that sheltering in place, contrary to being a less-protective alternative to evacuation, is "a preferred action when emergency events develop rapidly and/or evacuation would be problematic."<sup>238</sup> According to Ms. Milligan, "Sheltering in place does not mean that the affected populations will receive a higher or harmful radiation dose because they did not immediately evacuate."<sup>239</sup> She confirmed that, regardless of whether a population evacuates or shelters in place, estimated radiation doses are conservatively estimated to be within regulatory limits.<sup>240</sup> Moreover, the choice to shelter a particular population in place is not based on any characteristic peculiar to minority or low-income communities, but on considerations of the safety of the individuals involved.<sup>241</sup>

With respect to non-English-speaking minorities, the Staff and Entergy provided evidence that provisions had been made to make emergency planning information available in other languages where necessary.<sup>242</sup> FEMA guidelines require that if any non-English language is spoken by more than 5% of a county's population, then the county must plan for communications in that language.<sup>243</sup>

In contrast to the evidence presented by the Staff and Entergy, much of Clearwater's testimony does not appear to take into account the existing emergency planning measures for Indian Point.<sup>244</sup> Clearwater's testimony also focused on populations such as the elderly, preschool children, and the disabled, which are not environmental justice populations *per se*, and on facilities such as nursing homes and day-care centers, which were not shown to house primarily minority or

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<sup>237</sup> See *id.* at 56-57 (citing Ex. ENT00284A, U.S. Environmental Protection Agency, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents" (1992), at 1-5 (EPA Protective Action Manual)).

<sup>238</sup> Ex. NRC000063, Staff Environmental Justice Testimony, at 28.

<sup>239</sup> *Id.* at 31; see also Tr. at 2762-63 (Milligan).

<sup>240</sup> Ex. NRC000063, Staff Environmental Justice Testimony, at 12; Tr. at 2763, 2764-65 (Milligan) (in calculating projected dose from a release, no credit is given for shielding of a building).

<sup>241</sup> See Ex. ENT00284A, EPA Protective Action Manual, at 2-5 to 2-7.

<sup>242</sup> Ex. NRC000063, Staff Environmental Justice Testimony, at 37 (Spanish language emergency information materials are available in both Westchester and Rockland counties, in accordance with FEMA requirements).

<sup>243</sup> See Ex. ENT000295, FEMA, Program Manual, Radiological Emergency Preparedness (2011), at II-33.

<sup>244</sup> See, e.g., Tr. at 2872 (Guardado) (witness had not seen any information about evacuation planning in Spanish prior to her involvement in the proceeding below); Ex. CLE000004, Papa Testimony, at 3 (during his years at Sing Sing, witness never "saw any planning whatever for evacuation . . . and never heard anyone discuss an evacuation plan").

low-income populations.<sup>245</sup> As a result, Clearwater’s claimed “disproportionately high and adverse” effects were not shown to be primarily linked to identified environmental justice populations.

Given our ruling with respect to emergency planning and the generic findings in the GEIS, we need not consider whether the Board’s findings of fact with respect to environmental justice were “clearly erroneous.” Upon review of the extensive evidentiary record, however, we note that the Staff and Entergy provided substantial evidence that the emergency preparedness plans consider all segments of the public in the event of a severe accident with offsite consequences at Indian Point.<sup>246</sup> The purpose of the FSEIS is “to inform the decisionmaking agency and the public of a broad range of environmental impacts that will result, with a fair degree of likelihood, from a proposed project, rather than to speculate about ‘worst case’ scenarios and how to prevent them.”<sup>247</sup> Viewing the record as a whole, and giving due weight to all parties’ testimony on this contention — which the Board did not do — we find that the Staff and Entergy have demonstrated that no particular population segment will suffer a disproportionately high risk of radiological exposures from a severe accident.<sup>248</sup>

In sum, as discussed above, we find that the Staff’s environmental analysis in the FSEIS appropriately considered the reasonably foreseeable impacts of license renewal to environmental justice populations. Contention CW-EC-3A improperly raised matters, including emergency preparedness and challenges to the GEIS, that are outside the scope of license renewal. We conclude that the Board thus erred in both its admission of the contention and its conclusion that the Staff’s environmental justice analysis required supplementation beyond what was contained in the FSEIS.

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<sup>245</sup> See, e.g., Ex. CLE000010, Greene Testimony, at 6-12 (day-care centers), 13-22 (nursing and retirement homes). But see Ex. NRC000063, Staff Environmental Justice Testimony, at 20-22 (disabled individuals and prisoners are only counted among the environmental justice population if they are also either minority or low-income).

<sup>246</sup> The Board did not find that the emergency plans were insufficient to protect all populations, and correctly acknowledged that the issue of whether those plans provide adequate protection was not before it. LBP-13-13, 78 NRC at 539.

<sup>247</sup> *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 347 (2002); see also *id.* at 352 (“NEPA’s mandate to federal agencies, as we see it, is to consider a broad range of environmental effects that are reasonably likely to ensue as a result of a major federal action.”).

<sup>248</sup> Concerns about a facility’s emergency plans may be raised at any time pursuant to 10 C.F.R. § 2.206. See, e.g., *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), DD-06-2, 63 NRC 425 (2006).

### 3. *Clearwater's Petition for Review*

Clearwater's petition for review raises an important legal question that is not necessarily related to the emergency planning questions. Clearwater argues that our longstanding practice of supplementing the Staff's environmental review document with the hearing record and adjudicatory findings is contrary to NEPA. Clearwater maintains, citing the Board's own language, that the potential disparities in impacts to minority and low-income populations are merely "illustrated" by the evidentiary record, and that the Staff has yet to analyze these effects.<sup>249</sup> Therefore, Clearwater argues that the Board's findings were insufficient to satisfy NEPA. New York's answer in support of Clearwater makes a similar argument, adding that, in New York's view, the Board's decision effectively circumvents the requirement that the Staff consider mitigation measures.<sup>250</sup>

Clearwater asserts that because the Board found the FSEIS deficient, the FSEIS must be remanded to the Staff for further supplementation, including "an examination of the circumstances and conditions and discussion and analysis of not just one or two but each of the movement restricted institutions or communities within the [environmental justice] population to determine the scope of the risk, impact and disparity [of impacts]," and a "detailed discussion of possible mitigation measures."<sup>251</sup> Given the conclusions we reach above that the Staff was not required to address emergency planning in the context of license renewal or in the context of its environmental justice review, we find no need for further supplementation of the record of this proceeding. But even had we agreed with the Board's finding of a disparate impact, there would not necessarily be a need to direct the Staff to supplement or recirculate the FSEIS.

Our regulations provide that when a hearing is held on a proposed action, "the initial decision of the presiding officer or the final decision of the Commissioners acting as a collegial body will constitute the record of decision."<sup>252</sup> Section 51.102(c) "merges the [FSEIS] with any relevant licensing board decision."<sup>253</sup> The current provision replaced a previous version that expressly permitted licensing boards to "modify the content" of an environmental impact statement.<sup>254</sup> We have

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<sup>249</sup> Clearwater Petition at 7.

<sup>250</sup> New York CW-EC-3A Answer at 14-15.

<sup>251</sup> Clearwater Petition at 11. *See generally* New York CW-EC-3A Answer.

<sup>252</sup> 10 C.F.R. § 51.102(c).

<sup>253</sup> *See Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 706 (1985), *aff'd in part*, CLI-86-5, 23 NRC 125 (1986), *remanded in part on other grounds sub nom. Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719 (1989).

<sup>254</sup> *Id.*

consistently interpreted section 51.102(c) to provide that environmental impact statements are modified by any subsequent Board or Commission decision.<sup>255</sup>

There is good reason to deem an EIS modified by the hearing record. Our hearing procedures “[allow] for additional and a more rigorous public scrutiny of the [FSEIS] than does the usual ‘circulation for comment.’”<sup>256</sup> Clearwater had months to marshal its evidence for hearing, had the opportunity to respond to the Staff’s and Entergy’s evidence, and had the benefit of extensive Board questions to party witnesses. Clearwater is mistaken that our hearing process allows an “end run” around NEPA’s requirement to engage the public in the NEPA process.<sup>257</sup>

We therefore affirm the Board’s ruling that the environmental record of decision may be supplemented by the hearing and relevant Board and Commission decisions.<sup>258</sup> For the reasons given in today’s decision, however, the Indian Point

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<sup>255</sup> See *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-1, 75 NRC 39, 61 (2012); *National Enrichment Facility*, CLI-06-15, 63 NRC at 700 (FEIS “as amplified by” both Board and Commission decisions, provided adequate consideration of environmental impacts of near-surface waste disposal); *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-28, 62 NRC 721, 731 (2005) (approving Board’s decision to incorporate material from a U.S. Department of Energy Programmatic Environmental Impact Statement, which was submitted in the hearing record, as part of the record of decision); see also *South Texas*, CLI-11-6, 74 NRC at 208-09; *Hydro Resources*, CLI-01-4, 53 NRC at 53. The NRC’s approach has also been approved by the courts of appeal. See, e.g., *New England Coalition on Nuclear Pollution v. NRC*, 582 F.2d 87, 93-94 (1st Cir. 1978) (Licensing Board decision modifying a Final Environmental Statement “satisfied the spirit of NEPA”); *Citizens for Safe Power, Inc. v. NRC*, 524 F.2d 1291, 1294 n.5 (D.C. Cir. 1975) (Appeal Board’s ruling that the environmental impact statement was “deemed modified” by the parties’ stipulations at hearing did not violate the “letter or spirit” of NEPA); *Ecology Action v. AEC*, 492 F.2d 998, 1001-02 (2d Cir. 1974) (nothing in “any . . . decision of which we are aware holds that any deficiency in a FEIS is automatic ground for reversal of an order granting a permit although the issue has been opened for full consideration in an agency hearing”).

<sup>256</sup> *Limerick*, ALAB-819, 22 NRC at 707.

<sup>257</sup> Separate from the hearing process, the Staff provided extensive opportunities for public participation during the preparation of the FSEIS. The Staff held public meetings and solicited comments on the scoping process and on the draft SEIS. See *Entergy Nuclear Operations, Inc. Indian Point Nuclear Generating Unit Nos. 2 and 3; Notice of Intent to Prepare an Environmental Impact Statement and Conduct Scoping Process*, 72 Fed. Reg. 45,075 (Aug. 10, 2007); *Indian Point Nuclear Generating Unit Nos. 2 and 3; Notice of Availability of the Draft Supplement 38 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants and Public Meeting for the License Renewal of Indian Point Generating Unit Nos. 2 and 3*, 73 Fed. Reg. 80,440 (Dec. 31, 2008). Several commenters took the opportunity to raise the concern that evacuation plans may have not kept up with changing demographics. See Ex. YS00133D, FSEIS, App. A, at A-106 to A-107.

<sup>258</sup> Clearwater argues that the Board’s ruling could not supplement the FSEIS because it included no specific analysis or findings. Clearwater Petition at 7-9; see also New York CW-EC-3A Answer at 16-17. We observe that, were supplementation of the FSEIS called for in this case, the Board’s ruling on environmental justice should have been more clear. For example, it is not apparent whether the Board found that differences in the ability to evacuate would lead to higher radiological exposures

(Continued)

FSEIS need not have been supplemented by the evidence put forward by the parties on emergency planning with respect to Contention CW-EC-3A, as the issues raised in the contention fall outside the scope of this license renewal proceeding.

### III. CONCLUSION

We *take review* of LBP-13-13 and the related interlocutory decisions discussed herein. Because we find that transformers are properly considered active components, we *reverse* the Board's decision in LBP-13-13 with respect to Contention NYS-8. With respect to Contention CW-EC-3A, we find that the Board erred in admitting the contention and in failing to explain its findings with respect to the evidence and *reverse* LBP-13-13 on those points.

IT IS SO ORDERED.<sup>259</sup>

For the Commission

ANNETTE L. VIETTI-COOK  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 9th day of March 2015.

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to the minority and low-income populations living near Indian Point, or that the difference between self-evacuation and relying on rescuers is inherently a "disproportionate impact." At a minimum, a ruling that supplements the record should state clearly what evidence the Board found credible, whether the evidence supports or alters the Staff's conclusions in the environmental impact statement, and what the impact of the proposed action for the specific issue is expected to be. *See, e.g., Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613, 696-702 (2009), *review denied*, CLI-10-5, 71 NRC 90 (2010) (Board found that "preponderance of the evidence" supplemented the FEIS discussion).

<sup>259</sup> Chairman Burns did not participate in this matter.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Paul S. Ryerson**, Chairman  
**Dr. Michael F. Kennedy**  
**Dr. Gary S. Arnold**

**In the Matter of**

**Docket Nos. 50-327-LR  
50-328-LR  
(ASLBP No. 13-927-01-LR-BD01)**

**TENNESSEE VALLEY AUTHORITY  
(Sequoyah Nuclear Plant, Units 1  
and 2)**

**March 3, 2015**

In this proceeding, applicant Tennessee Valley Authority seeks renewed licenses to operate two nuclear power reactors in Hamilton County, Tennessee. On September 29, 2014, prior to this Board's dismissal of a then-pending environmental waste confidence contention, the Blue Ridge Environmental Defense League (BREDL) moved for admission of a new safety-related waste confidence contention. On February 26, 2015, the Commission declined to admit the new contention. There being no other pending contentions or outstanding issues, the contested adjudicatory hearing before this Board is terminated.

**ORDER  
(Terminating Proceeding)**

The background of this proceeding is set forth in earlier orders of the Board.<sup>1</sup>

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<sup>1</sup> LBP-13-8, 78 NRC 1, 5-6 (2013); Licensing Board Order (Dismissing Environmental Waste Confidence Contention) (Sept. 30, 2014) at 1 (unpublished).



On February 26, 2015, in CLI-15-4, the Commission denied motions for leave to file new contentions concerning the Continued Storage Rule<sup>2</sup> pending in various proceedings, including this proceeding.<sup>3</sup>

Because no other admitted or proffered contention remains before this Board for disposition, the adjudicatory proceeding before this Board concerning Tennessee Valley Authority's application to renew its licenses to operate two nuclear power reactors at Sequoyah Nuclear Plant is *terminated*. In accordance with 10 C.F.R. § 2.311, any petition for review of this Memorandum and Order must be filed within twenty-five (25) days after it is served.

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Paul S. Ryerson, Chairman  
ADMINISTRATIVE JUDGE

Dr. Michael F. Kennedy  
ADMINISTRATIVE JUDGE

Dr. Gary S. Arnold  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
March 3, 2015

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<sup>2</sup> Final Rule: "Continued Storage of Spent Nuclear Fuel," 79 Fed. Reg. 56,238, 56,238 (Sept. 19, 2014); Office of Nuclear Material Safety and Safeguards, Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel, NUREG-2157, Vols. 1 & 2 (Sept. 2014) (ADAMS Accession No. ML14196A107).

<sup>3</sup> *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-4, 81 NRC 221, 242 (2015).

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**E. Roy Hawken**, Chairman  
**Dr. Anthony J. Baratta**  
**Dr. Randall J. Charbeneau**

**In the Matter of**

**Docket Nos. 52-029-COL**  
**52-030-COL**  
**(ASLBP No. 09-879-04-COL-BD01)**

**PROGRESS ENERGY**  
**FLORIDA, INC.**  
**(Levy County Nuclear Power**  
**Plant, Units 1 and 2)**

**March 3, 2015**

In this proceeding, applicant Progress Energy Florida, Inc. seeks combined licenses to construct and operate two nuclear power reactors in Levy County, Florida. On September 29, 2014, prior to this Board's dismissal of a then-pending environmental waste confidence contention, the Nuclear Information and Resource Service and the Ecology Party of Florida moved for admission of a new safety-related waste confidence contention. On February 26, 2015, the Commission declined to admit the new contention. There being no other pending contentions or outstanding issues, the contested adjudicatory hearing before this Board is terminated.

**ORDER**  
**(Terminating Proceeding)**

In 2008, Progress Energy Florida, Inc. applied to the U.S. Nuclear Regulatory

Commission (NRC) for licenses to construct and operate two nuclear power reactors in Levy County, Florida.<sup>1</sup> On March 26, 2013, after an evidentiary hearing, the Board in this proceeding issued a partial initial decision on Contention 4A, which had been submitted by the Nuclear Information and Resource Service and the Ecology Party of Florida (Intervenors), ruling that the NRC's final environmental impact statement complied with the National Environmental Policy Act and 10 C.F.R. Part 51.<sup>2</sup> On October 1, 2014, pursuant to Commission direction, the Board dismissed a pending environmental waste confidence contention.<sup>3</sup> The Board did not terminate the proceeding, however, because on September 29, 2014, Intervenors moved to file a new safety-related waste confidence contention.<sup>4</sup> The Commission chose to review Intervenors' motion along with similar motions in other proceedings and associated petitions to suspend reactor licensing.<sup>5</sup> On February 26, 2015, the Commission declined to admit the new safety-related waste confidence contentions and denied the suspension petitions.<sup>6</sup>

There being no other pending contentions or outstanding issues, the contested adjudicatory hearing before this Board is *terminated*. Pursuant to 10 C.F.R. § 2.341(a), this order will constitute the final decision of the Commission 120 days from the date of its issuance, unless a petition for review is filed within twenty-five (25) days in accordance with 10 C.F.R. § 2.341(b), or the Commission directs otherwise.

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<sup>1</sup> Progress Energy Florida, Inc.; Application for the Levy County Nuclear Power Plant Units 1 and 2; Notice of Order, Hearing, and Opportunity to Petition for Leave to Intervene, 73 Fed. Reg. 74,532 (Dec. 8, 2008).

<sup>2</sup> LBP-13-4, 77 NRC 107 (2013). Intervenors did not seek Commission review of this partial initial decision.

<sup>3</sup> Licensing Board Memorandum and Order (Dismissing Environmental Waste Confidence Contention) at 1 (Oct. 1, 2014) (unpublished) (Waste Confidence Order); *see also Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 79 (2014).

<sup>4</sup> *See* Waste Confidence Order at 2 n.4, 4; *see also* Ecology Party of Florida and Nuclear Information and Resource Services' Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings (Sept. 29, 2014).

<sup>5</sup> *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-14-9, 80 NRC 147, 149-50 (2014); *see also* Petition to Suspend Final Decisions in All Pending Reactor Licensing Proceedings Pending Issuance of Waste Confidence Safety Findings (Sept. 29, 2014).

<sup>6</sup> *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-4, 81 NRC 221, 223-24 (2015).

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

E. Roy Hawkens, Chairman  
ADMINISTRATIVE JUDGE

Dr. Anthony J. Baratta  
ADMINISTRATIVE JUDGE

Dr. Randall J. Charbeneau  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
March 3, 2015

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**William J. Froehlich, Chairman**  
**Nicholas G. Trikouros**  
**Dr. William E. Kastenber**

**In the Matter of**

**Docket No. 50-346-LR**  
**(ASLBP No. 11-907-01-LR-BD01)**

**FIRSTENERGY NUCLEAR**  
**OPERATING COMPANY**  
**(Davis-Besse Nuclear Power**  
**Station, Unit 1)**

**March 10, 2015**

**ORDER**  
**(Terminating Proceeding)**

On August 27, 2010, FirstEnergy Nuclear Operating Company (FENOC) filed to renew its operating license for the Davis-Besse Nuclear Power Station, Unit 1 (Davis-Besse) for 20 years.<sup>1</sup> On December 27, 2010, Beyond Nuclear, Citizens Environment Alliance of Southwestern Ontario, Don't Waste Michigan, and the Green Party of Ohio (collectively, Intervenors) filed a hearing request,<sup>2</sup> which we granted.<sup>3</sup>

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<sup>1</sup> See [FENOC's] License Renewal Application, Davis-Besse Nuclear Power Station at 1.0-1, 1.1-1, 2.1-25 (Aug. 31, 2010) (ADAMS Accession Nos. ML102450567, ML102450563).

<sup>2</sup> See generally Beyond Nuclear, Citizens Environment Alliance of Southwestern Ontario, Don't Waste Michigan, and the Green Party of Ohio Request for Public Hearing and Petition for Leave to Intervene (Dec. 27, 2010).

<sup>3</sup> See LBP-11-13, 73 NRC 534, 588-89 (2011).

On September 29, 2014, Intervenor moved to admit a new contention arguing that because the recently promulgated Continued Storage of Spent Nuclear Fuel Rule<sup>4</sup> “no longer makes generic safety findings concerning the feasibility and capacity of spent fuel disposal,” the issue had to be litigated in front of this Board before the Davis-Besse license could be renewed.<sup>5</sup> The Commission chose to review this and other substantively similar motions, along with associated petitions to suspend reactor licensing, based upon its “inherent supervisory authority over agency adjudications.”<sup>6</sup>

On January 15, 2015, the Board denied Intervenor’s motion to admit Contention 7, the last remaining contention still pending before the Board, concerning cracking of the shield building at Davis-Besse.<sup>7</sup> At that time, however, the Board did not terminate this adjudicatory proceeding because the Commission had yet to address the continued storage safety findings contention.<sup>8</sup>

On February 26, 2015, in CLI-05-4, the Commission denied the suspension petitions and Intervenor’s motion to admit the new continued storage safety findings contention.<sup>9</sup> With the issuance of CLI-05-4, there are now no proffered or admitted contentions remaining in this adjudicatory proceeding, and the Board’s jurisdiction *terminates*.<sup>10</sup>

Pursuant to 10 C.F.R. § 2.341(a), this Order shall constitute the final decision of the Commission 120 days from the date of its issuance, unless within twenty-five (25) days a petition for review is filed in accordance with 10 C.F.R. § 2.341(b) or the Commission directs otherwise.<sup>11</sup>

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<sup>4</sup> Final Rule: “Continued Storage of Spent Nuclear Fuel,” 79 Fed. Reg. 56,238 (Sept. 19, 2014); *see also Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71 (2014).

<sup>5</sup> *See* Intervenor’s Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Relicensing Proceeding for Davis-Besse Nuclear Power Station at 1-2 (Sept. 29, 2014).

<sup>6</sup> *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-14-9, 80 NRC 147, 149-50 (2014).

<sup>7</sup> *See* LBP-15-1, 81 NRC 15, 20 (2015).

<sup>8</sup> *Id.* at 46.

<sup>9</sup> *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-4, 81 NRC 221, 223-24, 242 (2015).

<sup>10</sup> *See Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), CLI-12-14, 75 NRC 692, 699, 701 (2012) (stating that a licensing board’s “ruling resolving the last pending contention” is equivalent to a final decision under 10 C.F.R. § 2.341, and a licensing board’s “jurisdiction ends after it has rendered a final decision”); *see also Exelon Generation Co., LLC* (Byron Nuclear Power Station, Units 1 and 2; Braidwood Nuclear Power Station, Units 1 and 2), CLI-14-6, 79 NRC 445, 449 (2014) (“Under our practice, ‘once all contentions have been decided, the contested [adjudicatory] proceeding is terminated.’” (quoting *North Anna*, CLI-12-14, 76 NRC at 699) (modification in original)).

<sup>11</sup> On March 6, 2015, FENOC filed a “Motion for Clarification Regarding Termination of the Davis-Besse License Renewal Adjudicatory Proceeding.” This Order (Terminating Proceeding) addresses FENOC’s concern.

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

William J. Froehlich, Chairman  
ADMINISTRATIVE JUDGE

Nicholas G. Trikouros  
ADMINISTRATIVE JUDGE

Dr. William E. Kastenber  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
March 10, 2015

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Alan S. Rosenthal**, Chairman  
**Dr. Richard E. Wardwell**  
**Dr. Gary S. Arnold**

**In the Matter of**

**Docket No. 40-7102-MLA**  
**(ASLBP No. 07-852-01-MLA-BD01)**  
**(License Amendment Request)**

**SHIELDALLOY METALLURGICAL**  
**CORPORATION**  
**(Decommissioning of the Newfield,**  
**New Jersey Site)**

**March 12, 2015**

**ORDER**  
**(Terminating Proceeding by Reason of Loss of**  
**Jurisdiction over the Subject Matter)**

On October 14, 2014, the United States Court of Appeals for the District of Columbia Circuit upheld the NRC's transfer of regulatory authority to the State of New Jersey for the Shieldalloy Metallurgical Corporation's (Shieldalloy) Newfield, New Jersey site.<sup>1</sup> On March 10, 2015, the deadline passed for Shieldalloy to file a petition for a writ of certiorari in the Supreme Court of the United States.<sup>2</sup> Therefore, the Court of Appeals' ruling is now final and this Licensing Board no

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<sup>1</sup> *Shieldalloy Metallurgical Corp. v. NRC*, 768 F.3d 1205, 1211-14 (D.C. Cir. 2014), *reh'g denied*, slip op. at 1 (D.C. Cir. Dec. 10, 2014).

<sup>2</sup> *See* Sup. Ct. R. 13.



longer has the jurisdiction it had retained over the proceeding.<sup>3</sup> Accordingly, the Board hereby *terminates* the proceeding.

Pursuant to 10 C.F.R. § 2.311, any petition for review of this order must be filed within twenty-five (25) days after it is served.

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Alan S. Rosenthal, Chairman  
ADMINISTRATIVE JUDGE

Dr. Richard E. Wardwell  
ADMINISTRATIVE JUDGE

Dr. Gary S. Arnold  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
March 12, 2015

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<sup>3</sup> Licensing Board Order (Retaining Jurisdiction over the Proceeding) (Feb. 25, 2013) at 1 (unpublished).

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Michael M. Gibson**, Chairman  
**Dr. Richard E. Wardwell**  
**Brian K. Hajek**  
**Alan S. Rosenthal** (Special Assistant to the Board)

**In the Matter of**

**Docket No. 40-8943**  
**(ASLBP No. 08-867-02-OLA-BD01)**  
**(License Renewal)**

**CROW BUTTE RESOURCES, INC.**  
**(In Situ Leach Facility, Crawford,**  
**Nebraska)**

**March 16, 2015**

**RULES OF PRACTICE: CONTENTIONS (NEW OR AMENDED;  
ADMISSIBILITY)**

To be admissible, a new or amended contention must satisfy the substantive contention admissibility standards set forth in 10 C.F.R. § 2.309(f)(1).

**RULES OF PRACTICE: CONTENTIONS (NEW OR AMENDED;  
ADMISSIBILITY)**

A new or amended contention must be timely filed under 10 C.F.R. § 2.309(c).

**RULES OF PRACTICE: CONTENTIONS (FILED AFTER INITIAL  
DEADLINE)**

If a party submits a proposed contention after the initial filing deadline announced in the applicable *Federal Register* notice for submitting a hearing

petition, it must not only meet the contention admissibility standards of section 2.309(f)(1), but must also satisfy the timeliness requirements of section 2.309(c) or section 2.307(a).

**RULES OF PRACTICE: CONTENTIONS (FILED AFTER INITIAL DEADLINE)**

Timely filing of an Intervenor’s challenge to the adequacy of the NRC Staff’s National Environmental Policy Act (NEPA) review process is generally triggered by the release of a NEPA document.

**RULES OF PRACTICE: CONTENTIONS (FILED AFTER INITIAL DEADLINE)**

Timely filling of an Intervenor’s challenge to the information or analysis in an applicant’s license application is triggered on the date of public disclosure of that information or analysis. Intervenor’s are not allowed to postpone filing a contention challenging this information or analysis until the NRC Staff issues some document “that collects, summarizes, and places into context the facts supporting that contention.” *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 496 (2010).

**RULES OF PRACTICE: CONTENTIONS (MIGRATION TENET)**

In certain circumstances, admitted contentions challenging an applicant’s Environmental Report (ER) may function as challenges to similar portions of the Staff’s NEPA document. When applicable, a party need not file a new or amended contention; the previously admitted contention will simply be viewed as applying to the relevant portion of the EA. *Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-12-23, 76 NRC 445, 470-71 (2012). This is appropriate, however, only where the Environmental Assessment (EA) analysis or discussion at issue is essentially *in pari materia* with the applicant’s analysis or discussion that is the focus of the contention. *Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-08-2, 67 NRC 54, 63-64 (2008).

**TABLE OF CONTENTS**

I. INTRODUCTION . . . . . 404

II. LEGAL STANDARDS . . . . . 407

    A. New and Amended Contentions . . . . . 407

B.	The “Migration” Tenet .....	409
III.	DISCUSSION .....	410
A.	Previously Admitted Contentions .....	410
B.	EA Contention F — Federal Jurisdiction .....	410
1.	The Tribe’s Position .....	410
2.	Board Ruling .....	411
C.	EA Contentions 1 and 2 — Cultural Resources and Consultation .....	411
1.	Parties’ Positions .....	412
2.	Board Ruling .....	414
D.	EA Contention 3 — Environmental Justice .....	415
1.	Parties’ Positions .....	415
2.	Board Ruling .....	417
E.	EA Contention 4 — Baseline Water Quality .....	418
1.	Intervenors’ Position .....	418
2.	Board Ruling .....	418
F.	EA Contention 5 — Water Quality Impacts .....	419
1.	Parties’ Positions .....	419
2.	Board Ruling .....	421
G.	EA Contention 6 — Water Quantity Impacts .....	424
1.	Parties’ Positions .....	424
2.	Board Ruling .....	425
H.	EA Contention 7 — Information Is Not Presented in a Clear Concise Manner .....	427
1.	Intervenors’ Position .....	427
2.	Board Ruling .....	427
I.	EA Contention 8 — Air Quality Impacts .....	428
1.	Intervenors’ Position .....	428
2.	Board Ruling .....	429
J.	EA Contention 9 — Mitigation Measures .....	429
1.	Parties’ Positions .....	429
2.	Board Ruling .....	431
K.	EA Contention 10 — Cumulative Impacts .....	432
1.	Parties’ Positions .....	432
2.	Board Ruling .....	433
L.	EA Contention 11 — Reasonable Alternatives .....	433
1.	Intervenors’ Position .....	433
2.	Board Ruling .....	434
M.	EA Contention 12 — Air Emissions and Liquid Waste .....	434
1.	Parties’ Positions .....	434
2.	Board Ruling .....	437

N.	EA Contention 13 — Wildlife Impacts .....	443
1.	Parties' Positions .....	443
2.	Board Ruling .....	444
O.	EA Contention 14 — Seismic Activity .....	446
1.	Parties' Positions .....	446
2.	Board Ruling .....	448
IV.	CONCLUSION AND ORDER .....	449

**MEMORANDUM AND ORDER**  
**(Ruling on Proposed Contentions Related to the**  
**Environmental Assessment)**

**I. INTRODUCTION**

This proceeding challenges the application of Crow Butte Resources, Inc. (Crow Butte) to renew its Source Materials License No. SUA-1534 for continued operation of its in situ leach uranium recovery (ISL) facility near Crawford, Nebraska.<sup>1</sup> Crow Butte's license was first issued in 1988 for a 10-year term, and renewed in 1998 for an additional 10-year term. On November 27, 2007 (3 months before its license that had been renewed in 1998 was set to expire), Crow Butte filed a second license renewal application (LRA).<sup>2</sup> On March 28, 2008, the Staff accepted the renewal application for technical review, and on May 27, 2008, a notice of opportunity for a hearing to contest the license renewal was published in the *Federal Register*.<sup>3</sup> On July 28, 2008, three hearing requests were received in response to that notice.<sup>4</sup>

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<sup>1</sup> Application for 2007 License Renewal USNRC Source Materials License SUA-1534 Crow Butte License Area (Nov. 2007) (ADAMS Accession No. ML073480264) [hereinafter LRA].

<sup>2</sup> Final Environmental Assessment for the License Renewal of U.S. Nuclear Regulatory Commission License No. SUA-1534 (Oct. 2014) at viii (ADAMS Accession No. ML14288A517) [hereinafter EA]. Despite the expiration of its license, Crow Butte has continued to operate this mine under the NRC's regulation implementing the "timely renewal" provision of the Administrative Procedure Act. 10 C.F.R. § 40.42(a); *see also* 5 U.S.C. § 558(c) ("When the licensee has made timely and sufficient application for a renewal . . . , a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency.").

<sup>3</sup> Notice of Opportunity for Hearing, Crow Butte Resources, Inc., Crawford, NE, In Situ Leach Recovery Facility, 73 Fed. Reg. 30,426 (May 27, 2008).

<sup>4</sup> *See* Request for Hearing and/or Petition to Intervene, Oglala Sioux Tribe (July 28, 2008); Consolidated Request for Hearing and Petition for Leave to Intervene (July 28, 2008); Request for Hearing and Petition for Leave to Intervene, Oglala Delegation of the Great Sioux Nation Treaty Council (July 28, 2008).

In August 2008, this Board was established and, on November 21, 2008, the Board ruled on the three petitions to intervene and requests for hearing, admitting the Oglala Sioux Tribe (the Tribe or OST) and Consolidated Intervenor (CI) as intervenors (together Intervenor).<sup>5</sup> The Great Sioux Nation Treaty Council was also admitted, not as an intervenor, but as an interested local governmental body.<sup>6</sup> The Board also admitted Environmental Contentions A, C, and D proposed by the Tribe and Technical Contention F proposed by CI.<sup>7</sup>

After 6 years and 8 months of reviewing the environmental matters at issue,<sup>8</sup> the NRC Staff notified the Board and parties on October 27, 2014, that it had completed an Environmental Assessment (EA) for the proposed license renewal.<sup>9</sup> The completion of this EA triggered the deadline for filing new/amended contentions, which the Board had set after an extension request from the parties.<sup>10</sup> On January 5, 2015 the Tribe<sup>11</sup> and CI<sup>12</sup> moved to admit new contentions based on the EA. On January 30, 2015, Crow Butte<sup>13</sup> and the NRC Staff<sup>14</sup> filed answers opposing these motions. On February 6, 2015, the Tribe<sup>15</sup> and CI<sup>16</sup> filed replies. Also on February 6, 2015, the NRC Staff moved to amend its

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<sup>5</sup> LBP-08-24, 68 NRC 691, 698 (2008).

<sup>6</sup> *Id.* at 715. If the Great Sioux Nation Treaty Council wishes to participate as a nonparty in this proceeding, its representative must “identify those contentions on which [it] will participate in advance of any hearing held.” 10 C.F.R. § 2.315(c).

<sup>7</sup> LBP-08-24, 68 NRC at 760. On appeal, other contentions admitted by the Board were found inadmissible by the Commission. *See* CLI-09-9, 69 NRC 331, 366 (2009).

<sup>8</sup> *See* LBP-15-2, 81 NRC 48, 59-61 (2015) (commenting on the length of this review process).

<sup>9</sup> Environmental Assessment Availability Notification, Letter from Marcia Simon, NRC Staff Counsel, to Administrative Judges and Parties (Oct. 27, 2014). On November 6, 2014, the NRC Staff issued renewed license SUA-1534 to Crow Butte, with an expiration date of November 5, 2024. License Renewal Notification, Letter from Marcia Simon, NRC Staff Counsel, to Administrative Judges and Parties (Nov. 6, 2014).

<sup>10</sup> *See* Licensing Board Order (Granting Intervenor’s Unopposed Motion for Extension of Time to File New/Amended Contentions) (Nov. 24, 2014) (unpublished); Unopposed Motion by the Oglala Sioux Tribe for an Extension of Time to File New/Amended Contentions (Nov. 21, 2014).

<sup>11</sup> The Oglala Sioux Tribe’s Renewed and New Contentions Based on the Final Environmental Assessment (October 2014) (Jan. 5, 2015) [hereinafter OST Proposed Contentions].

<sup>12</sup> Consolidated Intervenor’s New Contentions Based on the Final Environmental Assessment (October 2014) (Jan. 5, 2015) [hereinafter CI Proposed Contentions].

<sup>13</sup> Crow Butte Resources’ Response to Proposed New Contentions Based on Final Environmental Assessment (Jan. 30, 2015) [hereinafter Crow Butte Answer].

<sup>14</sup> NRC Staff’s Combined Answer to New Contentions Filed by Consolidated Intervenor and the Oglala Sioux Tribe (Jan. 30, 2015) [hereinafter NRC Staff Answer].

<sup>15</sup> Oglala Sioux Tribe’s Combined Reply to NRC Staff’s and Crow Butte Resources’ Responses to Tribe’s Renewed and New Contentions Based on the Final Environmental Assessment (Feb. 6, 2015) [hereinafter OST Reply].

<sup>16</sup> Consolidated Intervenor’s Combined Reply to NRC Staff and Applicant’s Responses to Newly Filed EA Contentions (Feb. 6, 2015) [hereinafter CI Reply].

response to Contention 13.<sup>17</sup> CI filed a response and motion to strike the change of position reflected in the proposed amendment<sup>18</sup> and NRC Staff<sup>19</sup> and Crow Butte<sup>20</sup> opposed the motion to strike. The NRC Staff's motion has been denied in a separate order. The Board held an oral argument on the newly proffered contentions on February 17, 2015.<sup>21</sup>

As explained below, we rule as follows:

1. Environmental Contentions A, C, D, and Technical Contention F, originally admitted in our previous 2008 order, migrate from a challenge of Crow Butte's LRA to a challenge to the NRC Staff's EA as Contentions A, C, D, and F.
2. EA Contentions 3 and 10 are admitted in part and merged with migrated Contention D. The portion of EA Contention 5 that is admissible is encompassed within the language of Contention D.
3. EA Contentions 1 and 2 are admitted in part and combined into a single "EA Contention 1."
4. EA Contentions 6, 9, and 12 are admitted in part as narrowed by the Board.
5. EA Contention 14 is admitted as proffered.
6. The Tribes' EA Contention F, as well as EA Contentions 4, 7, 8, and 11, are not admitted.
7. EA Contention 13 is denied admission as moot.

All admitted contentions, as they will be considered at the evidentiary hearing, are set forth in Appendix A to this Order.

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<sup>17</sup> NRC Staff's Notice of Change in Position and Motion to Amend Response to Contention 13 (Feb. 6, 2015). The Board ordered the Staff to file its proposed amendment to its answer (Licensing Board Order (Seeking Additional Information and Replies on NRC Staff's Motion to Amend Answer to EA Contention 13) (Feb. 6, 2015) (unpublished)), which the Staff did. NRC Staff's Proposed Amended Response to Contention 13 (Feb. 6, 2015).

<sup>18</sup> Consolidated Intervenor's Response and Motion to Strike Late-Filed NRC Staff Change of Position RE: Contention 13 (Feb. 10, 2015).

<sup>19</sup> NRC Staff's Opposition to Consolidated Intervenor's Motion to Strike (Feb. 12, 2015).

<sup>20</sup> Crow Butte Resources' Response to Motion to Strike (Feb. 20, 2015).

<sup>21</sup> Tr. at 590-881.

## II. LEGAL STANDARDS

### A. New and Amended Contentions

To be admissible, a new or amended contention must satisfy the substantive contention admissibility standards set forth in 10 C.F.R. § 2.309(f)(1). Namely, the contention must:

- (i) Provide a specific statement of the issue of law or fact to be raised or controverted . . . ;
- (ii) Provide a brief explanation of the basis for the contention;
- (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
- (iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;
- (v) Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue . . . ; [and]
- (vi) . . . . [P]rovide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact.<sup>22</sup>

A failure to meet any of these criteria renders a contention inadmissible. These rules are “strict by design,”<sup>23</sup> and exist to “focus litigation on concrete issues and result in a clearer and more focused record for decision.”<sup>24</sup> The failure of an intervenor to comply with any of these requirements is grounds for the Board not to admit a contention.

Additionally, pursuant to 10 C.F.R. § 2.309(c),<sup>25</sup> if a party submits a proposed contention after the initial filing deadline announced in the applicable *Federal Register* notice for submitting a hearing petition, it “will not be entertained absent a determination by the presiding officer that a participant has demonstrated good cause.”<sup>26</sup> “Good cause” exists when:

- (i) [t]he information upon which the filing is based was not previously available;

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<sup>22</sup> 10 C.F.R. § 2.309(f)(1).

<sup>23</sup> *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 213 (2003).

<sup>24</sup> Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

<sup>25</sup> The current section 2.309(c) was promulgated on August 3, 2012. Amendments to Adjudicatory Process Rules and Related Requirements, 77 Fed. Reg. 46,562, 46,591 (Aug. 3, 2012). Shortly thereafter, the Board advised the parties that the standards set forth in the now-current section 2.309(c) would apply to any new or amended contentions in this proceeding. Licensing Board Order (Concerning Amended Rules of Practice) (Aug. 17, 2012) at 1 (unpublished).

<sup>26</sup> 10 C.F.R. § 2.309(c).



- (ii) [t]he information upon which the filing is based is materially different from information previously available; and
- (iii) [t]he filing has been submitted in a timely fashion based on the availability of the subsequent information.<sup>27</sup>

The first two “good cause” factors relate to the nature of the information that serves as the basis for the new/amended contention. The third factor concerns whether the new/amended contention and any supporting information — even if newly available and materially different from any information that was previously available — nonetheless was seasonably submitted. In contrast to section 2.309(b)’s provisions relating to an initial hearing petition,<sup>28</sup> section 2.309(c)(1)(iii) does not stipulate what is considered “timely.”

To determine what constitutes a timely filing under section 2.309(c)(1)(iii), the Board looks to Commission precedent. First, timely filing of an intervenor’s challenge to the adequacy of the NRC Staff’s National Environmental Policy Act (NEPA) review process is generally triggered by the release of a NEPA document. As the Commission commented in this case, in CLI-09-9, the adequacy of the NRC Staff’s fulfillment of its NEPA obligations can form the basis for a new contention, and “such a contention is usually considered timely if filed within 30 days of publication of” a NEPA document.<sup>29</sup> Referring to the pre-2012 version of 10 C.F.R. § 2.309(f)(2), the Commission also stated that “with respect to issues arising under NEPA, the petitioner may file new contentions ‘if there are data or conclusions in the NRC draft or final environmental impact statement [or here, EA] . . . that differ significantly from the data or conclusions in the applicant’s documents.’”<sup>30</sup> Finally, in its 2008 *Diablo Canyon* decision, the Commission made clear that the NRC Staff’s first attempt to analyze a NEPA issue gives rise to an Intervenor’s “first opportunity to raise contentions on the adequacy of this assessment.”<sup>31</sup>

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<sup>27</sup> *Id.* § 2.309(c)(1)(i)-(iii).

<sup>28</sup> *Id.* § 2.309(b) (defining the timeliness of an initial hearing petition in different situations as being filed between 20 and 60 days after certain specified events).

<sup>29</sup> CLI-09-9, 69 NRC at 351 n.105.

<sup>30</sup> *Id.* at 351 n.104 (quoting 10 C.F.R. § 2.309 (2009)). Though this 2009 version of 10 C.F.R. § 2.309 was amended in 2012, the purpose of the amendment was to simplify the rules, not fundamentally change the rationale Boards use to admit new/amended contentions. *See* 77 Fed. Reg. at 46,571; *see also FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), LBP-15-1, 81 NRC 15, 30 n.72 (2015) (“Therefore, despite the change in the rules, it appears in general that contentions proposed after the filing deadline, which would have been allowable under the previous 10 C.F.R. § 2.309(f)(2) requirements, will also be allowable under the current 10 C.F.R. § 2.309(c)(1) requirements.”).

<sup>31</sup> *Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-1, 67 NRC 1, 6 (2008).

Second, timely filing of an Intervenor’s challenge to the information or analysis in an applicant’s license application is triggered on the date of public disclosure of that information or analysis. Intervenor’s are not allowed to postpone filing a contention challenging this information or analysis until the NRC Staff issues some document “that collects, summarizes, and places into context the facts supporting that contention.”<sup>32</sup> Thus, in *Prairie Island* the Intervenor filed a contention challenging the applicant’s safety culture and claimed to rely on the NRC Staff’s Safety Evaluation Report issued in that proceeding.<sup>33</sup> That Safety Evaluation Report, however, did “not discuss safety culture as a general matter” and could not serve as “a ‘reasonably apparent’ foundation for a safety culture contention.”<sup>34</sup> In reality, the Intervenor was relying on long-available documents regarding leakages and notices of violation, which made the contention untimely as filed.<sup>35</sup>

In accordance with the Commission’s express statements in this proceeding, the Board’s October 28, 2014 Order established that the deadline for filing timely new environmental contentions would be 30 days (later extended following a joint request from the parties) after the release of the EA.<sup>36</sup>

## B. The “Migration” Tenet

In certain circumstances, “[a]dmitted contentions challenging an applicant’s

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<sup>32</sup> *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 496 (2010). This requirement also must be considered keeping in mind the Commission’s interest in promoting efficient adjudication. See *Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), CLI-08-19, 68 NRC 251, 262 (2008). Efficiency would not be served by a licensing board having to rule on contention admissibility after every minor Staff publication or request for more information.

<sup>33</sup> *Prairie Island*, CLI-10-27, 72 at 484-85.

<sup>34</sup> *Id.* at 494.

<sup>35</sup> *Id.* at 494-95.

<sup>36</sup> Licensing Board Order (Scheduling Filing of New/Amended Contentions and Requesting Proposed Evidentiary Hearing Dates) at 1 (Oct. 28, 2014) (unpublished) (“Following the public availability of the Final EA, new/amended contentions from the intervenors are due within 30 days of issuance of the Final NEPA document.”). This is different from contentions challenging the *licensee’s* analysis of environmental impacts following publication of the environmental report. Crow Butte did not significantly amend its ER since its filing in 2008. This recent order clarified — though it did not overrule — the Board’s standard rule that “new or amended contentions are to be filed within thirty days after the moving party acquires information giving rise to the new or amended contention,” i.e., contentions challenging the adequacy of the NRC Staff’s NEPA analysis require the NRC Staff first to make that analysis available to the public, which occurred here when the EA was issued. Licensing Board Order (Regarding Schedule and Guidance for Proceedings) (Aug. 21, 2008) at 3 (unpublished). Because the NRC Staff did not publish a draft EA, there was no prior opportunity for Intervenor’s to review the NRC Staff’s analysis of the project’s environmental impacts before publication of the EA.

Environmental Report (ER) may . . . function as challenges to similar portions of the Staff's NEPA document.<sup>37</sup> When applicable, a party need not file a new or amended contention; the previously admitted contention will simply be viewed as applying to the relevant portion of the EA.<sup>38</sup> This is appropriate, however, only where the EA analysis or discussion at issue is essentially *in pari materia* with the applicant's analysis or discussion that is the focus of the contention.<sup>39</sup>

### **III. DISCUSSION**

#### **A. Previously Admitted Contentions**

Previously admitted Contentions A, C, D, and F migrate from challenging the LRA to challenging the EA. No party opposed the migration of these contentions.<sup>40</sup> Contentions A, C, D, and F as previously admitted and revised herein by the Board to reflect this mitigation appear in Appendix A.

#### **B. EA Contention F — Federal Jurisdiction**

##### ***1. The Tribe's Position***

The Tribe titles newly proffered EA Contention F (not to be confused with the above-mentioned previously admitted Contention F), "Failure to Discuss or Demonstrate Lawful Federal Jurisdiction and Authority over Crow Butte's Activities." In this contention, the Tribe states:

The Final EA fails to discuss, let alone demonstrate, lawful federal jurisdiction and NRC authority over the territory and lands upon which Crow Butte seeks the renewal of its license.<sup>41</sup>

The Tribe claims to possess sovereign jurisdiction over the land Crow Butte uses to operate its ISL mine. The Tribe therefore denies that the United States has

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<sup>37</sup> *Powertech USA, Inc.* (Dewey-Burdock In Situ Uranium Recovery Facility), LBP-13-9, 78 NRC 37, 46 (2013) (citing *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-01-23, 54 NRC 163, 172 n.3 (2001)); see also *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 84 (1998).

<sup>38</sup> *Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-12-23, 76 NRC 445, 470-71 (2012) ("The Board may construe an admitted contention contesting the ER as a challenge to a subsequently issued DEIS or FEIS without the necessity for intervenors to file a new or amended contention.").

<sup>39</sup> *Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-08-2, 67 NRC 54, 63-64 (2008).

<sup>40</sup> Tr. at 605.

<sup>41</sup> OST Proposed Contentions at 4.

the jurisdiction to license Crow Butte’s activity on this land.<sup>42</sup> In support of this claim the Tribe cites the Fort Laramie Treaties of 1851<sup>43</sup> and 1868<sup>44</sup> as having secured for the Tribe’s use the land on which Crow Butte is now mining.<sup>45</sup> The Tribe also reviews principles of international law and treaties,<sup>46</sup> arguing that the United States does not lawfully exercise control over “the territory, lands, and natural resources at issue here.”<sup>47</sup> The Tribe contends that the EA is deficient in not demonstrating or discussing the lawful jurisdiction of the NRC to issue a license authorizing activity upon the land housing Crow Butte’s ISL facility.<sup>48</sup>

## **2. Board Ruling**

EA Contention F is inadmissible. The Board previously assessed the Supreme Court’s review of the Fort Laramie Treaties, and determined that the Court had both confirmed Congress’s power to abrogate treaties with Native American nations, and specifically concluded that the United States is not bound by the terms of the 1868 Fort Laramie Treaty.<sup>49</sup> The Commission agreed with this determination.<sup>50</sup> Therefore, the Tribe’s treaty-based claims of ownership of the Crow Butte mining site and international treaty-based claims cannot support the admission of EA Contention F.

## **C. EA Contentions 1 and 2 — Cultural Resources and Consultation**

Due to the overlapping issues presented in EA Contentions 1 and 2, the Board will consider these contentions jointly.

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<sup>42</sup> *Id.* at 4-5.

<sup>43</sup> Treaty of Fort Laramie with Sioux, Etc., Sept. 17, 1851, 11 Stat. 749.

<sup>44</sup> Treaty with the Sioux — Brule, Oglala, Miniconjou, Yanktonai, Hunkpapa, Blackfeet, Cuthead, Two Kettle, Sans Arcs, and Santee — and Arapaho, Apr. 29, 1868, 15 Stat. 635.

<sup>45</sup> OST Proposed Contentions at 5.

<sup>46</sup> *Id.* at 7-14. The Tribe’s reply also contends that “many federal administrative tribunals” have entertained international law issues, citing decisions by the Federal Communications Commission, the Board of Immigration Appeals, and the General Claims Commission. OST Reply at 8. We note, however, that the Tribe did not cite to decisions by the NRC that lend support to its position in this regard.

<sup>47</sup> OST Proposed Contentions at 14.

<sup>48</sup> *Id.*

<sup>49</sup> LBP-08-24, 68 NRC at 712.

<sup>50</sup> CLI-09-9, 69 NRC at 337.

## ***1. Parties' Positions***

The Tribe and CI title Contention 1, “Failure to Meet Applicable Legal Requirements Regarding Protection of Historical and Cultural Resources, and Failure to Involve or Consult the Oglala Sioux Tribe as Required by Federal Law.” In this contention, the Tribe states:

By these Environmental Assessment Contentions 1 and 2 jointly asserted herein with the Consolidated Intervenor, the Tribe hereby renews its previous Contention B which the Commission ruled had been prematurely asserted. *In the Matter of Crow Butte Resources, Inc. (License Renewal for in Situ Leach Facility, Crawford, Nebraska)*, CLI-09-09, Dkt. No. 40-8943-OLA (May 18, 2009).

The Final EA fails to meet the requirements of NEPA, the [National Historic Preservation Act] NHPA, and 40 C.F.R. §§ 51.10, 51.70 and 51.71, along with the NRC, [Advisory Council on Historic Preservation] ACHP, and [Council on Environmental Quality] CEQ regulations because it lacks an adequate description of either the affected environment or the impacts of the project on archaeological, historical, and traditional cultural resources.

As a result, the Final EA fails to comply with Section 51.60 because its analyses are not adequate, accurate and complete in all material respects concerning archaeological sites and materials within the project area. No specific survey was performed for this license renewal in order to demonstrate that archaeological sites within the project area are properly identified, evaluated and protected and to show that it has submitted a proper analytic discussion under Sections 51.45 and 51.60 and the NRC Staff relied on old survey[s] that were done in 1982 and 1987. Not all interested tribes were ‘meaningfully’ consulted, particularly including the Tribe, and the prior, informed consent of the Tribe to proceed with Crow Butte’s activities was not obtained. Proper baseline information is lacking in the Final EA and it fails to demonstrate adequate confinement and protection of cultural resources.<sup>51</sup>

The Tribe titles EA Contention 2, “Failure to Do EIS; Failure to Involve OST with surveys being conducted by Crow Butte at Crow Butte’s expense.”<sup>52</sup> In this contention Intervenor state:

The Oglala Sioux Tribe has not been “meaningfully” consulted with regarding the cultural resources that may be in the license renewal area. As stated above, the 2013 Redmond Opinion indicates that two or more of Crow Butte’s [Traditional Cultural

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<sup>51</sup> OST Proposed Contentions at 14-15. CI plead the same contention, with the exclusion of the first paragraph and the addition of the comment that “the prior, informed consent of the Tribe to proceed with Crow Butte’s activities was not obtained.” CI Proposed Contentions at 4-5.

<sup>52</sup> CI provide the same title, but include that the “Conduct of TCP Survey Designed to Fail to Discover TCPs.” CI Proposed Contentions at 21.

Properties] TCP surveys were conducted during winter months when snow and ice typically covers the ground obscuring the discovery of TCPs.

Crow Butte has identified what it believes to be cultural resources in the area, and the NRC Staff has relied on Crow Butte's assertions in preparing the Final EA. However, Crow Butte and the NRC Staff are working with inventories of TCPs that have been prepared for decades without the involvement of officials or members of the Tribe.

An Environmental Impact Statement should be prepared, made available for public comment in accordance with NEPA.<sup>53</sup>

In part, these contentions seek to renew the Tribe's Contention B, which was previously pled with the request for hearing and/or petition to intervene in 2008.<sup>54</sup> Intervenor contend that the EA lacks an "adequate description of either the affected environment or the impacts of the project on archaeological, historical, and traditional cultural resources."<sup>55</sup> Intervenor maintain that surveys from 1982 and 1987 do not provide proper baseline information, and claim that the NRC Staff should have conducted a new survey of the license area.<sup>56</sup>

Intervenor also fault the NRC Staff for not meaningfully consulting with the Tribe.<sup>57</sup> The Tribe alleges that only large group meetings were held between NRC representatives and a gathering of potentially affected tribes, and that NRC response letters contained only nonsubstantive responses to the Tribe's concerns.<sup>58</sup> Intervenor also complain that Crow Butte made no effort to involve the Tribe's representatives and elders in the surveys.<sup>59</sup> Intervenor assert that while the State Historic Preservation Officer (SHPO) was involved in the consultation process, this is not relevant in determining whether the Tribe has been adequately consulted.<sup>60</sup> Based on these alleged cultural resources deficiencies in the EA, Intervenor contend that an Environmental Impact Statement (EIS) should be prepared for the Crow Butte renewal.<sup>61</sup>

Regarding Intervenor's consultation concerns, Crow Butte responds that the Tribe had several opportunities to consult with the NRC.<sup>62</sup> Crow Butte also claims that Intervenor's contentions are not timely, as they have made no comments on a

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<sup>53</sup> OST Proposed Contentions at 32-33; CI Proposed Contentions at 21-22.

<sup>54</sup> OST Proposed Contentions at 14.

<sup>55</sup> *Id.* at 15; CI Proposed Contentions at 4.

<sup>56</sup> OST Proposed Contentions at 15; CI Proposed Contentions at 5.

<sup>57</sup> OST Proposed Contentions at 15; CI Proposed Contentions at 4.

<sup>58</sup> OST Proposed Contentions at 19-21; CI Proposed Contentions at 7-9.

<sup>59</sup> OST Proposed Contentions at 21; CI Proposed Contentions at 9.

<sup>60</sup> OST Proposed Contentions at 38; CI Proposed Contentions at 27.

<sup>61</sup> OST Proposed Contentions at 33; CI Proposed Contentions at 22.

<sup>62</sup> Crow Butte Answer at 8-9.

draft section 106 document posted on the NRC's public website on September 30, 2013.<sup>63</sup>

Regarding consultation, the NRC Staff insists that it is only required to make a "reasonable and good faith" effort to find historic resources,<sup>64</sup> and that a reasonable and good faith effort does not require approval by any consulting party, identification of every historic property in the affected area, investigations outside the affected area, or ground verification of the affected area.<sup>65</sup> Thus, the NRC Staff argues that they acted reasonably, despite Intervenor's criticism of the NRC Staff's effort, and their demands for the NRC Staff to expand its investigation.<sup>66</sup>

The NRC Staff claims it gave the Tribe a reasonable opportunity to identify all of the Tribe's concerns, based on a series of meetings and correspondence between the two parties.<sup>67</sup> The NRC Staff also disagrees with Intervenor that the 1982 and 1987 site surveys are so out of date as to make these surveys deficient.<sup>68</sup>

## **2. Board Ruling**

EA Contentions 1 and 2 are admissible in part. In 2008 the Board admitted a cultural resources consultation contention,<sup>69</sup> but on appeal the Commission ruled that the contention was not yet ripe for adjudication.<sup>70</sup> The Commission, however, stated that the NRC Staff's fulfillment of its National Historic Preservation Act (NHPA) obligations could form the basis for a new contention,<sup>71</sup> and that new

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<sup>63</sup> *Id.* at 10-12, 15.

<sup>64</sup> NRC Staff Answer at 12.

<sup>65</sup> *Id.* at 13.

<sup>66</sup> *See id.*

<sup>67</sup> *Id.* at 13-16. The NRC Staff also asserts that it gave all consulting Tribes, and Tribal elders, an invitation to complete a TCP survey of the Crow Butte facility, and that two of these Tribes, but not the Oglala Sioux Tribe, participated. *Id.* at 15. Following oral argument, the NRC Staff filed a chart detailing consultation between the NRC Staff and the Tribe. Consultation Communications Between NRC and OST, Letter from David Cylkowski, NRC Staff Counsel, to Administrative Judges (Feb. 24, 2015).

<sup>68</sup> *See* NRC Staff Answer at 18.

<sup>69</sup> As set forth by the Board in LBP-08-24, 68 NRC at 719, OST Environmental Contention B stated: The Oglala Sioux Tribe has not been consulted with [*sic*] regarding the cultural resources that may be in the license renewal area. [Crow Butte] has identified what it believes to be cultural resources in the area, but the Tribe has had no input on this list, and it therefore cannot be complete. Furthermore, [Crow Butte] has provided that it will work in conjunction with the Nebraska State Historical Society to avoid the identified resources, but this ignores mandated participation of the Oglala Sioux Tribe.

<sup>70</sup> CLI-09-9, 69 NRC at 350-51.

<sup>71</sup> *Id.* at 351.

contentions are “usually considered timely if filed within 30 days of publication” of a NEPA document.<sup>72</sup> Accordingly, Contentions 1 and 2 were timely filed.

Contentions 1 and 2 encompass four separate issues: (1) whether an EIS is required, (2) whether there was meaningful consultation with the Tribe, (3) whether a class III archaeological study — even if adequate under the NHPA — satisfies the “hard look” requirement under NEPA, and (4) whether the surveys performed and incorporated into the EA formed a sufficient basis on which to renew Crow Butte’s permit.

First, insofar as Contentions 1 and 2 seek to require the NRC Staff to prepare an EIS, they are inadmissible. Issuance of an EA is appropriate where the NRC Staff determines that the proposed project will result in no significant impacts,<sup>73</sup> as the NRC Staff did here.<sup>74</sup> Intervenors have not provided sufficient information to identify significant impacts from the license renewal that would obligate the NRC Staff to prepare an EIS. While a Board could rule that an EIS must be prepared if a significant impact is eventually identified, Intervenors’ claims here cannot support a stand-alone contention on this issue.

Second, insofar as Contentions 1 and 2 challenge whether there has been meaningful consultation with the Tribe and whether a class III archaeological study represents a hard look under NEPA, they are admissible. Based on the pleadings, as well as on the parties’ responses to the Board’s questions during oral argument, the Board has concluded, however, that these are issues of law without factual dispute. The Board may request further legal briefing on this point, and if it does, a schedule for such briefing will be issued in a subsequent Order.

Finally, insofar as Contentions 1 and 2 challenge whether the cultural surveys performed and incorporated into the EA are not adequate support for the EA’s conclusions in this regard, they are admissible. Factual issues remain regarding what the NRC Staff did and whether it was sufficient to comply with NEPA, both of which will be explored in prefiled witness testimony and at the upcoming evidentiary hearing.

Contentions 1 and 2, as revised by the Board, are set forth in Appendix A to this Order.

## **D. EA Contention 3 — Environmental Justice**

### ***1. Parties’ Positions***

The Tribe titles EA Contention 3 “Failure to take the requisite ‘Hard Look’ at

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<sup>72</sup> *Id.* at 351 n.105.

<sup>73</sup> 10 C.F.R. § 51.32.

<sup>74</sup> Environmental Assessment and Finding of No Significant Impact; Issuance, 79 Fed. Reg. 64,629, 64,630 (Oct. 30, 2014).



environmental justice impacts.”<sup>75</sup> CI title EA Contention 3, “Failure to Describe All Relevant Environmental Justice Impacts.”<sup>76</sup> In this contention the Tribe states:

The EA fails to take the requisite “hard look” at whether relicensing the Crow Butte facility would cause disproportionate and adverse impacts on minority and low-income populations within the 50-mile environmental impact area around the facility when compared to the impacts on the non-Environmental Justice (“EJ”) population.<sup>77</sup>

The EA confined its evaluation of environmental justice impacts to only a 4-mile radius of the project site,<sup>78</sup> while the Pine Ridge Reservation is 50 miles from the site.<sup>79</sup> To support their requested 50-mile review, based on Dr. LaGarry’s<sup>80</sup> opinion, the Intervenor contend that groundwater and surface water impacts from the Crow Butte site could affect resources in the Pine Ridge reservation.<sup>81</sup>

In response, Crow Butte first argues that this contention is untimely because Intervenor have failed to identify new or materially different information in the EA relative to Crow Butte’s license renewal application.<sup>82</sup> Crow Butte also argues that EA Contention 3 fails to raise a genuine dispute on a material issue because there is no factual support for the claim that Crow Butte’s operation will cause disproportionate impacts on minority or low-income populations.<sup>83</sup>

The NRC Staff defends its decision to use a 4-mile range for its environmental justice analysis by referring to agency policy documents.<sup>84</sup> According to the NRC Staff, Intervenor have offered no justification for a different area for environmental justice analyses, and have not pointed to any specific harm to OST or members of CI who reside in Pine Ridge.<sup>85</sup>

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<sup>75</sup> OST Proposed Contentions at 40.

<sup>76</sup> CI Proposed Contentions at 29.

<sup>77</sup> OST Proposed Contentions at 40.

<sup>78</sup> *Id.* at 44; CI Proposed Contentions at 31.

<sup>79</sup> OST Proposed Contentions at 44. The Tribe maintains that the resident low-income and minority population on the reservation would trigger consideration of environmental justice “in greater detail” by the NRC Staff. *Id.* at 47. The Tribe supplies a figure of “96% minority population living at Pine Ridge Indian Reservation.” *Id.*

<sup>80</sup> Dr. Hannan LaGarry offered opinions supporting CI, based on experience with northwestern Nebraska geology, in 2008 and 2015. *See* CI Proposed Contentions Ex. A, LaGarry Opinion.

<sup>81</sup> OST Proposed Contentions at 45-46; CI Proposed Contentions at 30.

<sup>82</sup> Crow Butte Answer at 17. Crow Butte acknowledges that neither the LRA nor the EA considered “the potential for contamination at Pine Ridge from discharge to the White River.” *Id.* CI’s reply alleges that “[t]he LRA makes no reference to Pine Ridge Indian Reservation and Section 4.9 of the EA does.” CI Reply at 10.

<sup>83</sup> Crow Butte Answer at 15.

<sup>84</sup> NRC Staff Answer at 22.

<sup>85</sup> *Id.* at 22-23.

## 2. *Board Ruling*

This contention is a challenge specifically hinged on the adequacy of the NRC Staff's NEPA analysis, and so was timely filed.

In 2008, the Board admitted the Tribe's Contention D, which states that "the Basal Chadron aquifer, where mining occurs, and the aquifer, which provides drinking water to the Pine Ridge Indian Reservation, communicate with each other, resulting in the possibility of contamination of the potable water."<sup>86</sup> The Board found that the Tribe's claim raised a genuine dispute that warranted further inquiry into the potential contamination of water on the Pine Ridge Indian Reservation.<sup>87</sup>

In EA Contention 3, the Tribe relies on Dr. LaGarry's hydrogeology opinion to support extending the geographic scope of the environmental justice analysis in the EA. Dr. LaGarry's opinion states that it is a "likely" possibility that any contamination resulting from discharges into groundwater and surface water from Crow Butte's ISL mine would spread throughout the White River drainage area.<sup>88</sup> Because the possibility of contamination of the Tribe's potable water in Contention D was an admissible issue, the issue whether the EA's environmental justice analysis<sup>89</sup> should be based on the extent of possible contamination impacts, and not limited to a 4-mile review, is also an admissible issue.<sup>90</sup> This contention will be merged into previously admitted Contention D, which is reproduced in Appendix A attached to this Order.

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<sup>86</sup> LBP-08-24, 68 NRC at 725.

<sup>87</sup> *Id.* at 727.

<sup>88</sup> OST Proposed Contentions at 45-46; OST Proposed Contentions, Ex. A, Hannan E. LaGarry, Supplemental Expert Opinion Regarding the Renewal of ISL Uranium Mining (Crow Butte Resources) Near Crawford, Nebraska at 6 (Jan. 5, 2015)) [hereinafter 2015 LaGarry Opinion].

<sup>89</sup> Commission policy states that EAs are appropriate when there are "little or no offsite impacts," and so environmental justice reviews are normally not necessary. Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions, 69 Fed. Reg. 52,040, 52,047 (Aug. 24, 2004). Here, however, the potential impacts of the Crow Butte relicensing rendered an environmental justice analysis necessary in the EA.

<sup>90</sup> The Board notes that in the NRC Staff's cumulative impacts analysis, the NRC Staff chose a "50 mile (80 km) radius from the CBR facility as this geographical range encompasses the proposed action, all reasonably foreseeable actions in the area, and a reasonable buffer surrounding these areas." EA § 4.13. This 50-mile radius was apparently appropriate as the areal extent for cumulative impacts analysis — and for this reason as well, it may be equally reasonable for it to serve as the areal extent for environmental justice analysis.

## **E. EA Contention 4 — Baseline Water Quality**

### **1. *Intervenors' Position***

Intervenors title EA Contention 4, “The Final EA Fails to Take the ‘Hard Look’ at and Failure to Include Necessary Information for Adequate Determination of Baseline Ground Water and Surface Water Quality.”<sup>91</sup> In this contention Intervenors state:

The Final EA violates 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations — each requiring a description of the affected environment and impacts to the environment — in that it fails to provide an adequate baseline groundwater characterization or demonstrate that ground water and surface water samples were collected in a scientifically defensible manner, using proper sample methodologies.<sup>92</sup>

The crux of Intervenors’ contention is that the NRC staff must conduct a new baseline study of the license renewal area rather than relying on the baseline study conducted during the original license application.<sup>93</sup> Intervenors also allege elevated lead-210 concentrations in the renewal area.<sup>94</sup>

### **2. *Board Ruling***

EA Contention 4 is untimely. Crow Butte discusses its approach for determining baseline groundwater and surface water quality in LRA § 2.9, “Background Nonradiological Characteristics.”<sup>95</sup> This section of the LRA states that baseline data come from a 1982-83 “preoperational nonradiological environmental monitoring program.”<sup>96</sup> The discussion in the LRA of baseline groundwater and surface water quality references both the 1982 and 1983 data, as well as some supplements from studies conducted in the 1990s.<sup>97</sup> New contentions cannot be based on previously available information.<sup>98</sup> Intervenors could have brought their

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<sup>91</sup> OST Proposed Contentions at 48; CI Proposed Contentions at 32.

<sup>92</sup> OST Proposed Contentions at 48; CI Proposed Contentions at 32.

<sup>93</sup> OST Proposed Contentions at 50; CI Proposed Contentions at 34.

<sup>94</sup> OST Proposed Contentions at 52-54; CI Proposed Contentions at 35-38.

<sup>95</sup> LRA § 2.9 (emphasis and capitalization omitted).

<sup>96</sup> *Id.*

<sup>97</sup> See, e.g., LRA §§ 2.9.1, 2.9.4; see also EA §§ 3.5.1.2, 3.5.2.4 (discussing baseline water quality).

<sup>98</sup> 10 C.F.R. § 2.309(c)(1)(i).

concerns about Crow Butte’s reliance on 1982 water quality studies at the time the LRA was filed.<sup>99</sup>

As the contention is untimely, the Board does not need to decide whether the contention would otherwise have been admissible. We note, however, that the information presented in support of EA Contention 4 might well be relevant to already-admitted Contentions C and D, insofar as both concern impacts to ground and surface waters.<sup>100</sup> In addition, any information supporting Intervenor’s general claim that the NRC Staff failed to use recent research in determining baseline water quality can be applied to already-admitted Contention F.<sup>101</sup>

## **F. EA Contention 5 — Water Quality Impacts**

### ***1. Parties’ Positions***

Intervenor’s title EA Contention 5, “The Final EA Fails to Include an Adequate Hydrogeological Analysis to Assess Potential Impacts to Groundwater and Surface Water; the NRC Staff Failed to Take the ‘Hard Look’ at the Proposal Even After Expert Criticisms.”<sup>102</sup> In the contention, Intervenor’s state:

The Final EA fails to provide sufficient information regarding the hydrologic and geological setting of the area to meet the requirements of 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations. As a result, the Final EA similarly fails to provide sufficient information to establish potential effects of the project on the adjacent surface and ground-water resources, as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.<sup>103</sup>

Intervenor’s support their position primarily through reference to Exhibit A, the

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<sup>99</sup> Indeed, this contention relies entirely on the exhibits submitted in 2008 with CI’s petition to intervene, including Exhibit C, Richard J. Abitz (July 28, 2008) [hereinafter 2008 Abitz Opinion]; Exhibit D, Paul G. Ivancie and W. Austin Creswell of JR Engineering, Summary of Recommendations and Opinions on CBR (July 28, 2008); and Exhibit F, Shane Robinson, CBR Violations, Spills, and Leaks as of July 28, 2008 (July 28, 2008). See OST Proposed Contentions at 50-64; CI Proposed Contentions at 34-49. In addition, CI’s previously proposed Technical Contention D, “Failure to follow statistical analysis protocols,” repeats some of the claims brought under this contention. See CI Petition to Intervene at 30; LBP-08-24, 68 NRC at 737.

<sup>100</sup> See LBP-08-24, 68 NRC at 724-27.

<sup>101</sup> See *id.* at 739 (concerning “whether Crow Butte has simply cherry-picked its supporting data” instead of using the most recent research available).

<sup>102</sup> OST Proposed Contentions at 64; CI Proposed Contentions at 49 (CI make a minor change in the title of their contention, and state “Take a ‘Hard Look’ at Proposal” instead of “Take the ‘Hard Look’ at the Proposal” (emphasis added)).

<sup>103</sup> OST Proposed Contentions at 64-65; CI Proposed Contentions at 49.

2015 Dr. LaGarry opinion.<sup>104</sup> In his opinion, Dr. LaGarry states that groundwater quality may be impacted by flow from artesian conditions, flow in secondary porosity, and flow in the natural horizontal seams of the aquifer confining layers, and that together these can lead to the escape of extraction fluids from the Crow Butte site, in violation of the NRC's regulations.<sup>105</sup> Intervenors also argue that EA § 3.4.2, "Regional Structure," fails to address how the concerns raised in the 2015 opinion of Dr. LaGarry "might impact the containment of the mining operation."<sup>106</sup> They add that the NRC Staff's conclusion in EA § 3.5.2.3.2, that there is only a "minor amount of leakage" from the mine's operational areas, ignores the material concerns raised by Dr. LaGarry.<sup>107</sup>

Intervenors next claim that the NRC Staff did not take a hard look before concluding that the White River geologic feature is a "fold," and not a "fault."<sup>108</sup> Citing again to Dr. LaGarry for support, Intervenors claim that "Dr. LaGarry would argue that since wetlands form along water-bearing faults . . . the English Creek and Squaw Creek wetlands could evidence a proper interpretation of the White River Fault as a 'Fault' and not a 'Fold.'"<sup>109</sup> Intervenors also assert that the EA's computer modeling of the White River geology fails NEPA's hard look analysis because the NRC Staff's analysis is not based on hydrogeologic parameters derived from the licensed area but rather is based on the North Trend Expansion Area conditions.<sup>110</sup>

Crow Butte and the NRC Staff argue that the contention is untimely because it references data available in 2008, and that even Dr. LaGarry's 2015 opinion merely references his 2008 opinion.<sup>111</sup> Crow Butte also asserts that Intervenors' arguments about connectivity are generally untimely because "the potential for groundwater from the mined aquifer to make its way to Squaw Creek, English Creek, and other surface waters was specifically addressed in the LRA."<sup>112</sup>

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<sup>104</sup> See OST Proposed Contentions at 66-70; CI Proposed Contentions at 51-56.

<sup>105</sup> See 2015 LaGarry Opinion at 2-6.

<sup>106</sup> See OST Proposed Contentions at 66, 71-74; CI Proposed Contentions at 51, 56-59.

<sup>107</sup> See OST Proposed Contentions at 71-76; CI Proposed Contentions at 56-61. Intervenors also argue that EA § 4.6.1.2 inadequately discusses the potential of surface water contamination due to spills or leaks, affecting in particular Squaw Creek and English Creek. OST Proposed Contentions at 79-80; CI Proposed Contentions at 65-66. Intervenors argue that the EA fails to consider "Uranium and radioactive daughters such as Lead-210" in the creek area, as well as the possibility of more complex interactions between the creeks and the mining area. OST Proposed Contentions at 79-80; CI Proposed Contentions at 65-66.

<sup>108</sup> OST Proposed Contentions at 77; CI Proposed Contentions at 62-63. A fault is a fracture in the earth's crust whereas a fold is a bend in the strata.

<sup>109</sup> OST Proposed Contentions at 77; CI Proposed Contentions at 63.

<sup>110</sup> See OST Proposed Contentions at 78; CI Proposed Contentions at 63-64.

<sup>111</sup> Crow Butte Answer at 21; NRC Staff Answer at 32.

<sup>112</sup> Crow Butte Answer at 24 (citing LRA § 7.4.2.2).

Concerning the argument that the White River ‘fold’ is instead a ‘fault,’ Crow Butte responds that this argument is untimely as it repeats materials from the Safety Evaluation Report (SER).<sup>113</sup> CI reply that the NRC Staff’s modeling of the White River structural feature in EA § 3.5.2.3.3 is not in the LRA.<sup>114</sup>

As to admissibility, Crow Butte argues that “[t]he 2015 LaGarry opinion does not address or dispute the adequacy of the data provided by Crow Butte or the NRC Staff’s evaluation in the SER or EA.”<sup>115</sup> The NRC Staff adds that although Intervenor’s argue that the White River modeling is flawed because it uses data from the North Trend Expansion area, “the White River Fault is [instead] located along the southeast boundary of the North Trend area,” and does not extend into the licensed site, precluding the use of data from this location.<sup>116</sup> Finally, Crow Butte and the NRC Staff both argue that this contention lacks sufficient support to validate Intervenor’s concerns regarding porosity and confinement of the uranium-bearing aquifers.<sup>117</sup>

## **2. Board Ruling**

EA Contention 5 duplicates issues covered under already-admitted Contentions C and D. Contention C states:

In 7.4.2.2 in its application for renewal, [Crow Butte’s] characterization that the impact of surface waters from an accident is “minimal since there are no nearby surface water features,” does not accurately address the potential for environmental harm to the White River.<sup>118</sup>

Contention D states:

In 7.4.3 [Crow Butte’s] Application incorrectly states there is no communication among the aquifers, when in fact, the Basal Chadron aquifer, where mining occurs, and the aquifer, which provides drinking water to the Pine Ridge Indian Reservation, communicate with each other, resulting in the possibility of contamination of the potable water.<sup>119</sup>

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<sup>113</sup> *Id.* at 23 (citing Safety Evaluation Report, License Renewal of the Crow Butte Resources ISR Facility Dawes County, Nebraska Materials License No. SUA-1534 (Dec. 2012) § 2.4.3.3 (ADAMS Accession No. ML103470470) [hereinafter 2012 SER]).

<sup>114</sup> CI Reply at 11 (asserting that the NRC Staff’s analysis in EA § 3.5.2.3.3 “is comprised of NRC Staff actions, reports, analyses and activities that are not described in the LRA”).

<sup>115</sup> Crow Butte Answer at 23.

<sup>116</sup> NRC Staff Answer at 36.

<sup>117</sup> Crow Butte Answer at 22; NRC Staff Answer at 35.

<sup>118</sup> LBP-08-24, 68 NRC at 724.

<sup>119</sup> *Id.* at 725.

These contentions broadly cover hydrogeological connectivity between the Crow Butte mining areas and nearby features, in particular the White River.<sup>120</sup> Therefore, while Intervenor's supporting material for this contention is potentially relevant to migrated Contentions C and D, the Board will not admit EA Contention 5 to the extent it is repetitive of these other contentions.

Insofar, however, as it challenges the modeling of the White River discussed in section 3.5.2.3.3 of the EA, EA Contention 5 does raise a new issue.<sup>121</sup> That section acknowledges that Crow Butte expressed some uncertainty as to whether the White River feature is a "fault" or a "fold."<sup>122</sup> The EA, after discussing modeling undertaken to answer this question, concludes that the White River feature is a "fold," not a "fault."<sup>123</sup>

Although the NRC Staff asserts that the White River feature<sup>124</sup> is only in the North Trend area, and thus cannot be modeled using data from the license renewal area,<sup>125</sup> Intervenor's nonetheless raise a factual question both as to the model's accuracy, and as to the accuracy of the NRC Staff's analysis that the White River feature is a "fold" versus a "fault."<sup>126</sup>

Intervenor's have already demonstrated the plausibility of their concerns about hydrogeological connectivity, as expressed in admitted Contentions C and D.<sup>127</sup> The NRC Staff cannot simply nullify the plausibility of Intervenor's arguments by reaching a contrary conclusion in the EA. "NEPA requires a 'hard look' at

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<sup>120</sup> *Id.* ("[W]e find the Tribe has supplied sufficient expert opinion to draw into question whether these aquifers are interconnected and so could be the potential pathway for contaminant migration to surface waters."); *id.* at 727 ("Dr. LaGarry notes a fault along the White River that, based on the regional geology, could act as a pathway to transport contaminants to the White River from the current ISL mining location.").

<sup>121</sup> OST Proposed Contentions at 78; CI Proposed Contentions at 63-64.

<sup>122</sup> See EA § 3.5.2.3.3 ("In the ER, the applicant expressed uncertainty as to whether this feature is expressed as a fault through the Brule and Basal Chadron formations or a fold (CBR, 2007A). If the feature is present as a conductive fault, it could provide a pathway for fluids to flow between the two formations.").

<sup>123</sup> *Id.*

<sup>124</sup> "Feature" is a generic term that refers to any type of geologic or structural formation or topography, such as a canyons, caves, faults, folds, or basins. See EA §§ 3.4.2 (discussing various "features" in western Nebraska), 3.5.2.3.3 (discussing modelling of the "White River structural feature"); *National Park Geologic Resources*, Nat'l Park Serv., <http://www.nature.nps.gov/geology/> (last updated Jan. 28, 2014).

<sup>125</sup> NRC Staff Answer at 36.

<sup>126</sup> Intervenor's claim that "Dr. LaGarry would argue that since wetlands form along water-bearing faults . . . the English Creek and Squaw Creek wetlands could evidence a proper interpretation of the White River Fault as a 'Fault' and not a 'Fold.'" OST Proposed Contentions at 77; CI Proposed Contentions at 63.

<sup>127</sup> See generally LBP-08-24, 76 NRC at 725.

the environmental effects of the planned action,” not a circular restatement of the NRC Staff’s own conclusions.<sup>128</sup>

Regarding the timeliness of this contention, it is true that the SER discusses the NRC Staff’s “modeling exercise to assess conclusions drawn by the applicant that the White River Fault may not be expressed as a fault within the Basal Chadron and Brule formations.”<sup>129</sup> As discussed above, however, the Commission explained in CLI-09-9 that Intervenor were to wait until the publication of the EA before proffering any NEPA-related new contentions, as long as the new contentions were based on data or conclusions not available at the time of the LRA.<sup>130</sup> The Board’s scheduling order reaffirms the Commission’s directive.<sup>131</sup> Moreover, Intervenor had no obligation to proffer new or amended *environmental* contentions to challenge information in the SER, which concerns *safety* findings.<sup>132</sup> Instead, Intervenor were constrained to await the issuance of the EA, which came out shortly thereafter, as the triggering event for filing new or amended environmental contentions.<sup>133</sup>

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<sup>128</sup> *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 341 (2012).

<sup>129</sup> Safety Evaluation Report (Revised), License Renewal of the Crow Butte Resources ISR Facility Dawes County, Nebraska Materials License No. SUA-1534 (Aug. 2014) § 2.4.3.3 (ADAMS Accession No. ML1419A433) [hereinafter SER Revised]; *see also* 2012 SER § 2.4.3.3. Although Crow Butte, using drilling data, proposed that the White River feature “may instead be interpreted” as a fold in its LRA, LRA § 2.6.2.5, it did not model the feature. The NRC Staff was the first to perform a probabilistic analysis and model the White River feature. *See* SER Revised § 2.3.3.2.

<sup>130</sup> *See* CLI-09-9, 69 NRC at 351 n.104 (“[W]ith respect to issues arising under NEPA, the petitioner may file new contentions ‘if there are data or conclusions in the NRC draft or final environmental impact statement . . . that differ significantly from the data or conclusions in the applicant’s documents[.]’ In such a case, the ‘late-filing’ standards are no bar to the admission of properly supported contentions.” (quoting 10 C.F.R. § 2.309(f)(2) (2009))).

<sup>131</sup> *See* Licensing Board Order (Scheduling Filing of New/Amended Contentions and Requesting Proposed Evidentiary Hearing Dates) (Oct. 28, 2014) (unpublished) [hereinafter EA Contentions Scheduling Order] (“Following the public availability of the Final EA, new/amended contentions from the intervenors are due within 30 days of issuance of the Final NEPA document.”). This order was not challenged by Crow Butte or the NRC Staff.

<sup>132</sup> As stated in the Crow Butte SER, “sections addressing environmental aspects are not included in the SER as they are addressed in the EA.” SER Revised at ix. As the NRC Staff’s safety analysis and environmental analysis occur separately, intervenors are expected to raise safety challenges in response to the safety reports and environmental challenges in response to the environmental statements. *See Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1048-49 (1983); *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-09-4, 69 NRC 170, 228 (2009) (also noting that environmental contentions are expected in response to the applicant’s or NRC Staff’s environmental reviews, and that “contentions regarding their adequacy cannot be expected to be proffered at an earlier stage of the proceeding before the documents are available” (quoting *Catawba*, CLI-83-19, 17 NRC at 1049)), *aff’d*, CLI-09-20, 70 NRC 911 (2009).

<sup>133</sup> In addition, Intervenor remain free to discuss the NRC Staff’s modeling efforts at the evidentiary hearing insofar as it is relevant in deciding migrated Contentions C and D, which were originally admitted long before the NRC Staff introduced this model in its revised SER.



Contentions C and D, as admitted, encompass the newly admissible portion of EA Contention 5. These contentions are set forth in Appendix A to this Order.

## **G. EA Contention 6 — Water Quantity Impacts**

### ***1. Parties' Positions***

Intervenors title EA Contention 6 “The Final EA Fails to Adequately Analyze Ground Water Quantity Impacts.”<sup>134</sup> In the contention, Intervenors state:

The Final EA violates the National Environmental Policy Act in its failure to provide an analysis of the ground water quantity impacts of the project. Further, the Final EA presents conflicting information on ground water consumption such that the water consumption impacts of the project cannot be accurately evaluated. These failings violate 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.<sup>135</sup>

Intervenors argue that the EA’s estimate of water usage (9,000 gallons per minute or gpm)<sup>136</sup> ignores the significant consumption of water required for restoration and decommissioning of old mines.<sup>137</sup> Intervenors state that after 12 years, “Crow Butte is still restoring Mine Units 2-6 consuming vast quantities of groundwater in the process with no end in sight,” and that the flow rate for restoration was recently increased from 200 to 1,200 gpm.<sup>138</sup> Intervenors also disagree with the NRC Staff’s conclusions as to the rate of decrease of Basal Chadron aquifer water quantity,<sup>139</sup> as well as with the conclusion that this decrease results only in a MODERATE environmental impact.<sup>140</sup>

Crow Butte argues that EA Contention 6 is untimely because the EA’s discussion of groundwater consumption for mining reflects “no change from the original LRA.”<sup>141</sup> Crow Butte asserts the same defect with respect to Intervenors’ concerns with aquifer drawdown.<sup>142</sup> CI’s reply argues that EA § 4.6.2.2.1, concerning

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<sup>134</sup> OST Proposed Contentions at 83; CI Proposed Contentions at 69.

<sup>135</sup> OST Proposed Contentions at 83; CI Proposed Contentions at 69.

<sup>136</sup> EA § 4.6.2.2.1.

<sup>137</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70.

<sup>138</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70.

<sup>139</sup> Intervenors at times refer to the “piezometric surface of the Basal Chadron” when referring to the Chadron’s water quantity. *See* OST Proposed Contentions at 84; CI Proposed Contentions at 70. So does EA § 4.6.2.2.1. The term “piezometric surface” in this circumstance refers to the pressure level of groundwater in a confined aquifer. *Id.*

<sup>140</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70.

<sup>141</sup> Crow Butte Answer at 25.

<sup>142</sup> *Id.*

the “piezometric surface of the Basal Chadron,” is not in the LRA,<sup>143</sup> and that statements in the EA on current<sup>144</sup> and expected<sup>145</sup> water usage for groundwater restoration comprise new and material information.

Crow Butte and the NRC Staff both also argue that the current contention does not raise a genuine dispute, as the EA fully considered the impacts of groundwater drawdown for mining and restoration.<sup>146</sup> Crow Butte notes that the EA states that ““consumptive use of ground water from bleed during aquifer restoration is generally greater than during ISR operations.””<sup>147</sup> The NRC Staff also defends its finding of MODERATE short-term and SMALL long-term impacts from mine restoration, asserting that, over the entire restoration period, the aquifers will remain saturated, and afterwards will recover quickly.<sup>148</sup> CI’s reply maintains that a genuine impact exists because, although the NRC Staff claims these restoration concerns are of no more than MODERATE importance, CI maintains they are far more significant.<sup>149</sup>

## **2. Board Ruling**

EA Contention 6 is admissible in part. Intervenors are incorrect in stating that the EA omits discussion of the consumptive impacts of mine restoration on groundwater quantity. The EA clearly states that, although “[t]he current Crow Butte ISR facility is capable of processing in excess of 9,000 gpm of leach solution,”<sup>150</sup> this is “excluding restoration flow.”<sup>151</sup> The EA discusses water use for restoration extensively under section 4.6.2.2, “Operation Impacts on Groundwater.” Indeed, Intervenors cite to this section of the EA in their pleadings.<sup>152</sup>

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<sup>143</sup> CI Reply at 12-13.

<sup>144</sup> *Id.* at 12 (““To accelerate ground water restoration, CBR has increased the flow capacity through the RO circuit from 200 to 1,150 gpm [757 to 4352 lpm], and the flow through the IX [ion exchange] circuit has been increased from 200 to 1,200 gpm [757 to 4542 lpm] (CBR, 2012).”” (emphasis omitted) (first and third brackets in original) (quoting EA § 4.6.2.3)).

<sup>145</sup> *Id.* at 13 (““Given the historical flow rates, it is anticipated that CBR may need to extract more than eleven restoration pore volumes for all mine units; thus, the restoration schedule may extend beyond that proposed by CBR.”” (emphasis omitted) (quoting EA § 4.6.2.2.1)).

<sup>146</sup> Crow Butte Answer at 26 (citing EA § 4.6.2.3); NRC Staff Answer at 39 (citing EA §§ 4.6.2.2.1, 4.6.2.3, 4.13.6.2.1, 4.13.6.2.2, and 4.13.6.2.3).

<sup>147</sup> Crow Butte Answer at 26 (citing EA § 4.6.2.3).

<sup>148</sup> NRC Staff Answer at 40 (““[R]ecover rates of confined aquifers, such as the Basal Chadron aquifer, are generally far more rapid than those observed in water table aquifers.”” (quoting EA § 4.13.6.2.3)).

<sup>149</sup> *See* CI Reply at 12-13.

<sup>150</sup> EA § 2.1.

<sup>151</sup> *Id.* § 2.1.1.

<sup>152</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70; CI Reply at 12-13.

Thus, this portion of the contention does not contain a material dispute with the EA. Moreover, the LRA discusses Crow Butte's water usage projections, also rendering this portion of Intervenor's contention untimely.<sup>153</sup>

Nonetheless, Intervenor's claim that the short-term impact of mine restoration is greater than MODERATE is admissible.<sup>154</sup> Intervenor support their position with reference to section 4.6.2.2.1 of the EA, which indicates that restoration of mines in the license renewal area is consuming more water than previously thought necessary.<sup>155</sup> Intervenor also plead alleged facts that, even though restoration of mine unit 1 is complete, unit 1 was the smallest mine on the site, and restoration of the larger mine units 2 through 6 is "consuming vast quantities of groundwater," and specifically, more than had been projected in the EA.<sup>156</sup> This is sufficient to proffer an admissible contention.<sup>157</sup>

This basis of the contention is timely because it challenges the NRC Staff's interpretation of facts that were not included in the LRA. The latter only vaguely touched on restoration and did not address the increasing amount of water that has recently been demonstrated is necessary for restoration of the mines.<sup>158</sup> Moreover, the conclusion that these newly discussed impacts are MODERATE is unique to the EA. The issuance of the NRC Staff's NEPA document represents the "first opportunity to raise contentions on the adequacy" of the NRC Staff's assessments and conclusions.<sup>159</sup>

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<sup>153</sup> See LRA § 3.1.3 ("Injection of solutions for mining will be at a rate of 9,000 gpm with a 0.5 percent to 1.0 percent production bleed stream."); *id.* § 7.12.3.1, tbl. 7.12-6 (indicating that groundwater consumption for restoration will consume 1,000 gpm).

<sup>154</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70.

<sup>155</sup> EA § 4.6.2.3 ("Given the historical flow rates, it is anticipated that CBR may need to extract more than eleven restoration pore volumes for all mine units; thus, the restoration schedule may extend beyond that proposed by CBR.").

<sup>156</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70. This allegation disputes the EA. See EA § 2.1.1 (indicating that restoration of mine units 2 through 5 will proceed similarly as restoration of mine unit 1). This Board views Intervenor's allegations in a light favorable to Intervenor. See *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991).

<sup>157</sup> "At the contention filing stage the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion." *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 442 n.81 (2011) (quoting Rules of Practice for Domestic Licensing Proceedings — Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,171 (Aug. 11, 1989)).

<sup>158</sup> Compare LRA tbl. 7.12-6 (indicating that groundwater consumption for restoration would only consume 1,000 gpm) with EA § 4.6.2.3 ("The extension of the restoration periods, as well as the greater than expected consumptive use rates, could significantly increase the drawdown in the potentiometric surface of the Basal Chadron aquifer, but it should still remain saturated.").

<sup>159</sup> See *Diablo Canyon ISFSI*, CLI-08-1, 67 NRC at 6.

EA Contention 6, as narrowed by the Board, is set forth in Appendix A to this Order.

## **H. EA Contention 7 — Information Is Not Presented in a Clear Concise Manner**

### ***1. Intervenor’s Position***

Intervenors title EA Contention 7, “The Final EA Fails to Demonstrate Adequate technical sufficiency and fails to present information in a ‘clear, concise’ manner to enable effective public review and omits material information and analysis.”<sup>160</sup> In the contention Intervenors state:

The Final EA fails to present relevant information in a clear and concise manner that is readily accessible to the public and other reviewers, as required by 10 C.F.R. §§ 51.70(b), 51.120, Part 51 Appendix A to Subpart A, the Administrative Procedure Act, the National Environmental Policy Act and implementing regulations. [This is a contention of omission.]<sup>161</sup>

According to Intervenors, the NRC failed to present information clearly or to make key reference documents available “for a large number of assumptions made in the Final EA.”<sup>162</sup> Intervenors cite recommendations from the 2008 Dr. Abitz Opinion<sup>163</sup> for support.<sup>164</sup> Intervenors also identified several apparent typos and alleged the EA lacked specificity.<sup>165</sup>

### ***2. Board Ruling***

EA Contention 7 is inadmissible. Intervenors have not demonstrated that an alleged generalized lack of clarity and typos in the EA rise to the requisite level of materiality regarding relicensing Crow Butte’s facility.<sup>166</sup>

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<sup>160</sup> OST Proposed Contentions at 86; CI Proposed Contentions at 73.

<sup>161</sup> OST Proposed Contentions at 87; CI Proposed Contentions at 73.

<sup>162</sup> OST Proposed Contentions at 87; CI Proposed Contentions at 73-74.

<sup>163</sup> Dr. Richard Abitz, Principal Geochemist/Owner of Geochemical Consulting Services, LLC, offered an opinion supporting CI in 2008. *See* CI Proposed Contentions Ex. C, Abitz Opinion.

<sup>164</sup> OST Proposed Contentions at 89-92; CI Proposed Contentions at 76-79.

<sup>165</sup> OST Proposed Contentions at 88-91; CI Proposed Contentions at 74-77. Most of Intervenors’ allegations, such as missing seismic information, are also alleged throughout other contentions addressed in this Order.

<sup>166</sup> *See* 10 C.F.R. § 2.309(f)(1)(iv). The Board, however, expects the NRC Staff to issue as error-free a document as possible, and to correct any errors brought to its attention.

## **I. EA Contention 8 — Air Quality Impacts**

### **1. *Intervenors' Position***

Intervenors title EA Contention 8 “Failure to Adequately Describe Air Quality Impacts.”<sup>167</sup> In this contention Intervenors state:

The Final EA fails to provide sufficient information regarding the air quality impacts to meet the requirements of 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations. As a result, the Final EA similarly fails to provide sufficient information to establish potential effects of the project on the adjacent surface and ground-water resources, as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.<sup>168</sup>

Relying in particular on the 2008 Dr. Abitz opinion, Intervenors argue that the EA omits discussion of two potential sources of radiation exposure or air pollution: emissions of radioactive substances other than radon-222 gas,<sup>169</sup> and mist from the evaporation ponds.<sup>170</sup> Intervenors also argue that in lieu of onsite testing, the EA improperly relies on estimates from Rapid City, South Dakota, of concentrations of particulate matter smaller than 10 microns (P10 concentrations).<sup>171</sup>

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<sup>167</sup> OST Proposed Contentions at 92; CI Proposed Contentions at 79.

<sup>168</sup> OST Proposed Contentions at 92; CI Proposed Contentions at 79. OST states that this is a contention of omission, but CI does not. OST Proposed Contentions at 92; CI Proposed Contentions at 79-80. Under questioning by the Board during oral argument, Intervenors conceded that the second sentence of this contention: “As a result, the Final EA similarly fails to provide sufficient information to establish potential effects of the project on the adjacent surface and ground-water resources, as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations,” has nothing to do with their air quality claims. It apparently was the result of cutting and pasting from another place in the petition. Tr. at 782-84.

<sup>169</sup> OST Proposed Contentions at 93-94; CI Proposed Contentions at 80-81; *see also* EA § 4.12.2. Intervenors also quote from Dr. Abitz’s 2008 opinion, which alleges the software used to model radon dose is inadequately explained in the LRA. *See* OST Proposed Contentions at 95; CI Proposed Contentions at 82.

<sup>170</sup> OST Proposed Contentions at 95 (citing 2008 Dr. Abitz Opinion at 13); CI Proposed Contentions at 82 (citing 2008 Dr. Abitz Opinion at 13).

<sup>171</sup> OST Proposed Contentions at 94 (citing EA § 3.3.5); CI Proposed Contentions at 81 (same). “P10,” or PM-10, refers to “particles with a diameter of 10 micrometers or less (0.0004 inches or one-seventh the width of a human hair). . . . Major concerns for human health from exposure to PM-10 include: effects on breathing and respiratory systems, damage to lung tissue, cancer, and premature death.” *AIR Trends 1995 Summary, Particulate Matter (PM-10)*, Environmental Protection Agency, <http://www.epa.gov/airtrends/aqtrnd95/pm10.html> (last updated Jan. 5, 2012).

## **2. Board Ruling**

EA Contention 8 is untimely. The thrust of Intervenor's contention is that the EA either omits or inadequately discusses the impacts of (i) airborne radioactive emissions other than radon, (ii) mist from evaporation ponds, and (iii) P10 concentrations. CI has failed to demonstrate that these issues were not previously discussed in the LRA.<sup>172</sup>

Regarding airborne radioactive materials, section 1.8.1 of the LRA states "[t]he only radioactive airborne effluent at the Crow Butte Project is radon-222 gas."<sup>173</sup> Regarding mist from evaporation ponds, section 7.6 of the LRA discusses air quality impacts, but leaves out mist from evaporation ponds as a potential air release. The 2008 Abitz Opinion thus raises this alleged omission: "Particulate from contaminated soil and mist from the evaporation ponds are also air exposure concerns. Why is there no discussion of these sources?"<sup>174</sup> Regarding P10 concentrations, section 7.6 of the LRA states: "Although there are no ambient air quality monitoring data for these non-radiological pollutants in the License Area, PM10 concentrations have been measured in Rapid City, South Dakota and Badlands National Park in South Dakota. Both locations are geographically similar to the License Area."<sup>175</sup>

Intervenors do not explain how the EA introduces new or materially different information from the LRA. Indeed, Intervenor's state that their asserted defects with the EA were "carried forward" from the LRA.<sup>176</sup> Moreover, the support for all of Intervenor's claims comes from the 2008 Abitz Opinion, which references the LRA, not the EA.<sup>177</sup> Because it is not based on new information, EA Contention 8 is inadmissible as untimely.

## **J. EA Contention 9 — Mitigation Measures**

### **1. Parties' Positions**

Intervenors title EA Contention 9 "Failure to Adequately Describe or Analyze Proposed Mitigation Measures."<sup>178</sup> In this contention Intervenor's allege that:

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<sup>172</sup> CI Reply at 13.

<sup>173</sup> The EA similarly states that "[t]he routine radioactive emission will therefore, be radon-222 (radon) gas." EA § 7.12.2.

<sup>174</sup> 2008 Abitz Opinion at 13. EA § 4.4 repeats the LRA's air quality discussion and does not add any new or material information.

<sup>175</sup> This is repeated in EA § 7.6.

<sup>176</sup> OST Proposed Contentions at 94; CI Proposed Contentions at 80.

<sup>177</sup> OST Proposed Contentions at 93-95; CI Proposed Contentions at 80-82. As Intervenor's claims are untimely, the Board does not reach whether this contention meets the admissibility requirements of 10 C.F.R. § 2.309(f)(1).

<sup>178</sup> OST Proposed Contentions at 96; CI Proposed Contentions at 83.

The Final EA violates 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act and implementing regulations by failing to include the required discussion of mitigation measures. This contention is one of omission and thus requires no expert opinion in support.<sup>179</sup>

Noting that NEPA requires a “reasonably complete discussion of possible mitigation measures,” Intervenor’s argue that the EA fails to describe Crow Butte’s mitigation plans with sufficient detail, lacks supporting data and analysis, and contains unsupported judgments of their potential effectiveness.<sup>180</sup> According to Intervenor’s, proposed mitigation measures in the EA, including aquifer restoration impacts on groundwater, often consist only of vague plans to be developed later.<sup>181</sup>

Crow Butte first responds that this contention is not based on new information because many of Intervenor’s concerns with the EA were carried forward from the LRA.<sup>182</sup> Second, Crow Butte argues that Intervenor’s include no support for their claims, and merely “restate[] portions of the EA” with the assumption that consumptive use of groundwater tests were faulty.<sup>183</sup>

The NRC Staff answers that Intervenor’s claims are addressed in the EA, are baseless, or make the forbidden assumption that Crow Butte will not follow the procedures prescribed in the EA.<sup>184</sup> The NRC Staff also claims that specific sections of the EA address each of Intervenor’s concerns.<sup>185</sup> Regarding pollutant discharges, the NRC Staff insists that Crow Butte’s mitigation measures have been implemented “in accordance with its National Pollutant Discharge Elimination System (NPDES) permit and Nebraska Department of Environmental Quality (NDEQ) requirements.”<sup>186</sup>

CI’s reply argues that the NRC Staff’s reliance on Nebraska permits for NEPA purposes is improper.<sup>187</sup> The reply also argues that while the EA discusses “four

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<sup>179</sup> OST Proposed Contentions at 96; CI Proposed Contentions at 83.

<sup>180</sup> OST Proposed Contentions at 96-97; CI Proposed Contentions at 83-84 (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989)).

<sup>181</sup> Intervenor’s specifically allege that the NRC Staff has not justified its assumption that aquifer levels will eventually be restored naturally, and that runoff control procedures and monitoring and mitigation activities for groundwater have not been developed. OST Proposed Contentions at 97-98, 100-101; CI Proposed Contentions at 84-86, 88-90.

<sup>182</sup> Crow Butte Answer at 31-32.

<sup>183</sup> *Id.* at 32.

<sup>184</sup> NRC Staff Answer at 47-48.

<sup>185</sup> *Id.* at 49-54.

<sup>186</sup> *Id.* at 48.

<sup>187</sup> CI Reply at 15-16 (citing 42 U.S.C. § 4332(2)(D) and *South Fork Band Council v. U.S. Department of the Interior*, 588 F.3d 718, 726 (9th Cir. 2009) (“A non-NEPA document — let alone one prepared and adopted by a state government — cannot satisfy a federal agency’s obligations under NEPA.”)).

activities” for groundwater restoration, the EA fails to indicate that these activities have, in the past, “utterly and completely failed to restore the aquifer to baseline characteristics.”<sup>188</sup> Without this disclosure, CI argues that the aquifer restoration discussion is not “reasonably complete” and an adequate assessment of whether the mitigation can be effective is not possible.”<sup>189</sup>

## **2. Board Ruling**

EA Contention 9 is admissible in part, solely as it alleges the EA’s discussion of ground water restoration mitigation measures is inadequate. The Board notes “that NEPA does not *require* that Environmental Assessments include a discussion of mitigation strategies.”<sup>190</sup> But where, as here, the agency has found mitigation strategies necessary to alleviate a potential impact, the associated discussion should be “reasonably complete . . . [to] properly evaluate the severity of the adverse effects.”<sup>191</sup>

CI allege that the EA’s groundwater restoration mitigation plan ignores a previously completed restoration that resulted in “uranium contaminant levels 18 times greater than baseline.”<sup>192</sup> CI also note that a previous aquifer restoration required “36.47 pore volumes,” and quote Crow Butte as stating, “restoration efforts in Mine Unit 1 proceeded beyond the point where significant improvement was possible with continuing treatment.”<sup>193</sup> The Board’s review of mitigation measures discussed in aquifer and groundwater impacts EA §§ 4.6.2.2 and 4.6.2.3 revealed a cursory discussion, without substantive analysis, of mitigating the effect of increased pore volumes and groundwater restoration quality and quantity impacts.<sup>194</sup>

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<sup>188</sup> CI Reply at 14.

<sup>189</sup> *Id.* (quoting *Methow Valley Citizens Council*, 490 U.S. at 353). CI also cite the *Fermi 3* decision, for the proposition that “under NEPA, an EIS must discuss ‘any adverse environmental effects which cannot be avoided should the proposal be implemented.’ and must provide a reasonably complete discussion of possible mitigation measures.” *Id.* (quoting *Fermi 3*, LBP-12-23, 76 NRC at 486 n.259).

<sup>190</sup> *Akiak Native Community v. U.S. Postal Service*, 213 F.3d 1140, 1147 (9th Cir. 2000). Section 1502.16(h) of 40 C.F.R. only explicitly requires a mitigation discussion in Environmental Impact Statements.

<sup>191</sup> *Methow Valley Citizens Council*, 490 U.S. at 352.

<sup>192</sup> CI Reply at 15 (emphasis removed). CI also add that permits issued by Nebraska allow for uranium contaminant levels “54 times greater than baseline.” *Id.*

<sup>193</sup> *Id.* at 16-17.

<sup>194</sup> Where aquifer mitigation pore volumes were discussed, the NRC Staff anticipated restoration may need more than the eleven pore volumes proposed by Crow Butte. Assigning a short-term MODERATE impact, the NRC Staff then commented, without further discussion, that “water levels would eventually recover” and so settled on a SMALL impact. EA § 4.6.2.3.



An NPDES permit may form the basis of a mitigation strategy, but again, this strategy must actually be discussed. Another Board, in reviewing CEQ Guidance in the context of a Draft Environmental Impact Statement (DEIS), commented that while an agency may rely on mitigation imposed by another governmental entity, the agency preparing the NEPA document must still “explain the statutory or regulatory requirements it is relying on and its reasons for concluding that the application of those requirements will actually result in the mitigation and monitoring it assumes will occur.”<sup>195</sup>

Based on the allegations regarding mitigation of Crow Butte’s quality and quantity impacts on groundwater aquifer restoration, a material, genuine dispute exists with the NRC Staff’s EA. With respect to all other portions of this contention, Intervenor’s claims lack specificity and do not support admissible issues.

EA Contention 9, as amended, is reproduced in Appendix A to this Order.

## **K. EA Contention 10 — Cumulative Impacts**

### ***1. Parties’ Positions***

Intervenor’s title EA Contention 10 “The Final EA Fails to Adequately Analyze Cumulative Impacts.”<sup>196</sup> In this contention Intervenor’s state:

The Final EA fails to adequately analyze cumulative impacts associated with the proposal as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations. This contention is one of omission.<sup>197</sup>

Intervenor’s assert that the EA does not adequately analyze or quantify the cumulative impacts of proposed expansions in nearby uranium mining areas, such as the North Trend Expansion Area, the Marsland Expansion Area, and the Three Crows Expansion Area.<sup>198</sup> Intervenor’s maintain that the EA does not “include the cumulative impacts of these CBR Expansion Areas to all areas of the Final EA.”<sup>199</sup>

Crow Butte responds that “the EA specifically discusses the North Trend Expansion Area, the Marsland Expansion Area, and the Three Crows Expansion

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<sup>195</sup> *Fermi 3*, LBP-12-23, 76 NRC at 469.

<sup>196</sup> OST Proposed Contentions at 103; CI Proposed Contentions at 90.

<sup>197</sup> OST Proposed Contentions at 103; CI Proposed Contentions at 90.

<sup>198</sup> OST Proposed Contentions at 103-04; CI Proposed Contentions at 90-92.

<sup>199</sup> OST Proposed Contentions at 104; CI Proposed Contentions at 92. Although there is some discussion of cumulative impacts in the cultural resources section, Intervenor’s assert that cumulative impacts must be addressed throughout the EA and not merely in the cultural resources section. *Id.*

Area in the context of cumulative impacts,” and refers to impacts on multiple types of resources.<sup>200</sup> Crow Butte adds that Intervenor point to no specific overlooked impacts, and fail to raise a genuine dispute.<sup>201</sup> The NRC Staff raises the same arguments in its response.<sup>202</sup>

CI’s reply links the discussion of cumulative impacts with their restoration claims under EA Contention 9. CI allege that, regarding potential expansion site mines, “it is only reasonable to assume that the other mine units will suffer the same fate” in restoration to below baseline conditions as the license renewal area mines.<sup>203</sup>

## **2. Board Ruling**

EA Contention 10 is partially admissible. The EA extensively discusses cumulative impacts, and does, in fact, address Crow Butte’s potential expansion areas.<sup>204</sup> In most respects, Intervenor do not make clear the specific sections of the EA that they challenge. Because the mitigation of groundwater restoration impacts are addressed in Contention 9, no material genuine dispute exists with most sections of the NRC Staff’s EA.<sup>205</sup> Although the NRC Staff asserts that “the proposed CBR ISR expansion areas are all at least 50 miles from the Pine Ridge Indian Reservation,”<sup>206</sup> it is beyond dispute that a portion of the Pine Ridge Indian Reservation lies within 50 miles of *all* of the proposed CBR ISR expansion areas.<sup>207</sup> Additional analysis on the cumulative impacts with respect to environmental justice may be necessary, which the Board admits under merged Contention D and Contention 3.

## **L. EA Contention 11 — Reasonable Alternatives**

### **1. Intervenor’s Position**

Intervenor title EA Contention 11 “The Final EA Failed to Consider All Reasonable Alternatives.”<sup>208</sup> In this contention Intervenor allege that:

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<sup>200</sup> Crow Butte Answer at 33.

<sup>201</sup> *Id.*

<sup>202</sup> NRC Staff Answer at 55.

<sup>203</sup> CI Reply at 16.

<sup>204</sup> EA § 4.13. “Based on the above information, the staff has analyzed whether cumulative impacts could result from the incremental impact of the proposed action (license renewal) when added to the impacts from the proposed CBR ISR expansion areas.” *Id.*

<sup>205</sup> 10 C.F.R. § 2.309(f)(1).

<sup>206</sup> EA § 4.13.9.

<sup>207</sup> This can easily be confirmed merely by using the Google Maps measurement tool.

<sup>208</sup> OST Proposed Contentions at 105; CI Proposed Contentions at 92.

The Final EA fails to adequately analyze all reasonable alternatives as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations. This contention is one of omission.<sup>209</sup>

Intervenors generally assert that the EA failed to review a large enough range of alternatives to the proposed mining project.<sup>210</sup> Intervenors offer two alternatives that they claim should have been considered: first, “an alternative that precludes adoption of any Alternate Concentration Limits (ACL’s) for ground water restoration,” and second, an alternative that “require[s] CBR to complete the restoration of the groundwater and surface waters to limits that make it acceptable for domestic and agricultural uses.”<sup>211</sup>

## **2. Board Ruling**

EA Contention 11 is inadmissible. NRC regulations explicitly allow the use of ACLs.<sup>212</sup> To the extent Intervenors challenge the use of an ACL, this is an impermissible challenge to an NRC regulation.<sup>213</sup> To the extent this contention challenges how an ACL is selected, Intervenors provide no data or analysis disputing the rationale behind a specific ACL.<sup>214</sup>

## **M. EA Contention 12 — Air Emissions and Liquid Waste**

### **1. Parties’ Positions**

Intervenors title EA Contention 12 “Failure to Take a Hard Look at Impacts Such as Those Related to Selenium and Those Associated with Air Emissions and Liquid Waste.”<sup>215</sup> In this contention Intervenors state:

The Final EA violates 10 C.F.R. §§ 51.10, 51.70, 51.71, the National Environmental

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<sup>209</sup> OST Proposed Contentions at 105; CI Proposed Contentions at 92.

<sup>210</sup> OST Proposed Contentions at 105-06; CI Proposed Contentions at 92.

<sup>211</sup> OST Proposed Contentions at 106; CI Proposed Contentions at 93-94.

<sup>212</sup> “The concentration of a hazardous constituent must not exceed . . . (c) An alternate concentration limit established by the Commission.” 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)(c).

<sup>213</sup> “No rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding subject to this part.” 10 C.F.R. § 2.335(a).

<sup>214</sup> Intervenors suggest that all or any unreviewed alternatives could be explored, but provide no support for the exploration of any specific alternatives. OST Proposed Contentions at 106; CI Proposed Contentions at 93-94.

<sup>215</sup> CI Proposed Contentions at 94. The Tribe titles the contention slightly differently, omitting references to selenium, “Failure to Take a Hard Look at Impacts Associated with Air Emissions and Liquid Waste.” OST Proposed Contentions at 107.

Policy Act and implementing regulations, by failing to conduct the required “hard look” analysis at impacts of the proposed mine associated with air emissions and liquid waste disposal.<sup>216</sup>

The contention has two parts. First, Intervenor argue that “the Final EA lacks current and confirmed information on air emissions and their impacts on various ‘receptors’ in the region.”<sup>217</sup> In support, Intervenor assert that the EA fails to analyze “liquid 11e2<sup>[218]</sup> byproduct via evaporation” and “the foreseeable impact of major wind storm events, including tornadoes, on the facility.”<sup>219</sup> Second, relying on a U.S. Fish and Wildlife Service (FWS) letter and report, Intervenor argue that the EA fails to “properly account” for impacts to wildlife from the “land application of ISL wastes”<sup>220</sup> such as irrigation from a center pivot.<sup>221</sup> They add that FWS “has published detailed information on the risks of selenium contamination resulting from disposal of ISL wastes via land application,” which were ignored in the EA.<sup>222</sup>

Crow Butte claims the first portion of the contention is untimely, as the

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<sup>216</sup> CI Proposed Contentions at 94. The Tribe also adds that the contention is one of omission. OST Proposed Contentions at 107 (“This contention is one of omission and thus does not require expert support.”).

<sup>217</sup> OST Proposed Contentions at 108; CI Proposed Contentions at 95. According to Intervenor, “receptors” include people, plants, animals, water bodies, soil, and parks. OST Proposed Contentions at 108; CI Proposed Contentions at 95.

<sup>218</sup> Intervenor refer to “byproduct material” categorized under section 11e(2) of the Atomic Energy Act, i.e., “the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.” 42 U.S.C. § 2014(e)(2).

<sup>219</sup> OST Proposed Contentions at 108; CI Proposed Contentions at 96.

<sup>220</sup> “ISL wastes,” as referenced by Intervenor, refers to wastewater produced in the mining of uranium. *See* EA § 2.2.2; OST Proposed Contentions at 81, 108; CI Proposed Contentions at 67, 96. Although ISL mining also produces solid wastes, LRA § 7.13, Contention 12 specifically focuses on impacts from liquid wastes. OST Proposed Contentions at 107; CI Proposed Contentions at 94.

<sup>221</sup> OST Proposed Contentions at 108 (CI Proposed Contentions, Ex. N (Letter from Mike Stempel, Fish and Wildlife Service, U.S. Department of the Interior, to Patrice Bubar, Division of Intergovernmental Liaison and Rulemaking, U.S. NRC, at 1 (Sept. 5, 2007) [hereinafter FWS Letter]); CI Proposed Contentions at 96 (same).

<sup>222</sup> OST Proposed Contentions at 108 (citing CI Proposed Contentions, Ex. O, U.S. Fish & Wildlife Service, Selenium in a Wyoming Grassland Community Receiving Wastewater from an In Situ Uranium Mine, Pedro Ramirez, Jr., and Brad Rogers (Sept. 2000) [hereinafter FWS Report]); CI Proposed Contentions at 96 (same). At oral argument, Intervenor indicated that selenium is one of many “heavy metals or carcinogenic substances or toxic substances” that present concerns during ISL waste disposal. Tr. at 842-43. The Board also finds support for this argument provided within Intervenor’s discussion of other contentions. *See, e.g.*, OST Proposed Contentions at 79-83; CI Proposed Contentions at 65-68 (discussing selenium contamination and land application of ISL wastes in the context of EA Contention 5); CI Reply at 15; Tr. at 789-95 (discussing use of state permits in NEPA documents in the context of related contentions on mitigation and water quality).

LRA and the SER both discuss air quality and wind storm hazards, including tornadoes.<sup>223</sup> The NRC Staff maintains that the second portion of the contention is also untimely, arguing that the contention's support, i.e., the FWS letter and report, were published in 2007 and 2000 respectively.<sup>224</sup>

As to admissibility, Crow Butte argues that Intervenor's claims about ISL wastes do not dispute the EA, because the EA states that these concerns will be addressed as the company applies for additional permits from Nebraska.<sup>225</sup> The NRC Staff takes a different tack, and argues that the EA does not need to address selenium or land application of ISL wastewater. The NRC Staff states that "[s]ections 4.2.5.2 and 4.2.12.2 of the GEIS [Generic Environmental Impact Statement for In Situ Leach Uranium Milling Facilities<sup>226</sup>] discuss potential impacts of land application on ecological resources and conclude they will be small."<sup>227</sup> The NRC Staff also posits that because the mining site contains a state NPDES permit for land application of ISL wastes, enforced by Nebraska DEQ, "[i]t is appropriate for the Staff to give substantial weight to NDEQ's decision that issuing the [NPDES] permit would be environmentally acceptable."<sup>228</sup>

The NRC Staff emphasizes that Intervenor's bear the burden of showing support that the impacts of selenium are "significant" enough to warrant mention in the EA.<sup>229</sup> The NRC Staff challenges Intervenor's support, noting for example that the FWS report addresses selenium contamination in Wyoming, but "Intervenor's have not demonstrated that similar concentrations occur at the CBR facility."<sup>230</sup> CI responds that "no expert support is required for the admission of this contention."<sup>231</sup>

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<sup>223</sup> Crow Butte Answer at 35-36 (citing LRA § 2.5.5; SER Revised § 7.3.5). Crow Butte also argues that this portion of the contention does not raise a genuine dispute, as EA § 3.11.2 discusses air impacts from mine operation, which are minimal due to the use of a vacuum dryer system. Crow Butte Answer at 35.

<sup>224</sup> NRC Staff Answer at 59.

<sup>225</sup> Crow Butte Answer at 36.

<sup>226</sup> Office of Federal and State Materials and Environmental Management Programs, Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities, NUREG-1910 (May 2009) (ADAMS Accession Nos. ML091480244 and ML091480188) [hereinafter ISL Mining GEIS].

<sup>227</sup> NRC Staff Answer at 60. The NRC Staff adds that the ISL Mining GEIS also "cites requirements at NRC licensed ISR facilities to monitor and control irrigation areas to maintain levels of radioactive and other constituents, including selenium, within allowable release standards." *Id.*

<sup>228</sup> *Id.* at 61 (citing *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-77-8, 5 NRC 503, 527 (1977)).

<sup>229</sup> NRC Staff Answer at 60.

<sup>230</sup> *Id.* at 59-60.

<sup>231</sup> CI Reply at 17.

## 2. Board Ruling

EA Contention 12 is admissible in part. The first portion of the contention, asserting that the EA omits discussion of wind storms, tornadoes, and certain air emissions,<sup>232</sup> is admissible solely as it pertains to the discussion of tornadoes. The LRA discusses storms and precipitation,<sup>233</sup> tornadoes,<sup>234</sup> and management of air emissions,<sup>235</sup> and its discussions of storms, precipitation, and management of air emissions are transferred over to the EA.<sup>236</sup> However, the EA, without explanation, leaves out any discussion of tornadoes. While Intervenor has not pointed to any new or material information which allows for bringing storms, precipitation, or air emissions now,<sup>237</sup> the lack of discussion on tornadoes in the EA represents a new and material change that permits the filing of a new contention under 10 C.F.R. § 2.309(c)(1).<sup>238</sup> The omission of a discussion of tornadoes presents a genuine dispute of the EA on a material issue. In light of the fact that the agency has found wind events worthy of discussion in the EA (as they have a potential for adverse impacts),<sup>239</sup> we would expect that any associated discussion would only be “reasonably complete . . . [were it to] properly evaluate the severity of the adverse effects.”<sup>240</sup> Although the contention is not supported by alleged facts or expert opinion, contentions of omission do not require such support.<sup>241</sup>

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<sup>232</sup> OST Proposed Contentions at 107-08; CI Proposed Contentions at 95-96.

<sup>233</sup> LRA §§ 2.5.3 (discussing precipitation in the Crow Butte area), 2.7.1.4 (discussing flooding concerns).

<sup>234</sup> *Id.* § 2.5.3 (concluding that “[t]ornadoes are rare”).

<sup>235</sup> *See id.* §§ 3.1.5.1 (discussing air emissions), 7.6 (discussing air quality impacts), 7.12.2 (discussing use of a vacuum dryer system to capture particulate air emissions).

<sup>236</sup> *See* EA §§ 3.3.3 (discussing precipitation), 3.5.1.1 (discussing flooding), 3.11.2 (discussing the vacuum dryer system), 4.4 (discussing air quality impacts).

<sup>237</sup> In addition, as the EA addresses storms and precipitation, as well as management of air emissions, Intervenor’s contention does not raise a genuine dispute relative to the EA discussion of these topics.

<sup>238</sup> Although the SER discusses tornadoes, *see* SER Revised § 7.3.5, this does not allow for the issue to be ignored in the agency’s separate discussion of environmental consequences. As stated in the Crow Butte Revised SER, “sections addressing environmental aspects are not included in the SER as they are addressed in the EA.” SER at ix. “The EIS [or EA] must describe the potential environmental impact of a proposed action and discuss any reasonable alternatives.” *Claiborne*, CLI-98-3, 47 NRC at 87. In any event, as discussed above, Intervenor had no obligation to proffer new or amended environmental contentions after issuance of the SER, and instead could wait until the EA was published. *See* CLI-09-9, 69 NRC at 351 n.104.

<sup>239</sup> EA § 3.3.4 (discussing wind monitoring on the site), 4.3.2 (noting that “[s]oil erosion due to wind at the CBR facility has the potential for adverse impacts”), 4.4 (discussing air quality impacts from wind erosion).

<sup>240</sup> *Methow Valley Citizens Council*, 490 U.S. at 352.

<sup>241</sup> *Calvert Cliffs 3*, LBP-09-4, 69 NRC at 190 (“[T]he pleading requirements of 10 C.F.R. § 2.309(f)(1)(v), calling for a recitation of facts or expert opinion supporting the issue raised,

(Continued)

The second portion of the contention, which asserts that the EA omits or inadequately discusses the effects of land application of ISL wastes,<sup>242</sup> is also admissible. Intervenor has properly pled a contention of inadequacy and omission regarding the EA's discussion of land application of ISL wastewater and selenium contamination, supported by documents from FWS. At the outset, Intervenor correctly note that the EA's discussion of wastewater contaminants does not include any discussion of selenium contamination. Likewise, while the EA mentions land application of ISL wastewater,<sup>243</sup> it only mentions it is an option,<sup>244</sup> and does not discuss any environmental effects.

The EA gives two reasons for declining to engage in this discussion. Regarding disposal of pond wastewater, the EA states that land application "is not included in the current NPDES permit No. NE0130613 from the State of Nebraska."<sup>245</sup> It adds that Crow Butte "will be required to apply for additional permits from the State of Nebraska" if it intends to dispose of pond water or sludge on land.<sup>246</sup> A different section of the EA states that Crow Butte has a permit for land application of treated wastewater when performing mine restoration, but it has not used the option and has "not indicated they will" in the future.<sup>247</sup>

The Board is troubled with the EA's reliance on state permits as a justification for not discussing the environmental impacts of land application of ISL wastewater. Intervenor maintains that the decision of the United States Court of Appeals for the Ninth Circuit in *South Fork Band Council v. DOI* makes clear that reliance on a state permit, "let alone one prepared and adopted by a state

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are inapplicable to a contention of omission beyond identifying the regulatively required missing information.'" (quoting *Virginia Electric and Power Co. (North Anna Power Station, Unit 3)*, LBP-08-15, 68 NRC 294, 317 (2008)).

<sup>242</sup>The Tribe states that the contention, in its entirety, "is one of omission." OST Proposed Contentions at 107. However, CI does not take this position. CI Proposed Contentions at 95. This Board reads Intervenor's statements in a light favorable toward Intervenor, and reads this contention as asserting omission as to part of the claims and inadequacy as to the remainder of the claims. See *Palo Verde*, CLI-91-12, 34 NRC at 155. In the discussion of the contention, CI indicates that the first portion of the contention, relating to air emissions and wind storms, is an allegation of omission because the EA "lacks" discussion of these topics. CI Proposed Contentions at 95-96. However, the portion of the contention concerning ISL waste appears to be pled as one of inadequacy. See CI Proposed Contentions at 96 (arguing that the EA fails to "properly account" for impacts from land application of ISL wastes). The NRC Staff itself prefers to rely on CI's statement of the contention as the authoritative version. NRC Staff Answer at 8-9.

<sup>243</sup>EA § 2.4.

<sup>244</sup>*Id.* § 4.6.1.3.

<sup>245</sup>*Id.* § 2.4.1.

<sup>246</sup>*Id.* §§ 2.4.1, 2.4.2, 2.4.3.

<sup>247</sup>*Id.* § 4.6.1.3.

government — cannot satisfy a federal agency’s obligations under NEPA.”<sup>248</sup> That this case involved an EIS, rather than an EA, is of no consequence.<sup>249</sup> The NRC’s regulations instruct the NRC Staff to discuss the impact of a proposed action regardless of whether there is a state permit regulating those impacts: “[c]ompliance with the environmental quality standards and requirements of the Federal Water Pollution Control Act (imposed by EPA or designated permitting states) is not a substitute for, and does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality . . . .”<sup>250</sup>

Although its counsel states that the NRC Staff is “not relying on that permit as a basis for their Environmental Assessment,”<sup>251</sup> it is difficult to square this claim with the actual language of the EA. The environmental conclusions drawn in the EA clearly rely on the fact that Crow Butte not only will not use its existing state-issued permits, but also does not have the necessary state permits to authorize land application of ISL wastewater. The NRC Staff argues that the EA properly could assume that Crow Butte will comply with whatever permits the State of Nebraska will issue,<sup>252</sup> and that deference can be given to a state permit’s findings as to the acceptability of environmental impacts.<sup>253</sup> But this is beside the point because the argument Intervenor’s advance is that the NRC Staff is not undertaking an adequate discussion of ISL wastes in the EA, including

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<sup>248</sup> Tr. at 790-92 (discussing *S. Fork Band Council v. DOI*, 588 F.3d 718, 726 (9th Cir. 2009)). It is a general rule that the agency conducting a NEPA review “shall independently evaluate the information submitted and shall be responsible for its accuracy.” 40 C.F.R. § 1506.5. While NEPA encourages state participation when appropriate and authorized, *see id.* § 1506.2(a), coordination between a federal agency and a state requires active involvement between the two in order for the federal agency to meet its independent review burden. *See* 42 U.S.C. § 4332(D)(ii); 40 C.F.R. § 1506.2(b) (encouraging joint planning when the federal agency plans to rely on a state environmental document).

<sup>249</sup> “[I]t is only in the depth of the consideration and in the level of detail provided in the corresponding environmental documents that an EA and an EIS will differ.” *Pa’ina Hawaii, LLC*, CLI-10-18, 72 NRC 56, 75 (2010) (considering the reasonable alternatives analysis in an EA).

<sup>250</sup> *See* 10 C.F.R. § 51.71(d) n.3.

<sup>251</sup> Tr. at 794.

<sup>252</sup> NRC Staff Answer at 53 (citing *Strata Energy, Inc.* (Ross In Situ Recovery Uranium Project), LBP-15-3, 81 NRC 65, 132 (2015) (“[T]here is nothing in the record to suggest that [the applicant] (or the Staff) will not act in good faith to ensure that [the applicant’s] regulatory responsibilities, including its license conditions, are honored, and the Board cannot assume noncompliance.”) (citing *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 207 (2000)).

<sup>253</sup> NRC Staff Answer at 61 (citing *Seabrook*, CLI-77-8, 5 NRC at 527 (“The fact that a competent and responsible state authority has approved the environmental acceptability of a site or a project after extensive and thorough environmentally sensitive hearings is properly entitled to ‘substantial weight’ in the conduct of our own NEPA analysis.”) (citing *Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), LBP-75-70, 2 NRC 879, 890 (1975), *aff’d*, ALAB-325, 3 NRC 404 (1976); *petition for rev. dismissed sub nom., Culpeper League for Protection v. NRC*, 574 F.2d 633 (D.C. Cir. 1978)).



whether the impacts of land application of wastes are acceptable.<sup>254</sup> To the extent the NRC Staff intends to rely on state permits or other non-NEPA documents for its discussion of the environmental impacts of disposal of ISL wastewater and selenium constituents, there is at least a genuine dispute as to whether this approach will satisfy NEPA's "hard look" requirement, especially considering that Crow Butte has not affirmatively stated that land application of ISL wastewater is off the table.<sup>255</sup>

The NRC Staff also insists that the discussion of land application of ISL wastewater is not necessary in the EA because the ISL Mining GEIS discusses the topic.<sup>256</sup> At the outset, it is unclear how the NRC Staff can turn to the GEIS when the EA never cited that document in discussing selenium contamination or land application of ISL wastewater. Although the EA makes selective references to other portions of the ISL Mining GEIS, it appears to leave out reference to the GEIS for the sections at issue.<sup>257</sup> If the NRC Staff intended to rely on analysis in the ISL Mining GEIS, the NRC Staff should have cited the GEIS.<sup>258</sup>

To be sure, the ISL mining GEIS does discuss impacts of selenium on wildlife, stating that "[p]otential impacts to migratory birds and other wildlife from exposure to selenium concentrations and radioactive materials in the evaporation ponds may occur."<sup>259</sup> Moreover, it concludes that "[m]itigative measures including perimeter fencing and surface netting would limit potential impacts to

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<sup>254</sup> OST Proposed Contentions at 108; CI Proposed Contentions at 96; Tr. at 794-95. This portion of Contention 12 can also be viewed as a contention of omission, arguing that the EA simply does not discuss selenium contamination and land application of ISL wastewater.

<sup>255</sup> EA § 2.4 (indicating that Crow Butte can commence land application of ISL wastewater after receiving the appropriate Nebraska permits); *id.* § 4.6.1.3 (stating that Crow Butte "has not indicated" it will resort to land application of ISL wastewater in the future, but is not ruling out the option); *see also* LRA § 7.13 (indicating that disposal of ISL wastewater by land application is "currently being employed").

<sup>256</sup> NRC Staff Answer at 60.

<sup>257</sup> In fact, it appears that the EA has incorporated the ISL Mining GEIS only in its discussion of cultural resources in section 3.9.3, worker exposure to hazardous chemicals in section 4.12.1, and cumulative impacts in section 4.13.

<sup>258</sup> *Dewey-Burdock*, LBP-13-9, 78 NRC at 67 (noting "it is not clear NRC Staff relied upon this section of the GEIS when preparing the DSEIS, as it was not incorporated by reference or mentioned in any other manner"); *id.* at 67-68 n.181 (discussing the principle of *expressio unis est exclusio alterius*); *see also* Council on Environmental Quality and the California Governor's Office of Planning and Research, *NEPA Handbook, NEPA and CEQA: Integrating Federal and State Environmental Reviews* 17 (Feb. 2014), available at <http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/handbooks> ("Agencies can, consistent with NEPA . . . Regulations, incorporate by reference analyses and information from existing documents into an EA or EIS provided the material has been appropriately cited and described . . .").

<sup>259</sup> ISL Mining GEIS § 4.2.5.2.

wildlife from evaporation ponds to SMALL.”<sup>260</sup> The GEIS also discusses the land application of ISL wastewater, stating that this “could potentially impact soils by allowing accumulation of residual radiological or chemical constituents in the irrigated soils that were not removed from the water during treatment.”<sup>261</sup> The GEIS again concludes that these impacts are nonetheless SMALL: “Because of the NRC review of site-specific conditions prior to approval, the routine monitoring program, and the inclusion of irrigated areas in decommissioning surveys, the impacts from land application of treated wastewater would be SMALL.”<sup>262</sup>

The presence of a brief discussion of land application of ISL wastewater and selenium in the GEIS does not, however, prevent a challenge that this discussion is inadequate. “In contrast to the GEIS associated with power reactor license renewals that has been incorporated into the agency’s regulations, the GEIS for ISL mining is subject to an appropriate challenge in an adjudicatory proceeding.”<sup>263</sup> To the extent the NRC Staff has incorporated the GEIS into the EA on this topic, Intervenor challenge the adequacy of the overall discussion as it is applicable to this particular facility.<sup>264</sup>

Intervenor provide sufficient support for their contention through reference to the FWS letters and reports on the hazards of ISL mining waste disposal.<sup>265</sup> In contrast to the GEIS’s conclusion that “[p]ast experience at NRC-licensed ISL facilities has not identified impacts to wildlife from evaporation ponds,”<sup>266</sup> the FWS letter to the NRC notes that “[i]n 1998, the Service conducted a study of a grassland irrigated with wastewater from an in-situ uranium mine and found that selenium was mobilized into the food chain and bioaccumulated by grasshoppers and songbirds.”<sup>267</sup> While the GEIS finds that basic mitigation measures “including perimeter fencing and surface netting” will limit impacts to wildlife,<sup>268</sup> the FWS letter instructs that more need be done.<sup>269</sup> The FWS report on ISL mining in the nearby state of Wyoming also raises material concerns that do not appear to be covered in the GEIS.<sup>270</sup> Contrary to the NRC Staff’s claim, Intervenor

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<sup>260</sup> *Id.*

<sup>261</sup> *Id.* § 4.2.12.2.

<sup>262</sup> *Id.*

<sup>263</sup> *Strata Energy, Inc.* (Ross In Situ Recovery Uranium Project), LBP-12-3, 75 NRC 164, 207 (2012) (internal citation omitted), *aff’d on other grounds*, CLI-12-12, 75 NRC 603 (2012).

<sup>264</sup> OST Proposed Contentions at 79-83; CI Proposed Contentions at 65-68.

<sup>265</sup> OST Proposed Contentions at 108 (citing Exs. N, O); CI Proposed Contentions at 96 (same).

<sup>266</sup> ISL Mining GEIS § 4.2.5.2.

<sup>267</sup> FWS Letter at 1.

<sup>268</sup> ISL Mining GEIS § 4.2.5.2.

<sup>269</sup> FWS Letter at 2.

<sup>270</sup> *See, e.g.*, FWS Report at 2 (“During migration, birds are very stressed and become much more susceptible to the effects of environmental contaminants.”).

have provided a sufficient explanation for how these documents support their contention, at least at the contention admissibility stage.<sup>271</sup>

This portion of the contention is also timely. The NRC Staff claims that the FWS report and letter were available in 2007 and 2000, and thus should have been discussed earlier.<sup>272</sup> But what is relevant is that the EA's discussion about Crow Butte's use of ISL wastewater differs materially from the LRA. The LRA acknowledges that land application of ISL wastewater is being considered or employed at the mine.<sup>273</sup> Moreover, the LRA did not conclude that the lack of state permits was a barrier to land application of ISL wastewater.<sup>274</sup> The NRC Staff takes a different tack in the EA and raises for the first time the claim that a discussion of land application of ISL wastewater is not warranted, because Crow Butte is not pursuing the approach.<sup>275</sup> The NRC Staff also raises for the first time the argument that Crow Butte is not pursuing land application because it lacks an appropriate state permit, or has "not indicated" it will use the permit it has at this time.<sup>276</sup>

EA Contention 12, as narrowed by the Board (i.e., dismissing allegations relating to wind storms exclusive of tornadoes and air emissions), is set forth in Appendix A to this Order.

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<sup>271</sup> *Diablo Canyon*, CLI-11-11, 74 NRC at 442 ("At the contention filing stage the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion.") (quoting 54 Fed. Reg. at 33,171)). The NRC Staff also alleges that the FWS report is irrelevant because it covers a different area than the Crow Butte mine, with allegedly higher concentrations of selenium. NRC Staff Answer at 59-60. However, the EA provides little useful information on these topics. This is a factual dispute that will be resolved at our August hearing.

<sup>272</sup> NRC Staff Answer at 59.

<sup>273</sup> LRA § 7.13 ("Liquid wastes generated from production and restoration activities are handled by one of three methods: solar evaporation ponds, deep well injection, or land application. All three methods are currently being employed at Crow Butte."). The LRA later states, in contrast, that land application is permitted but not currently being pursued, but without indicating that land application will not be pursued in the future. *Id.* § 8.3.1.3. The LRA also engages in a limited discussion of the effects of selenium and heavy metal contamination on soils, although in the context of mining rather than waste disposal. *Id.* §§ 2.7.3, 2.9.6, 6.1.2.4.

<sup>274</sup> *Id.* §§ 7.13, 8.3.1.3.

<sup>275</sup> See EA §§ 2.4, 4.6.1.3; see also *Claiborne Enrichment Ctr.*, CLI-98-3, 47 NRC at 89 ("To the extent that the FEIS may differ from the ER, an intervenor is provided a second opportunity to file contentions on environmental issues."). The EA also drops any discussion of selenium, as noted by Intervenor. OST Proposed Contentions at 82; CI Proposed Contentions at 68.

<sup>276</sup> See EA §§ 2.4, 4.6.1.3; Tr. at 794-95.

## N. EA Contention 13 — Wildlife Impacts

### 1. *Parties' Positions*

Intervenors title EA Contention 13 “The Final EA Fails to Comply with NEPA with Regard to Impacts on Wildlife, and Fails to Comply with the Endangered Species Act” (ESA).<sup>277</sup> In this contention, Intervenors state:

The Final EA violates 10 C.F.R. §§ 51.10, 51.70, 51.71, the National Environmental Policy Act and implementing regulations, and the Endangered Species Act, 16 U.S.C. § 1531, et seq. and implementing regulations, by failing to conduct the required “hard look” analysis at impacts of the proposed mine and the Endangered Species Act, 16 U.S.C. §§ 1531, et seq., by failing to consult as required with the U.S. Fish & Wildlife Service.<sup>278</sup>

Intervenors argue that consultation with FWS is legally mandated for any agency action that “may affect listed species or critical habitat.”<sup>279</sup> Noting that the EA found “small” impacts on listed species and that “suitable habitat exists within the project area,” Intervenors allege that NRC Staff was required to consult with FWS concerning the potential impacts on four species: the swift fox, the bald eagle, the black-footed ferret, and the whooping crane.<sup>280</sup>

Crow Butte initially argues the contention is untimely because the information from the EA is available in the LRA.<sup>281</sup> As to admissibility of the four allegedly protected species discussed by Intervenors, Crow Butte states that the EA found “the ‘only species with a reasonable possibility of occurring on or near the project site are the bald eagle and swift fox,’” and neither is listed as threatened or endangered by FWS.<sup>282</sup> Regarding the two other species, the whooping crane and black-footed ferret, Crow Butte argues that, although they are listed and are found generally in Dawes County Nebraska, “the NRC Staff determined that

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<sup>277</sup> OST Proposed Contentions at 109; CI Proposed Contentions at 97.

<sup>278</sup> OST Proposed Contentions at 109; CI Proposed Contentions at 97.

<sup>279</sup> OST Proposed Contentions at 110-12 (quoting 50 C.F.R. § 402.14); CI Proposed Contentions at 97-101 (same); *see also* 16 U.S.C. § 1536(a)(2).

<sup>280</sup> OST Proposed Contentions at 112-14 (citing EA §§ 4.10.5, 4.10.6); CI Proposed Contentions at 100-02 (same); *see also* EA tbl. 3-16. Intervenors also note that the sharp-tailed grouse “are commonly found in prairie areas such as the licensed area.” OST Proposed Contentions at 112; CI Proposed Contentions at 100. However, Intervenors do not appear to allege that the sharp-tailed grouse is a protected species under either federal or state law. *See* OST Proposed Contentions at 112; CI Proposed Contentions at 100.

<sup>281</sup> Crow Butte Answer at 38 (citing LRA § 7.5.11).

<sup>282</sup> *Id.* at 37 (citing EA § 4.10.8).

Crow Butte’s activities would have ‘no effect’ on either species,”<sup>283</sup> and thus consultation was not required under the ESA.<sup>284</sup>

On the other hand, the NRC Staff stated this contention was admissible<sup>285</sup> “with respect to the Staff’s failure to complete the informal Section 7 consultation process by receiving concurrence from FWS on the Staff’s determination that threatened and endangered species will not be affected.”<sup>286</sup> The NRC Staff stated that “when engaging in informal consultation, an agency must provide its determination as to whether the proposed action will affect threatened and endangered species to FWS and request FWS concurrence.”<sup>287</sup> The NRC Staff then admitted that “it did not complete the informal consultation process by requesting and receiving concurrence from FWS . . . .”<sup>288</sup> At oral argument, however, the NRC Staff informed the Board that it had recently received a concurrence letter from FWS.<sup>289</sup>

## **2. Board Ruling**

This contention is timely,<sup>290</sup> but moot. The thrust of this contention is that the NRC Staff failed to consult with FWS concerning impacts on a number of species, “and that such failure constituted a failure to conduct the required hard look” under NEPA.<sup>291</sup> Because only the whooping crane and black-footed ferret

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<sup>283</sup> *Id.* at 37-38 (citing EA § 4.10.8).

<sup>284</sup> *Id.* at 38 (citing *Southwest Center for Biological Diversity v. U.S. Forest Service*, 100 F.3d 1443, 1447-48 (9th Cir. 1996) (“[I]f the agency determines that a particular action will have no effect on an endangered or threatened species, the consultation requirements are not triggered.”)).

<sup>285</sup> Shortly after filing its Answer, the NRC Staff moved to change its position on Contention 13. NRC Staff’s Notice of Change in Position and Motion to Amend Response to Contention 13 (Feb. 6, 2015); NRC Staff’s Proposed Amended Response to Contention 13, Attach. 1 (Feb. 6, 2015). CI and Crow Butte both filed responses to the motion. Consolidated Intervenor’s Response and Motion to Strike Late-Filed NRC Staff Change of Position Re: Contention 13 at 1-2 (Feb. 10, 2015); Crow Butte Resources’ Response to Motion to Strike (Feb. 20, 2015). This motion has been denied in a separate order.

<sup>286</sup> NRC Staff Answer at 61.

<sup>287</sup> *Id.* (citing 50 C.F.R. § 402.13(a)).

<sup>288</sup> *Id.* (footnote omitted).

<sup>289</sup> Tr. at 868.

<sup>290</sup> Crow Butte’s timeliness argument is mistaken. As consultation with FWS is to be done by the NRC Staff, it would not be feasible to proffer a contention challenging the NRC Staff’s consultation until after the NRC Staff has completed its environmental review.

<sup>291</sup> Tr. at 853.

are actually listed as threatened or endangered under the ESA,<sup>292</sup> they are the only species covered by the act's formal consultation requirements.<sup>293</sup>

Formal consultation is generally required if there is a finding that a project "may affect" a listed species or critical habitat.<sup>294</sup> Crow Butte's characterization does not square with the exact words of the EA's finding — which did not conclude that there would be "no effect" to the whooping crane or black-footed ferret, but instead that there would be "no adverse effect" to those species.<sup>295</sup> Contrary to Crow Butte's assertion, a finding of "no adverse effect" is not the same as a finding of "no effect,"<sup>296</sup> and would normally trigger a requirement for formal consultation with FWS.<sup>297</sup>

However, even if there is a "may effect" finding, an exception to formal consultation exists under FWS regulations:

A Federal agency need not initiate formal consultation if, as a result of the preparation of a biological assessment under § 402.12 or as a result of *informal consultation*[<sup>298</sup>] with the Service under § 402.13, the Federal agency determines, with the written concurrence of the Director, that the proposed action is *not likely to adversely affect* any listed species or critical habitat.<sup>299</sup>

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<sup>292</sup> See 50 C.F.R. § 17.11; *Listed Animals*, FWS Envtl. Conservation Online Sys., [http://ecos.fws.gov/tess\\_public/reports/ad-hoc-species-report?kingdom=V&kingdom=I&status=E&status=T&status=EmE&status=EmT&status=EXPE&status=EXPN&status=SAE&status=SAT&mapstatus=3&fcrithab=on&fstatus=on&fspecrule=on&finvpop=on&fgroup=on&header=Listed+Animals](http://ecos.fws.gov/tess_public/reports/ad-hoc-species-report?kingdom=V&kingdom=I&status=E&status=T&status=EmE&status=EmT&status=EXPE&status=EXPN&status=SAE&status=SAT&mapstatus=3&fcrithab=on&fstatus=on&fspecrule=on&finvpop=on&fgroup=on&header=Listed+Animals) (last accessed Mar. 11, 2015).

<sup>293</sup> 50 C.F.R. § 402.14(a) (requiring consultation only for "listed species or critical habitat").

<sup>294</sup> *Id.*

<sup>295</sup> EA § 4.10.8.

<sup>296</sup> Compare Crow Butte Answer at 38 (alleging the NRC Staff determined that Crow Butte's activities would have "no effect" on either species) with EA § 4.10.8 (finding in actuality "no adverse effect").

<sup>297</sup> *Sierra Club v. Van Antwerp*, 661 F.3d 1147, 1155 (D.C. Cir. 2011) (discussing consultation requirements when the agency finds that a proposed action will have no adverse impact); *Endangered Species, Frequently Asked Questions*, FWS, <http://www.fws.gov/endangered/what-we-do/faq.html> (last updated July 15, 2013) ("A Federal agency is required to consult if an action 'may affect' listed species or designated critical habitat, even if the effects are expected to be beneficial. In many cases, projects with overall beneficial effects still include some aspects that will adversely affect individuals of listed species and such adverse effects require formal consultation. If an agency determines that its action is not likely to adversely affect listed species or critical habitat, it can request the concurrence of the Services with this determination.").

<sup>298</sup> As opposed to formal consultation, "informal" consultation "is an optional process that includes all discussions, correspondence, etc., between the [U.S. Fish and Wildlife] Service and the Federal agency . . . designed to assist the Federal agency in determining whether formal consultation or a conference is required." 50 C.F.R. § 402.13.

<sup>299</sup> *Id.* § 402.14(b)(1) (emphasis added).

The NRC Staff appears to have engaged in an informal consultation process with FWS.<sup>300</sup> Therefore, concurrence by FWS would discharge the NRC's consultation responsibilities.<sup>301</sup>

It is somewhat odd that after taking 7 years to prepare the EA,<sup>302</sup> the NRC Staff did not seek concurrence from FWS until January 22, 2015, after the EA was issued, after a license renewal was issued, and after Intervenor filed this contention.<sup>303</sup> Nonetheless, FWS responded on February 9, 2015, and "concur[red]" with NRC's determination that the license renewal will have no effect to federally listed species or designated critical habitat.<sup>304</sup> Therefore, at that point the NRC Staff discharged its required consultation duties with FWS, and this contention became moot.<sup>305</sup>

## **O. EA Contention 14 — Seismic Activity**

### **1. Parties' Positions**

Intervenor's title EA Contention 14 "The Final EA Fails to Adequately Describe

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<sup>300</sup> NRC Staff Answer at 61; *see also* EA § 5.

<sup>301</sup> *See* 50 C.F.R. § 402.14(b)(1).

<sup>302</sup> *See* LBP-15-2, 81 NRC at 59 (commenting on NRC Staff delay).

<sup>303</sup> Letter from Lydia Chang, Chief, Environmental Review Branch, Division of Fuel Cycle Safety and Environmental Review, Office of Nuclear Material Safety and Safeguards, NRC, to John F. Cochran, Deputy Field Supervisor, FWS, Consultation for Endangered or Threatened Species and Critical Habitat for License Renewal for the Crow Butte In Situ Uranium Recovery Facility Near Dawes County, Nebraska (Jan. 22, 2015) (ADAMS Accession No. ML15022A217) (The letter proposed to FWS that "no adverse effects to federally threatened, endangered, or candidate species are expected.") According to the letter, the NRC Staff determined that the license renewal "will not likely impact" listed species, but did not indicate that there would be "no effect" on any threatened or endangered species. *Id.*

<sup>304</sup> Letter from Eliza Hines, Acting Nebraska Field Supervisor, FWS, to Lydia Chang, Environmental Review Branch, NRC, Section 7 Consultation for License Renewal for the Crow Butte In Situ Uranium Recovery Facility, Dawes County, Nebraska at 2 (Feb. 9, 2015) (ADAMS Accession No. ML15044A080).

<sup>305</sup> FWS concurred with the NRC Staff's finding "[b]ased on the information provided in the Final EA . . . since none [of the listed species] occurs in the project area." *Id.* To the extent Intervenor views the FWS concurrence letter as materially contradicting the NRC Staff's analysis in the EA, of course, Intervenor is free to timely file a new contention based off the FWS concurrence letter. Furthermore, as FWS relied on the EA in reaching its determination, if the EA is significantly amended in the future, the NRC Staff may be required to seek concurrence again from FWS. *See id.* ("However, should the project design change or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts on listed species.").

or Analyze Impacts from Earthquakes; Fails to Take ‘Hard Look’ at Impacts on Secondary Porosity.”<sup>306</sup> In this contention Intervenor’s allege that:

The Final EA violates the National Environmental Policy Act in its failure to provide an analysis of the impacts on the project from earthquakes; especially as it concerns secondary porosity and adequate confinement. These failings violate 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.<sup>307</sup>

Pointing to two earthquakes near Chadron in 2011 that were not discussed in the EA, Intervenor’s argue that the EA is deficient.<sup>308</sup> Based on the 2015 Dr. LaGarry opinion, Intervenor’s assert that even small earthquakes can alter the secondary porosity of an aquifer, and as a result modify groundwater flow patterns which has the potential to undermine the conclusion in the EA that the aquifers are confined.<sup>309</sup> Therefore, Intervenor’s assert that the EA’s analysis of seismic activity does not satisfy NEPA’s required hard look.

Crow Butte argues that EA Contention 14 is untimely because the NRC Staff previously addressed seismology concerns, and Intervenor’s have identified no material new information to support this contention.<sup>310</sup> Crow Butte also notes that the EA provides an analysis of seismic events,<sup>311</sup> and that Intervenor’s fail to provide proof suggesting “earthquakes have had effects on Crow Butte operations, including on secondary porosity at Crow Butte.”<sup>312</sup>

The NRC Staff argues that Intervenor’s have not shown that the EA’s data or conclusions are materially different from the LRA, which also discussed seismic events.<sup>313</sup> The NRC Staff further contends that the 2015 LaGarry opinion referenced by Intervenor’s is not materially different from the 2008 Dr. LaGarry opinion.<sup>314</sup>

The NRC Staff admits that “Intervenor’s are correct that, given the more recent information in Exhibit I, the statement in the EA that no earthquakes have been felt in Nebraska since 2007 is inaccurate. But, according to the NRC Staff, Intervenor’s have not explained why the EA must include information on the two

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<sup>306</sup> OST Proposed Contentions at 114; CI Proposed Contentions at 102.

<sup>307</sup> OST Proposed Contentions at 114; CI Proposed Contentions at 102.

<sup>308</sup> OST Proposed Contentions at 115 (CI Proposed Contentions, Ex. I, Rapid City Journal/Chadron News, “Two Earthquakes Strike Area” (Nov. 15, 2011) [hereinafter Earthquake Article]; CI Proposed Contentions at 103 (citing Earthquake Article).

<sup>309</sup> OST Proposed Contentions at 115-16; CI Proposed Contentions at 103-04.

<sup>310</sup> Crow Butte Answer at 39-40.

<sup>311</sup> *Id.* at 39 (citing EA § 3.4).

<sup>312</sup> *Id.*

<sup>313</sup> NRC Staff Answer at 66.

<sup>314</sup> *Id.*



2011 earthquakes in order to satisfy the ‘hard look’ standard of NEPA.”<sup>315</sup> The NRC Staff asserts that the EA was not written with the intent to catalog every earthquake in the Crow Butte area.<sup>316</sup>

### ***1. Board Ruling***

EA Contention 14 is admissible. First, Contention 14 is timely. Though the LRA did include a discussion on earthquakes, the challenge in this contention could not have been formulated in reference to the LRA. This contention challenges the EA on the specific grounds that the EA’s analysis neglected to analyze significant recent seismic information. While the Intervenor had the chance to review the LRA’s seismic analysis, at that point in time the analysis presumably contained complete information. Now, however, Intervenor maintains that this same analysis, in the EA, neglects recent seismic information.

Intervenor alleged that every earthquake, regardless of size, can change the ground’s porosity such that water flow is affected,<sup>317</sup> a valid material dispute presented in this contention. The EA analysis might also be incomplete because it only reviewed earthquakes recorded in Nebraska, neglecting earthquakes felt in nearby states.<sup>318</sup> In fact, the two earthquakes cited in the contention had epicenters in South Dakota, and so would have been missed in the NRC’s analysis for the EA.<sup>319</sup> For example, the distance from the Crow Butte site to the South Dakota border is roughly 20-30 miles, to the Wyoming border roughly 30-40 miles, to the Colorado border roughly 115 miles, and to the Kansas border roughly 200 miles. And yet the EA contains no discussion of seismic activity in these nearby areas. In contrast, the distance from the Crow Butte site to the southeastern corner of Nebraska — which would have been encompassed in an analysis of Nebraska seismic activity — is roughly a distance of 400 miles.<sup>320</sup> As a result, Contention 14 raises genuine material disputes with the information included in the NRC Staff’s EA, and is admitted.

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<sup>315</sup> *Id.*

<sup>316</sup> *Id.* at 65-66.

<sup>317</sup> “Even small earthquakes represent shifting and flexing of the earth’s crust, and are continuously crating, closing, and redistributing the secondary porosity of the region’s rocks and changing the flow pathways of the region’s groundwater.” 2015 LaGarry Opinion at 2.

<sup>318</sup> EA § 3.4.3.

<sup>319</sup> See Earthquake Article.

<sup>320</sup> All distances were measured using the Google Maps distance calculator tool.

#### IV. CONCLUSION AND ORDER

Based, therefore, upon the preceding findings and rulings, it is ordered that

- A. Environmental Contentions A, C, D, and Technical Contention F, originally admitted in our previous 2008 order, migrate from a challenge of Crow Butte's LRA to a challenge to the NRC Staff's EA as Contentions A, C, D, and F.
- B. EA Contentions 3 and 10 are admitted in part and merged with migrated Contention D. The portion of EA Contention 5 that is admissible is encompassed within the current language of Contention D.
- C. EA Contentions 1 and 2 are admitted in part and combined into a single "EA Contention 1."
- D. EA Contentions 6, 9, and 12 are admitted in part as narrowed by the Board.
- E. EA Contention 14 is admitted as proffered.
- F. The Tribes' EA Contention F, as well as EA Contentions 4, 7, 8, and 11, are not admitted.
- G. EA Contention 13 is denied admission as moot.
- H. As the Board ruled in LBP-08-24, regarding Contentions A, C, D, and F, Subpart L procedures are also appropriate for the adjudication of all newly admitted contentions.<sup>321</sup>

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<sup>321</sup> 10 C.F.R. § 2.310(a).

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Michael M. Gibson, Chairman  
ADMINISTRATIVE JUDGE

Dr. Richard E. Wardwell  
ADMINISTRATIVE JUDGE

Brian K. Hajek  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
March 16, 2015

## APPENDIX A

### ADMITTED CONTENTIONS TO BE HEARD AT THE EVIDENTIARY HEARING

**Contention A:** There is no evidence based science for [the NRC Staff's] conclusion that ISL mining has "no non radiological health impacts," or that non radiological impacts for possible excursions or spills are "small."

**Contention C:** [The NRC Staff's] characterization that the impact of surface waters from an accident is "minimal since there are no nearby surface water features," does not accurately address the potential for environmental harm to the White River.

**Contention D (merged with EA Contention 3 & 10):** [The NRC Staff] incorrectly states there is no communication among the aquifers, when in fact, the Basal Chadron aquifer, where mining occurs, and the aquifer, which provides drinking water to the Pine Ridge Indian Reservation, communicate with each other, resulting in the possibility of contamination of the potable water. Based on this potential communication between the aquifers, the EA's environmental justice analysis, including analysis of cumulative effects, should be expanded to consider potential impacts on the aquifer which provides drinking water to the Pine Ridge Indian Reservation.

**Contention F:** Failure to include recent research.

**EA Contention 1 (Merged Contentions 1 & 2):** Whether the cultural surveys performed and incorporated into the EA formed a sufficient basis on which to renew Crow Butte's permit.

**EA Contention 6:** The Final EA violates the National Environmental Policy Act in concluding that the short-term impacts from consumptive ground water use during aquifer restoration are MODERATE.

**EA Contention 9:** The Final EA violates 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act and implementing regulations by failing to include the required discussion of ground water restoration mitigation measures.

**EA Contention 12:** The Final EA omits a discussion of the impact of tornadoes on the license renewal area, and inadequately discusses the potential impacts from land application of ISL mining wastewater.

**EA Contention 14:** The Final EA violates the National Environmental Policy Act in its failure to provide an analysis of the impacts on the project from earthquakes; especially as it concerns secondary porosity and adequate confinement. These failings violate 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Ronald M. Spritzer**, Chairman  
**Dr. Anthony J. Baratta**  
**Dr. Randall J. Charbeneau**

**In the Matter of**

**Docket No. 52-033-COL**  
**(ASLBP No. 09-880-05-COL-BD01)**

**DTE ELECTRIC COMPANY**  
**(Fermi Nuclear Power Plant,**  
**Unit 3)**

**March 20, 2015**

Applicant DTE Electric Company seeks a combined license (COL) for a proposed Economic Simplified Boiling Water Reactor designated as Fermi Nuclear Power Plant, Unit 3 (Fermi 3). The Board issued a Partial Initial Decision ruling against the Intervenor on their two admitted contentions on May 23, 2014, but left the proceeding open because of pending matters related to the continued storage of spent fuel and the Board's request for *sua sponte* authority to review an otherwise inadmissible contention regarding the environmental impacts of Fermi 3's proposed transmission lines. On September 29, 2014, Beyond Nuclear and other intervenors moved for admission of a new contention claiming that NRC's Draft Environmental Impact Statement fails to comply with the National Environmental Policy Act by not discussing the safety of spent fuel storage at Fermi 3 given the lack of a high-level waste repository. The Commission chose to review that motion along with other similar motions, and on February 26, 2015, the Commission denied the motions to admit continued waste storage safety contentions. The Commission has also denied the Board's request for *sua sponte* authorization to review the environmental impacts of Fermi 3's proposed transmission lines. Because there is no other admitted or pending contention in this proceeding, the case is terminated.

**ORDER**  
**(Terminating Licensing Board Adjudicatory Proceeding)**

On May 23, 2014, this Licensing Board issued a Partial Initial Decision ruling in favor of the NRC Staff on Contention 8 and the Applicant on Contention 15.<sup>1</sup> The Board did not terminate the case, however, because two matters were still pending: (1) Intervenors' proposed contention challenging the failure of the NRC's Draft Environmental Impact Statement for the proposed Fermi 3 combined license (COL) application "to address the environmental impacts of spent fuel pool leakage and fires as well as the environmental impacts that may occur if a spent fuel repository does not become available;"<sup>2</sup> and (2) the question whether the Board should request Commission authorization to consider, *sua sponte*, an issue initially raised by Intervenors' otherwise inadmissible Contention 23 regarding the adequacy of the Staff's consideration of the environmental impacts of the proposed transmission lines serving Fermi Unit 3.<sup>3</sup>

Subsequently, the Board did request Commission authorization for *sua sponte* review of Contention 23.<sup>4</sup> Also, on August 26, 2014, after a 2-year rulemaking process, the Commission adopted<sup>5</sup> (1) a generic environmental impact statement ("GEIS") to identify and analyze the environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors;<sup>6</sup> and (2) associated revisions to the Temporary Storage Rule in 10 C.F.R. § 51.23 (now designated the "Continued Storage Rule").<sup>7</sup> In light of these actions, the Commission lifted its suspension on final licensing decisions.<sup>8</sup> The Commission also directed Licensing Boards, including this one, to dismiss pending waste confidence contentions that had been held in abeyance.<sup>9</sup> On September 19, 2014,

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<sup>1</sup> LBP-14-7, 79 NRC 451, 454 (2014).

<sup>2</sup> Intervenors' Motion for Leave to File a New Contention Concerning Temporary Storage and Ultimate Disposal of Nuclear Waste at Proposed Fermi 3 Nuclear Power Plant (July 9, 2012) [hereinafter Waste Confidence Contention]. As directed by the Commission, the Board had held the Waste Confidence Contention in abeyance. Licensing Board Order (Holding New Contention in Abeyance) (Aug. 29, 2012) (unpublished); *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63, 68-69 (2012).

<sup>3</sup> LBP-14-7, 79 NRC at 454 n.1.

<sup>4</sup> LBP-14-9, 80 NRC 15, 27 (2014).

<sup>5</sup> *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 75 (2014).

<sup>6</sup> Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel, 79 Fed. Reg. 56,263 (Sept. 19, 2014) [hereinafter GEIS].

<sup>7</sup> Continued Storage of Spent Nuclear Fuel, 79 Fed. Reg. 56,238 (Sept. 19, 2014) [hereinafter Continued Storage Rule].

<sup>8</sup> CLI-14-8, 80 NRC at 74.

<sup>9</sup> *Id.* at 81.

the NRC published the new Continued Storage Rule and accompanying GEIS, which became effective on October 20, 2014.<sup>10</sup> Accordingly, the Board denied Intervenor’s motion seeking to admit the Waste Confidence Contention.<sup>11</sup> But the Board kept the adjudicatory proceeding open because the Board’s request for authorization of *sua sponte* review of Contention 23 remained pending before the Commission,<sup>12</sup> and because Intervenor had filed a new contention related to the safety of continued waste storage at Fermi Unit 3.<sup>13</sup>

Those remaining issues have now been resolved. On January 13, 2015, the Commission denied the Board’s request for authorization to review Contention 23 *sua sponte*.<sup>14</sup> On February 26, 2015, the Commission denied the Intervenor’s motion to admit the new continued waste storage safety contention.<sup>15</sup> With the issuance of these Commission decisions, there are no proffered or admitted contentions remaining in this adjudicatory proceeding, and the Commission has ruled that the Board’s jurisdiction terminates under such circumstances.<sup>16</sup>

Three recently filed matters associated with this COL proceeding are pending before the Commission. On January 28, 2015, various intervenors/petitioners in this case and seven other cases filed a motion requesting that the Commission order the supplementation of the final environmental impact statements in those proceedings to incorporate by reference the GEIS for Continued Spent Fuel Storage.<sup>17</sup> On February 12, 2015, Intervenor Beyond Nuclear filed with the Commission a “Motion to Reopen the Record of Combined License Proceeding for Fermi Unit 3 Nuclear Power Plant.”<sup>18</sup> The Motion to Reopen was accompanied by “Beyond Nuclear’s Hearing Request and Petition to Intervene in Combined License Proceeding for Fermi Unit 3 Nuclear Power Plant,” also dated February 12,

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<sup>10</sup> Continued Storage Rule, 79 Fed. Reg. at 56,238.

<sup>11</sup> Licensing Board Order (Denying Motion to Admit Waste Confidence Contention) (Oct. 6, 2014) (unpublished).

<sup>12</sup> LBP-14-9, 80 NRC at 27.

<sup>13</sup> Intervenor’s Motion for Leave to File a New Contention Concerning the Absence of Required Waste Confidence Safety Findings in the Combined Operating Licensing Proceeding for Fermi 3 Nuclear Power Plant (Sept. 29, 2014).

<sup>14</sup> CLI-15-1, 81 NRC 1, 3 (2015).

<sup>15</sup> CLI-15-4, 81 NRC 221, 223-24, 242 (2015).

<sup>16</sup> *Exelon Generation Co., LLC* (Byron Nuclear Power Station, Units 1 and 2; Braidwood Nuclear Power Station, Units 1 and 2), CLI-14-6, 79 NRC 445, 449 (2014) (quoting *Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), CLI-12-14, 75 NRC 692, 699 (2012)).

<sup>17</sup> Petition to Supplement Reactor-Specific Environmental Impact Statements to Incorporate by Reference the Generic Environmental Impact Statement for Continued Spent Fuel Storage (Jan. 28, 2015).

<sup>18</sup> Motion to Reopen the Record of Combined License Proceeding for Fermi Unit 3 Nuclear Power Plant (Feb. 12, 2015).

2015.<sup>19</sup> Those matters were not filed with the Board, nor has the Commission referred any of them to us. Therefore, they do not provide a basis for continued Board jurisdiction.

Accordingly, this adjudicatory proceeding is hereby TERMINATED.  
It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Ronald M. Spritzer, Chairman  
ADMINISTRATIVE JUDGE

Dr. Anthony J. Baratta  
ADMINISTRATIVE JUDGE

Dr. Randall J. Charbeneau  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
March 20, 2015

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<sup>19</sup>Beyond Nuclear's Hearing Request and Petition to Intervene in Combined License Proceeding for Fermi Unit 3 Nuclear Power Plant (Feb. 12, 2015).



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

**ATOMIC SAFETY AND LICENSING BOARD**

**Before Administrative Judges:**

**Michael M. Gibson**, Chairman  
**Dr. Michael F. Kennedy**  
**Dr. William W. Sager**

**In the Matter of**

**Docket Nos. 50-250-LA  
50-251-LA  
(ASLBP No. 15-935-02-LA-BD01)**

**FLORIDA POWER & LIGHT  
COMPANY  
(Turkey Point Nuclear Generating  
Plant, Units 3 and 4)**

**March 23, 2015**

This proceeding involves a challenge by Citizens Allied for Safe Energy, Inc. (CASE) to license amendments issued to the Florida Power & Light Company's (FPL) Turkey Point Nuclear Generating Units 3 and 4. The Licensing Board rules that CASE has standing to intervene and has submitted one admissible contention challenging the adequacy of the environmental assessment's discussion of the impact of increased temperature in Turkey Point's cooling canal system on saltwater intrusion arising from (1) migration out of the cooling canals; and (2) the withdrawal of freshwater from surrounding aquifers to mitigate conditions within the cooling canals.

**REGULATIONS: INTERPRETATION (10 C.F.R. § 2.309(i)(2))**

A petitioner's reply, under 10 C.F.R. § 2.309(i)(2), cannot raise for the first time new arguments in support of its contentions. Rather, the right to reply is intended to provide an opportunity to cure potential defects in standing or to

legitimately amplify arguments made in the petition in response to answers filed by the applicant and the NRC Staff.

**REGULATIONS: INTERPRETATION (10 C.F.R. § 2.309(a))**

A petitioner bears the burden of establishing standing to intervene in an NRC licensing proceeding, but licensing boards should evaluate a petitioner's standing construing the petition in favor of the petitioner.

**REGULATIONS: INTERPRETATION (10 C.F.R. § 2.309(d)(1))**

To determine whether a petitioner satisfies the standing requirements of 10 C.F.R. § 2.309(d)(1), the Commission has traditionally applied contemporaneous judicial concepts of standing, requiring a showing of concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision.

**RULES OF PRACTICE: STANDING (PROXIMITY PRESUMPTION)**

In certain situations involving obvious potential for offsite consequences — including reactor licensing, license renewal, and at least some license amendment proceedings — the Commission has routinely granted standing to petitioners who live within a certain distance of the facility at issue under the “proximity presumption,” effectively dispensing with the need to make an affirmative showing of injury, causation, and redressability.

**RULES OF PRACTICE: STANDING (ORGANIZATIONAL STANDING)**

When an organization seeks to intervene on behalf of its members, it may establish standing by showing that (1) one or more of its members would individually meet the standing requirements; (2) the member has authorized the organization to represent its interest; and (3) the interest represented is germane to the organization's purpose.

**RULES OF PRACTICE: STANDING (REDRESSIBILITY)**

Standing law does not require that a possible remedy make a claimant whole by completely resolving an alleged injury. Rather, the United States Supreme Court has made clear that a remedy that makes even a small contribution to resolving a larger, more complex injury can still support a standing claim.

**REGULATIONS: INTERPRETATION (10 C.F.R. § 2.309(b)(3)(i), (f)(1))**

A petitioner must not only establish its standing to intervene, but must also submit at least one admissible contention. An admissible contention must be timely, under 10 C.F.R. § 2.309(b)(3)(i), and satisfy the requirements of 10 C.F.R. § 2.309(f)(1). Failure to comply with any of the 10 C.F.R. § 2.309(f)(1) requirements renders a contention inadmissible.

**RULES OF PRACTICE: *PRO SE* PLEADINGS**

Pleadings submitted by *pro se* petitioners are afforded greater leniency than petitions drafted with the assistance of counsel.

**LICENSING BOARDS: REFRAMING CONTENTIONS**

Licensing boards may reformulate contentions to eliminate extraneous issues or to consolidate issues for a more efficient proceeding.

**REGULATIONS: INTERPRETATION (40 C.F.R. § 1502.9(c)(1)(ii))**

When drafting an environmental assessment (EA), the NRC cannot simply import the analysis from a previously completed EA while disregarding intervening events. To hold otherwise would render meaningless NEPA's 40 C.F.R. § 1502.9(c)(1)(ii) requirement for supplementation of environmental review documents.

**REGULATIONS: INTERPRETATION (10 C.F.R. § 2.340(a)(2)(ii))**

The granting of a license amendment cannot be considered final agency action until the agency's internal adjudicatory process has run its course. Section 2.340(a)(2)(ii) of 10 C.F.R. specifically provides that, when an adjudicatory proceeding has been initiated with respect to a license amendment issued with a no significant hazards determination, "[o]nce the presiding officer's initial decision becomes effective, the appropriate official shall take action with respect to that amendment in accordance with the initial decision."

**REGULATIONS: INTERPRETATION (10 C.F.R. § 50.58(b)(6))**

The NRC Staff's "no significant hazards determination" may not be challenged before the Commission or a licensing board.

## **ATOMIC ENERGY ACT: HEARING RIGHT**

The Atomic Energy Act does not guarantee the right to request a prelicense amendment hearing. Delaying a hearing until after a license amendment has been issued does not, therefore, deprive a petitioner of its opportunity to request a hearing.

### **MEMORANDUM AND ORDER (Granting CASE's Petition to Intervene)**

Before this Licensing Board is the October 14, 2014 petition of Citizens Allied for Safe Energy, Inc. (CASE) requesting a hearing on license amendments issued to Florida Power & Light Company's (FPL) Turkey Point Nuclear Generating Units 3 and 4.<sup>1</sup> Those amendments increased the ultimate heat sink (UHS) water temperature limit for the plant's cooling canal system (CCS). On January 14, 2015, in Homestead, Florida, the Board held oral argument on CASE's petition, during which the Board questioned the parties on CASE's standing to intervene and the admissibility of CASE's four proposed contentions. Also before the Board is FPL's motion to strike portions of CASE's reply.<sup>2</sup>

Initially, the Board partially grants FPL's motion to strike. Thereafter, viewing CASE's arguments in light of that ruling, the Board concludes that CASE satisfies the requirements for standing to intervene in this proceeding and has submitted one admissible contention.<sup>3</sup> As such, the Board grants CASE's petition to intervene.

## **I. BACKGROUND**

In 2002, the NRC granted FPL renewed licenses for Turkey Point Units 3 and 4, which are located in Miami-Dade County, Florida.<sup>4</sup> These reactors employ cooling canals as their UHS.<sup>5</sup> As designed, heated water is discharged into the canals where it is cooled by flowing over a 13-mile loop before returning to Units 3 and 4

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<sup>1</sup> Citizens Allied for Safe Energy, Inc. Petition to Intervene and Request for a Hearing (Oct. 14, 2014) [hereinafter Petition].

<sup>2</sup> Florida Power & Light Company's Motion to Strike New Arguments and References in CASE's Reply (Nov. 28, 2014) [hereinafter Motion to Strike].

<sup>3</sup> See *infra* Part IV.B.1.b.

<sup>4</sup> Environmental Assessment and Final Finding of No Significant Impact, Issuance, 79 Fed. Reg. 44,464, 44,466 (July 31, 2014) [hereinafter 2014 EA].

<sup>5</sup> *Id.* Plants must employ a UHS to transfer heat from structures, systems, and components that are important to safety. See 10 C.F.R. Part 50, App. A, Criterion 44.

for recirculation back into the plant for cooling purposes.<sup>6</sup> Technical specifications (TS) in FPL's renewed licenses provided for a UHS water temperature limit of 100 degrees Fahrenheit (°F) in the CCS,<sup>7</sup> as measured at the point of intake back into the system.<sup>8</sup> Should FPL exceed the UHS temperature limit, Units 3 and 4 would be required to undergo a dual unit shutdown.<sup>9</sup>

In 2010, FPL applied for license amendments authorizing an extended power uprate (EPU) for both units.<sup>10</sup> The NRC Staff's environmental assessment (EA) for the EPU concluded that there would be no significant environmental impact associated with uprating both units.<sup>11</sup>

In the summer of 2014, temperatures in the CCS "approached and exceeded the 100°F TS limit on several occasions."<sup>12</sup> As a result, on July 10, 2014, FPL sought another license amendment to increase the TS limit from 100 to 104°F.<sup>13</sup> On July 17, 2014, FPL asked that the NRC Staff respond to its amendment request on an emergency basis "to avoid a dual unit shutdown that could affect grid reliability."<sup>14</sup> On July 30, 2014, the NRC Staff published its findings that (1) exigent circumstances existed such that the Commission could not allow 30 days for public comment prior to acting on FPL's application; and (2) the amendment involved no significant hazards considerations.<sup>15</sup> On August 8, 2014, the NRC Staff approved the proposed license amendments increasing the TS limit to 104°F at the intake and adding a surveillance requirement to verify the water temperature once per hour when it exceeds 100°F.<sup>16</sup> Approval of the license amendments was

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<sup>6</sup> 2014 EA, 79 Fed. Reg. at 44,466; Tr. at 87-88.

<sup>7</sup> License Amendment; Issuance, Opportunity to Request a Hearing, and Petition for Leave to Intervene, 79 Fed. Reg. 47,689, 47,690 (Aug. 14, 2014) [hereinafter Amendment Notice].

<sup>8</sup> See Tr. at 85-87 ("But it's just the temperature at the intake, it's not an average temperature for the component, the Cooling Canal System. It's not . . . indicative of the temperature at the outlet, because that's a function of the heat load . . . that's actually being expended . . .").

<sup>9</sup> See Amendment Notice, 79 Fed. Reg. at 47,690; Tr. at 147.

<sup>10</sup> Final Environmental Assessment and Final Finding of No Significant Impact, 77 Fed. Reg. 20,059, 20,060 (Apr. 3, 2012) [hereinafter 2012 EA]. The 2012 power uprate allowed FPL to operate Turkey Point Units 3 and 4 at "approximately 15-percent over the current licensed thermal power." *Id.*

<sup>11</sup> *Id.*

<sup>12</sup> 2014 EA, 79 Fed. Reg. at 44,466 ("On July 20, 2014, the NRC approved a notice of enforcement discretion (NOED), which allows the UHS temperature to exceed 100°F up to 103°F for a period of no more than 10 days . . .").

<sup>13</sup> Letter from Michael Kiley, Vice President, FPL, to NRC, License Amendment Request No. 231, Application to Revise Technical Specifications to Revise Ultimate Heat Sink Temperature Limit (July 10, 2014) (ADAMS Accession No. ML14196A006).

<sup>14</sup> Amendment Notice, 79 Fed. Reg. at 47,690.

<sup>15</sup> *Id.*

<sup>16</sup> 2014 EA, 79 Fed. Reg. at 44,465.

published in the *Federal Register* on August 14, 2014, along with an opportunity to request a hearing.<sup>17</sup>

On October 14, 2014, CASE submitted its petition to intervene and request for a hearing, including four proposed contentions.<sup>18</sup> On November 10, 2014, the NRC Staff and FPL filed answers arguing that CASE lacks standing and that its contentions fail to meet the NRC's contention admissibility requirements.<sup>19</sup> On November 17, 2014, CASE submitted a consolidated reply to the NRC Staff and FPL answers.<sup>20</sup> On November 28, 2014, FPL moved to strike certain portions of CASE's reply that FPL argues represent new arguments and references not included in CASE's initial petition.<sup>21</sup> On January 14, 2015, this Board heard oral argument from representatives of CASE, the NRC Staff, and FPL on standing and contention admissibility regarding CASE's petition.<sup>22</sup>

## II. FPL'S MOTION TO STRIKE

FPL's motion to strike argues that CASE's reply made new arguments and supplied new references that were not included in its initial petition and, therefore, should not be considered by the Board.<sup>23</sup> Though a petitioner has the right to file a reply,<sup>24</sup> that reply cannot raise for the first time new arguments in support of its contentions.<sup>25</sup> Rather, the right to reply is intended to provide an opportunity to "legitimately amplif[y]" arguments made in the petition in response to applicant and NRC Staff answers.<sup>26</sup>

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<sup>17</sup> Amendment Notice, 79 Fed. Reg. at 47,689.

<sup>18</sup> Petition at 5.

<sup>19</sup> NRC Staff's Answer to Citizens Allied for Safe Energy, Inc.'s Petition for Leave to Intervene and Request for Hearing (Nov. 10, 2014) [hereinafter NRC Staff Answer]; FPL's Answer to Citizens Allied for Safe Energy, Inc.'s Petition to Intervene and Request for a Hearing (Nov. 10, 2014) [hereinafter FPL Answer].

<sup>20</sup> Citizens Allied for Safe Energy, Inc.'s Reply to FPL and to NRC Staff Answers to Its Petition to Intervene and Request for a Hearing (Nov. 17, 2014) [hereinafter Reply].

<sup>21</sup> Motion to Strike at 1.

<sup>22</sup> See Licensing Board Notice and Order (Scheduling Oral Argument) (Dec. 1, 2014) (unpublished); Tr. at 4.

<sup>23</sup> Motion to Strike at 1.

<sup>24</sup> See 10 C.F.R. § 2.309(i)(2).

<sup>25</sup> *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 225 (2004). The Commission has, by contrast, allowed a petitioner to use its reply as an opportunity to cure potential defects in standing. See *PPL Bell Bend, LLC* (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC 133, 139-40 (2010); *South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-10-1, 71 NRC 1, 7 (2010).

<sup>26</sup> *National Enrichment Facility*, CLI-04-25, 60 NRC at 224.

With respect to standing, FPL's motion seeks to strike portions of CASE's reply that (1) argue that FPL plans to withdraw water from a freshwater portion of the Biscayne aquifer; (2) rely on two U.S. Geological Survey documents to show that the aquifers contain freshwater; (3) rely on an Environmental Protection Agency website to make a claim regarding the use of certain chemicals in the CCS; and (4) argue that CASE was conferred standing in the Turkey Point Units 6 and 7 combined license proceeding.<sup>27</sup> At oral argument, FPL acknowledged that "[t]o the extent that there are attempts to address standing [in CASE's reply], . . . that may be exempted" from the motion to strike.<sup>28</sup>

With respect to CASE's proposed contentions, FPL's motion seeks to strike portions of CASE's reply that (1) rely on the Everglades Restoration Plan; (2) challenge FPL's amendments based on the presence of hydrazine and low-level radiation in the CCS; (3) rely on the 2007 Turkey Point Wastewater Permit; (4) rely on a *Miami Herald* article about eliminating monitoring requirements in the CCS; (5) argue that the NRC should hold a hearing to make up for lax state and local regulation; and (6) rely on a 1971 Final Judgment that led to construction of the CCS, including arguments that this Judgment (a) prohibited use of biocides and chemical treatments in the CCS; and (b) brings FPL's power dispatch priorities within the scope of the NRC license amendment proceedings.<sup>29</sup>

The Board disagrees with FPL's claim that "CASE never originally argued that FPL planned to withdraw water from a fresh portion of the Biscayne aquifer."<sup>30</sup> Throughout its petition, CASE refers explicitly to its concerns about the impact that FPL's actions will have on freshwater, including the withdrawal of freshwater from Florida's aquifers.<sup>31</sup> As such, the Board views CASE's arguments made in reply related to the use of freshwater to be a legitimate amplification of its original petition. To the extent that FPL's motion seeks to strike CASE's claims regarding impacts on freshwater, the motion is *denied*.

However, the balance of FPL's motion, related to CASE's contentions, appropriately identifies areas where CASE's reply went beyond the scope of the issues raised in its initial petition. As such, the remainder of FPL's motion to strike is *granted*.

With this ruling in mind, we now turn to the questions of CASE's standing and the admissibility of its proffered contentions.

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<sup>27</sup> Motion to Strike at 4-5.

<sup>28</sup> Tr. at 43.

<sup>29</sup> Motion to Strike at 5-7.

<sup>30</sup> *Id.* at 5.

<sup>31</sup> See Petition at 6, 16, 17, 18-19.

### III. STANDING

#### A. Standing Requirements

To participate in an NRC licensing proceeding, a petitioner must establish standing to intervene.<sup>32</sup> While a petitioner bears the burden of establishing standing, licensing boards should “evaluate a petitioner’s standing . . . constru[ing] the petition in favor of the petitioner.”<sup>33</sup> A petition to intervene must state (1) the nature of the petitioner’s right under either the Atomic Energy Act or the National Environmental Policy Act (NEPA) to be made a party to the proceeding; (2) the nature and extent of the petitioner’s property, financial, or other interest in the proceeding; and (3) the possible effect of any decision or order that may be issued in the proceeding on the petitioner’s interest.<sup>34</sup> To determine whether a petitioner satisfies these requirements, the Commission has traditionally applied contemporaneous judicial concepts of standing, requiring a showing of “concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision.”<sup>35</sup> In certain “situations involving . . . obvious potential for offsite consequences”<sup>36</sup> — including reactor licensing, license renewal, and at least some license amendment proceedings — the Commission has routinely granted standing to petitioners who live within a certain distance of the facility at issue under the “proximity presumption,” effectively dispensing with the need to make an affirmative showing of injury, causation, and redressability.

When an organization, such as CASE, seeks to intervene on behalf of its members, it may establish standing by showing that (1) one or more of its members would individually meet the above articulated standing requirements; (2) the member has authorized the organization to represent its interest; and (3) the interest represented is germane to the organization’s purpose.<sup>37</sup>

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<sup>32</sup> See 10 C.F.R. § 2.309(a).

<sup>33</sup> *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995).

<sup>34</sup> 10 C.F.R. § 2.309(d)(1).

<sup>35</sup> *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993) (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992)); see, e.g., *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998); *Ga. Tech Research Reactor*, CLI-95-12, 42 NRC at 115.

<sup>36</sup> *Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329-30 (1989).

<sup>37</sup> See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 323 (1999).



## B. Ruling on CASE's Standing

CASE, on behalf of the nine members who submitted affidavits in support of its petition,<sup>38</sup> claims representational standing under the proximity presumption.<sup>39</sup> Alternatively, CASE claims that its members have been injured in a variety of ways by the NRC's grant of license amendments to FPL.<sup>40</sup> The NRC Staff and FPL do not dispute that CASE's members have authorized CASE to represent them on an issue germane to CASE's purpose.<sup>41</sup> The NRC Staff and FPL do, however, dispute CASE's standing claims by stating that (1) the proximity presumption does not properly apply to this proceeding;<sup>42</sup> and (2) CASE and its members do not satisfy the traditional judicial standing requirements of injury, causation, and redressability.<sup>43</sup>

### 1. Proximity Presumption

The NRC Staff disputes CASE's standing presumption based on proximity claiming that, "[i]n license amendment proceedings, petitioners must satisfy the judicial concept of standing."<sup>44</sup> FPL also argues that the proximity presumption should not apply in this case, though it acknowledges that the presumption may be used in license amendment cases where the petitioner shows "a plausible chain of events that would result in offsite radiological consequences posing a distinct new harm to the petitioner."<sup>45</sup> As detailed below, the Board grants CASE standing in this proceeding based on traditional judicial standing requirements.

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<sup>38</sup> Petition, Ex. 6-13, Aff. of Pamela Gray (Oct. 13, 2014), Aff. of Philip Stoddard (Oct. 13, 2014), Aff. of Catherine Gilbert (Oct. 13, 2014), Aff. of Alice Read (Oct. 13, 2014), Aff. of Barry White (Oct. 14, 2014), Aff. of Ronnie White (Oct. 14, 2014), Aff. of Anna Bystrick (Oct. 14, 2014), Aff. of Murray Yanks (Oct. 13, 2014); Petition, Ex. 14, Aff. of Bernard Ginsberg (Jan. 12, 2015) [hereinafter Ginsberg Aff.]. These nine members live between 13 and 40 miles from the Turkey Point facility. CASE attached eight affidavits to its initial petition to intervene, supplementing it with an additional affidavit two days prior to oral argument. *See* Ginsberg Aff. At oral argument, FPL, while stating its view that "the affidavit is cumulative to the already filed petition[,] . . . adds nothing to the petition . . . [and] that it's late filed," did not move to strike this affidavit. Tr. at 14. Neither did the NRC Staff. *Id.* at 15. As such, the Board will consider the Ginsberg Affidavit as a proper exhibit supporting CASE's petition.

<sup>39</sup> Petition at 2-3.

<sup>40</sup> *Id.* at 4; *see, e.g.*, Tr. at 25.

<sup>41</sup> *See, e.g.*, NRC Staff Answer at 6.

<sup>42</sup> *See* NRC Staff Answer at 7; FPL Answer at 10.

<sup>43</sup> *See* NRC Staff Answer at 7-9; FPL Answer at 10-12.

<sup>44</sup> NRC Staff Answer at 7. At oral argument, the NRC Staff acknowledged that certain license amendment proceedings allow standing via the proximity presumption. Tr. at 16-17.

<sup>45</sup> FPL Answer at 9-10.

As a result, the Board need not address CASE's standing based on the proximity presumption.<sup>46</sup>

## 2. *Judicial Standing*

CASE claims that the "NRC issued amendments . . . ha[ve] and will impact and endanger the water source for all of the petitioners."<sup>47</sup> Specifically, CASE states in its petition that

(1) drawing excessive water from the aquifer presents tangible and particular harm to the health and wellbeing of [CASE's] members living within 50 miles of the site and who are ratepayers of the company; (2) the Commission has authorized measures the granting of which would directly affect [CASE and its] members; and (3) the Commission is the sole agency with the power to approve, to deny or to modify a license to construct and operate a commercial nuclear power plant.<sup>48</sup>

FPL disputes CASE's claim of injury related to excessive withdrawal of aquifer water, arguing that "CASE does not show that such withdrawals in fact have any impact whatsoever on its members" since "FPL is not withdrawing from any potable water source."<sup>49</sup> Additionally, the NRC Staff and FPL both argue that CASE's claimed injury is not traceable to the NRC-issued amendments, as those withdrawals were approved by state authorities, and so cannot be redressed in this proceeding.<sup>50</sup>

CASE argues that the NRC Staff and FPL understate the injury to its members by characterizing the Biscayne and Floridan Aquifers as saltwater and non-potable.<sup>51</sup> CASE has consistently claimed that water drawn from these aquifers is fresh,<sup>52</sup> arguing that excessive aquifer withdrawal leads to insufficient freshwater and exacerbates saltwater intrusion in the region, threatening the interests of CASE's members who use freshwater for drinking, agriculture, rock mining operations, and fishing.<sup>53</sup> The parties dispute the appropriate characterization of the water at issue here. Resolution of that factual dispute is not necessary or

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<sup>46</sup> The Board, therefore, will not address whether the proximity presumption properly applies only to license amendment proceedings involving the potential for offsite "radiological" consequences, or applies also to amendments involving offsite "environmental" consequences.

<sup>47</sup> Petition at 4.

<sup>48</sup> *Id.*

<sup>49</sup> FPL Answer at 11-12. The NRC Staff also asserts that the water withdrawn by FPL is saltwater and not fresh. *See* Tr. at 56-57.

<sup>50</sup> NRC Staff Answer at 8; FPL Answer at 10-11.

<sup>51</sup> Reply at 8; Tr. at 31-32.

<sup>52</sup> *See, e.g.*, Petition at 6, 16, 17, 18-19; Tr. at 21-22, 28-30.

<sup>53</sup> Tr. at 28-29.

appropriate at this stage. Viewing disputed facts in a light favorable to CASE, the Board concludes that CASE has alleged a sufficient injury related to the use of freshwater aquifer resources and any resulting potential for increased saltwater intrusion.

CASE argues that its members' injuries have been caused by the NRC's issuance of license amendments to FPL, because those amendments allow continued operation of FPL's "Turkey Point cooling canal system (CCS) at its current extreme levels of temperatures and salinity and increased use of freshwater resources [that] is a threat to the financial and ecological viability of the area."<sup>54</sup> Additionally, CASE alleges "that the corrective actions taken to mitigate the situation were caustic and not exhaustively evaluated experimentally."<sup>55</sup> While the NRC did not authorize any aquifer withdrawals *per se*, the NRC's approval of the present license amendments enables Turkey Point Units 3 and 4 to continue operating at the same power level and with elevated CCS temperatures, which could effectively require additional aquifer withdrawals and lead to additional saltwater intrusion in the future. After all, absent NRC action, FPL would have been forced to shut down or at least reduce power at Turkey Point Units 3 and 4, a result that could have potentially obviated any need for more extensive aquifer withdrawals, at least during periods when CCS intake temperatures exceed 100°F.

As to whether this proceeding could afford CASE's members a potential remedy, CASE alleges "that the NRC by its own regulations does have the authority to temporarily and permanently correct this situation in these proceedings."<sup>56</sup> We agree, and are not convinced by the assertion from the NRC Staff and FPL that this proceeding presents no opportunity to redress CASE's members' claimed injury. Standing law does not require that a possible remedy make a claimant whole by completely resolving an alleged injury. Rather, the United States Supreme Court has made clear that a remedy that makes even a small contribution to resolving a larger, more complex injury can still support a standing claim.<sup>57</sup> As CASE states in its reply, the claimed injury could have been prevented through a variety of means, including "shutting down or reducing the operation of one or both reactors."<sup>58</sup> The issue before this Board is not whether it may order the shutdown of Turkey Point Units 3 and 4, but rather, whether the NRC Staff is obligated to evaluate more fully the environmental impacts associated with issuance of the challenged license amendments, including the impact of aquifer withdrawals that

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<sup>54</sup> *Id.* at 25.

<sup>55</sup> *Id.*

<sup>56</sup> *Id.*

<sup>57</sup> *Massachusetts v. U.S. Environmental Protection Agency*, 549 U.S. 497, 526 (2007) ("The risk of catastrophic harm, though remote, is nevertheless real. That risk would be reduced to some extent if petitioners received the relief they seek.").

<sup>58</sup> Reply at 13.

are the immediate or reasonably foreseeable result of the NRC's granting of the subject amendments.

As such, the Board rules that CASE has made a sufficient showing that its members meet the requirements for standing by establishing the potential for injury caused by the NRC's issuance of license amendments to FPL that can be remedied by the Board in this proceeding.

#### **IV. CONTENTION ADMISSIBILITY**

##### **A. Contention Admissibility Standards**

For a hearing to be granted, a petitioner must not only establish its standing to intervene, but must also submit at least one admissible contention.<sup>59</sup> An admissible contention must be timely<sup>60</sup> and satisfy the requirements of 10 C.F.R. § 2.309(f)(1), which states, in relevant part, that a petition must:

- (i) Provide a specific statement of the issue of law or fact to be raised or controverted . . . ;
- (ii) Provide a brief explanation of the basis for the contention;
- (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
- (iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;
- (v) Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing, together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue; [and]
- (vi) . . . [P]rovide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information must include references to specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief.<sup>61</sup>

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<sup>59</sup> See 10 C.F.R. § 2.309(a).

<sup>60</sup> See 10 C.F.R. § 2.309(b)(3)(i) (requiring filing of a petition to intervene within the "time specified in any . . . notice of proposed action").

<sup>61</sup> 10 C.F.R. § 2.309(f)(1). In this case, CASE has challenged the NRC's EA, which is the applicable environmental document at this stage of the proceeding.

Failure to comply with any of the section 2.309(f)(1) requirements renders a contention inadmissible.<sup>62</sup>

## **B. CASE's Proposed Contentions**

CASE's petition to intervene and request for a hearing was timely filed on October 14, 2014.<sup>63</sup> CASE's petition includes four proposed contentions.<sup>64</sup> Though CASE's "petition may not be a model of clarity or organization," this Board will heed "the rule of interpretation that pleadings submitted by *pro se* petitioners are afforded greater leniency than petitions drafted with the assistance of counsel."<sup>65</sup> Thus, this Board will scrutinize CASE's pleadings and statements at oral argument to determine whether CASE has made a sufficient case to support an admissible contention.

After considering all the information before it, the Board admits a narrowed version of Contention 1,<sup>66</sup> denies admission of Contention 3 as duplicative, and denies admission of Contentions 2 and 4 as beyond the scope of this proceeding and immaterial to the findings required to be made by the NRC in the pending action.

### **1. Contention 1**

As proffered by CASE, Contention 1 alleges that "[t]he uprate of Turkey Point reactors 3 & 4 has been concurrent with alarming increases in salinity, temperature, tritium and chloride in the CCS area."<sup>67</sup> Specifically, CASE challenges (1) FPL's

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<sup>62</sup> See *PFS*, CLI-99-10, 49 NRC at 325.

<sup>63</sup> See Amendment Notice, 79 Fed. Reg. at 47,689. Neither the NRC Staff nor FPL objected to CASE's petition on timeliness grounds. CASE filed its petition by e-mail on October 14, 2014 but did not file electronically through the NRC's E-Filing system until October 17, 2014. Having been previously authorized to file by e-mail in the Turkey Point Units 6 and 7 combined license proceeding, the NRC Staff recognizes that CASE "reasonably relied on the representations of Staff's counsel in the Unit 6 and 7 proceeding prior to filing." NRC Staff Answer at 1 n.1.

<sup>64</sup> Petition at 5.

<sup>65</sup> *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 2), LBP-15-5, 81 NRC 249, 286 (2015); see also *Public Service Electric and Gas Co.* (Salem Nuclear Generating Station, Units 1 and 2), ALAB-136, 6 AEC 487, 489 (1973) (stating that "[w]hile a totally deficient pleading may not be justified on th[e] basis" that it was prepared without the assistance of counsel, "we do not think that a *pro se* petitioner should be held to those standards of clarity and precision to which a lawyer might reasonably be expected to adhere").

<sup>66</sup> "[B]oards may reformulate contentions to 'eliminate extraneous issues or to consolidate issues for a more efficient proceeding.'" *Crow Butte Resources, Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 552 (2009) (quoting *Shaw AREVA MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-08-11, 67 NRC 460, 482 (2008)).

<sup>67</sup> Petition at 5.

claim that the rise in CCS temperature and salinity has been caused by increased ambient temperatures and lack of rainfall;<sup>68</sup> and (2) the adequacy of the NRC Staff's review of environmental impacts related to the granting of FPL's license amendments.<sup>69</sup> CASE alleges that FPL has failed to prevent high salinity water and toxic algae from escaping the CCS, and has withdrawn excessive volumes of water from Florida's aquifers.<sup>70</sup>

To support its contention, CASE provides data from the Miami-Dade County Department of Environmental Resources Management (DERM) claiming to show (1) dramatic increases in temperature and salinity in the CCS that coincided with uprates at Units 3 and 4; and (2) increased migration of materials from the CCS into surrounding waters.<sup>71</sup> Additionally, CASE utilizes available weather data to support its claim that increases in ambient temperature and decreases in rainfall in Homestead, Florida, have not been sufficient to produce the higher CCS temperatures.<sup>72</sup> Finally, CASE cites statements from the Superintendent of Biscayne National Park and a U.S. Geological Survey report to support its claim that reduction in freshwater due to aquifer withdrawal exacerbates saltwater intrusion.<sup>73</sup>

In opposition, the NRC Staff and FPL first argue that Contention 1 is untimely as a challenge to the 2012 license amendments authorizing the EPU's and, therefore, is outside the scope of the proceeding, is immaterial to the findings the NRC must make, and fails to present a genuine dispute.<sup>74</sup> Second, the NRC Staff opposes CASE's claims related to aquifer withdrawals and saltwater intrusion, arguing that they are outside the scope of the proceeding as "not traceable to the license amendment at issue and cannot be redressed by a proceeding before

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<sup>68</sup> See, e.g., Tr. at 50. CASE argues instead that increased temperatures and salinity in the CCS can be traced to increased power levels at Turkey Point due to the NRC-approved uprate in 2012. See Petition at 9.

<sup>69</sup> See Petition at 6 ("[T]here does not seem to be any mention of the impact [of] the matter of salinity in the CCS or regarding saltwater intrusion into the Florida Aquifer"); see also *id.* at 17 ("CASE contends, there was not a thorough and exhaustive examination of the implications [of] the measures taken by FPL" to correct the problems in the CCS.) The Board views CASE's arguments made in support of Contentions 1 and 3 to be largely duplicative. As such, the Board will consider arguments made in relation to Contention 3 as supportive of Contention 1 as well.

<sup>70</sup> *Id.* at 15-17.

<sup>71</sup> See *id.* at 6-9, 18, Ex. 1; Tr. 110. At oral argument, FPL discounted the data provided by CASE, including Exhibit 1, claiming that it preceded the time of the uprate. See Tr. at 52-54. In the Board's view, while some of the data in Exhibit 1 does precede the uprate, much of it directly relates to the claim that changes occurred in CCS temperature and salinity between the pre- and post-uprate time frames.

<sup>72</sup> See Petition at 8-9, 12.

<sup>73</sup> See *id.* at 16-17, 18-19.

<sup>74</sup> See NRC Staff Answer at 13-14; FPL Answer at 21-24.

the Board.”<sup>75</sup> Likewise, FPL argues that “none of these environmental issues is relevant to [a] slight increase to the TS limit on UHS temperature.”<sup>76</sup>

Ultimately, however, both the NRC Staff and FPL acknowledge that the crux of CASE’s concern is that the NRC failed to comply with NEPA in its evaluation of FPL’s license amendment request.<sup>77</sup> In this respect, the NRC Staff objects to CASE’s claim that the EA failed to consider FPL’s water withdrawals in its efforts to mitigate increased temperatures and salinity in the CCS,<sup>78</sup> by countering that CASE does not identify any specific flaws in the EA’s analysis.<sup>79</sup> The NRC Staff suggests that all of CASE’s criticisms of its environmental review relate not to the present amendments, but to the environmental assessments that were conducted in relation to initial licensing, license renewal, and the issuance of the EPU amendments.<sup>80</sup> Similarly, FPL argues that CASE’s challenge must fail because the aquifer withdrawals, along with FPL’s other mitigation measures, predate the license amendment application and were mentioned and evaluated by the NRC in its 2014 EA.<sup>81</sup>

*a. Board Analysis of Contention 1*

The Board disagrees with the NRC Staff’s and FPL’s characterization of Contention 1 as a direct challenge to the 2012 EPU license amendments. It is the Board’s view that CASE refers to the uprate in order to highlight the alleged failure, by NRC Staff, to question FPL’s claim that increased CCS temperatures have been caused by “unseasonably dry weather and . . . reduced cooling efficiency caused by an algae bloom.”<sup>82</sup> CASE maintains that the NRC Staff should have considered the uprate of Turkey Point Units 3 and 4 as a potential cause of the temperature increase necessitating the subject amendments.<sup>83</sup> As CASE stated,

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<sup>75</sup> NRC Staff Answer at 18.

<sup>76</sup> FPL Answer at 27.

<sup>77</sup> NRC Staff Answer at 19; FPL Answer at 27.

<sup>78</sup> NRC Staff Answer at 19.

<sup>79</sup> *Id.* at 20.

<sup>80</sup> *See id.* at 19-20.

<sup>81</sup> *See* FPL Answer at 27-31.

<sup>82</sup> Amendment Notice, 79 Fed. Reg. at 47,690. In this regard, the 2014 EA restates FPL’s claim that “[t]he proposed action is needed to provide FPL with additional operational flexibility during periods when high air temperatures, low rainfall, and other factors contribute to conditions resulting in a UHS temperature in excess of 100°F that would otherwise necessitate FPL to place Turkey Point in cold shutdown.” 2014 EA, 79 Fed. Reg. at 44,466.

<sup>83</sup> *See* Petition at 9 (“Despite FPL’s position that lack of rainfall and atmospheric conditions have created the temperature problems in the CCS the DERM data (Exhibit 1) indicates that the problems

*(Continued)*

“we’re not challenging the up-rate. What we’re saying is, you must look at the consequences and what it’s causing, what’s happening.”<sup>84</sup>

The Board also disagrees with the NRC Staff and FPL that Contention 1 challenges actions not traceable to NRC-issued license amendments. In the Board’s view, the contention alleges shortcomings in the NRC Staff’s consideration of environmental impacts related to FPL’s 2014 amendment request. Specifically, CASE alleges that the NRC Staff did not adequately consider the current and reasonably foreseeable environmental impacts of FPL’s planned actions in the CCS for mitigating rising temperature and salinity levels.<sup>85</sup>

In 2012, the NRC Staff considered environmental impacts related to the EPU<sup>s</sup><sup>86</sup> and, as stated at oral argument, “use[d] the best information available at the time.”<sup>87</sup> Whether the NRC Staff erred in its 2012 EA analysis is not at issue before this Board. What is at issue is whether the 2014 EA, and associated finding of no significant impact, contains a sufficient discussion of environmental impacts and the “reasons why the proposed action will not have a significant effect on the quality of the human environment.”<sup>88</sup> In order to make this finding of no significant impact, the 2014 EA’s discussion must address actual environmental impacts that have been observed since the 2012 EA or that are now reasonably foreseeable. When drafting an EA, the NRC cannot simply import the analysis from a previously completed EA while disregarding intervening events.<sup>89</sup> “It would be incongruous with [NEPA’s] approach to environmental protection, and with the Act’s manifest concern with preventing uninformed action, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior to the completion of agency action simply because the relevant proposal has received initial approval.”<sup>90</sup>

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started much earlier and were temporally related to the uprates of Turkey Point 3 & 4. . . . In view of the DERM data, FPL or independent scientists should look carefully at what is actually causing the readings observed.”)

<sup>84</sup> Tr. at 120-21.

<sup>85</sup> See, e.g., Petition at 6, 15, 19.

<sup>86</sup> 2014 EA, 79 Fed. Reg. at 44,466.

<sup>87</sup> Tr. at 158.

<sup>88</sup> 10 C.F.R. § 51.32(a)(3); see also 10 C.F.R. §§ 51.30(a)(1), 51.31(a).

<sup>89</sup> To hold otherwise would render meaningless NEPA’s requirement to supplement an EIS or EA. See 40 C.F.R. § 1502.9(c)(1)(ii) (“Agencies . . . [s]hall prepare supplements to either draft or final environmental impact statements if . . . [t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.”); 10 C.F.R. § 51.92(a)(2). “The standard for preparing a supplemental EA is the same as for preparing an SEIS.” *Southern Utah Wilderness Alliance Corp. v. Norton*, 301 F.3d 1217, 1238 n.19 (10th Cir. 2002), *rev’d on other grounds*, 542 U.S. 55 (2004).

<sup>90</sup> *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989).



At oral argument, FPL reiterated its argument that CASE's petition fails to tie its contentions to any NEPA requirements or specific citations to the EA, while acknowledging that, "[h]ad they said the EA is inadequate because it fails to comply with NEPA by failing to address or failing to adequately address these certain issues, that might be an admissible contention."<sup>91</sup> As previously stated,<sup>92</sup> the Board will not require such procedural formalism from a *pro se* petitioner in order to reject an otherwise valid contention. CASE refers to the 2014 EA on multiple occasions in its petition, alleging a variety of inadequacies and omissions.<sup>93</sup> For instance, CASE (1) refers to "the NRC document" making no "mention of the impact [of] the matter of salinity in the CCS or regarding saltwater intrusion" into the aquifer;<sup>94</sup> (2) states that there is "no mention of the use of [copper sulfate] in the NRC notice";<sup>95</sup> (3) states that there is "not a thorough and exhaustive examination of the implications [of] the measures taken by FPL to correct in FPL's opinion, the exigent situation in the CCS";<sup>96</sup> and (4) asks "[w]here are the studies related to the issuance of the Amendments which addressed this [saltwater intrusion] concern."<sup>97</sup> Despite not using the phrase "environmental assessment," CASE's intention to refer to the EA is made clear by reference to an "NRC notice," followed by a lengthy quote from the EA's discussion of radiological impacts.<sup>98</sup> As such, CASE's repeated allegations of inadequacies and omissions in the NRC Staff's EA satisfies the requirement of 10 C.F.R. § 2.309(f)(1)(i) to provide a specific statement of the issue of law or fact to be raised.

CASE has raised a legitimate issue related to the NRC Staff's compliance with its NEPA obligation to undertake a full evaluation of the environmental impacts associated with a proposed federal action. Accordingly, the Board views this issue to be within the scope of this proceeding and material to the findings that the NRC must make, as required by 10 C.F.R. § 2.309(f)(1)(iii) and (iv). Additionally, the Board views the alleged facts and expert opinions contained in CASE's petition and associated exhibits, as detailed above,<sup>99</sup> as sufficient to satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(v).

Finally, the Board concludes, for reasons set forth more fully below, that CASE has provided a sufficient basis, pursuant to 10 C.F.R. § 2.309(f)(1)(ii), and

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<sup>91</sup> Tr. at 52.

<sup>92</sup> See *supra* Part IV.B.

<sup>93</sup> See e.g., Petition at 6, 15, 17, 19.

<sup>94</sup> *Id.* at 6.

<sup>95</sup> *Id.* at 15.

<sup>96</sup> *Id.* at 17 (emphasis omitted).

<sup>97</sup> *Id.* at 19.

<sup>98</sup> *Id.* at 19-20.

<sup>99</sup> See *supra* Part IV.B.1.

a sufficient showing of genuine dispute, pursuant to 10 C.F.R. § 2.309(f)(1)(vi), to support admission of a contention alleging that the EA has not adequately addressed environmental impacts associated with saltwater intrusion arising from (1) saline water migration from the CCS into surrounding waters; and (2) FPL's use of aquifer withdrawals to lower salinity and temperature in the CCS.<sup>100</sup>

(i) SALTWATER INTRUSION DUE TO MIGRATION

The 2014 EA relies primarily on the environmental analyses previously conducted for FPL's initial licenses, license renewals, and 2012 EPU license amendments, in order to conclude that "the proposed action would result in no significant impact on . . . groundwater resources," and that "[t]herefore, this environmental assessment does not pre[s]ent any further evaluation of the operational impacts on these environmental resources."<sup>101</sup> The 2014 EA also refers to the CCS as a "closed cycle cooling system," claiming that activities within the CCS are unlikely to impact surface waters outside the CCS.<sup>102</sup> The NRC Staff and FPL both acknowledge, however, that the CCS is not truly "closed" in the sense that (1) it experiences "natural freshwater recharge of the system (*i.e.*, through . . . groundwater exchange);"<sup>103</sup> and (2) materials from the canals flow outward into the groundwater.<sup>104</sup> Given CASE's claim, which appears to be undisputed, that "the canals are unlined . . . and there's nothing to prevent the flow of water, materials, in-and-out,"<sup>105</sup> it is reasonable to assume that CCS migration could significantly impact surrounding groundwater and surface water. Yet, the NRC, in its 2014 EA, does not appear even to have considered whether continued operation of the CCS, at an elevated temperature and salinity level, would impact groundwater and surface waters outside of the canals.

(ii) SALTWATER INTRUSION DUE TO AQUIFER WITHDRAWAL

The NRC Staff and FPL claim that the EA discusses potential environmental impacts related to various aquifer withdrawals that FPL has undertaken, and

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<sup>100</sup> See, e.g., Tr. at 114-16.

<sup>101</sup> 2014 EA, 79 Fed. Reg. at 44,466. When asked whether the 2014 EA discusses saltwater intrusion, the NRC Staff and FPL responded that the EA incorporates the 2012 EA's discussion of aquifers and references an expected administrative order of the FDEP, which is "intended to address saltwater intrusion." Tr. at 167-68.

<sup>102</sup> 2014 EA, 79 Fed. Reg. at 44,467, 44,468.

<sup>103</sup> *Id.* at 44,467.

<sup>104</sup> Tr. at 118, 162-63.

<sup>105</sup> Tr. at 115-16.

will undertake, to help mitigate temperature and salinity increases in the CCS.<sup>106</sup> While the NRC Staff and FPL are correct that the EA mentions certain aquifer withdrawals, the discussion focuses solely on “beneficial impacts to CCS aquatic resources and the crocodiles inhabiting the Turkey Point site” and does not address the degree to which those withdrawals contribute to saltwater intrusion.<sup>107</sup> The EA nowhere discusses the degree to which removing freshwater from the aquifers will exacerbate saltwater intrusion, even though counsel for the NRC Staff stated “I don’t think that there is any dispute that freshwater . . . helps to keep saltwater from intruding farther inland.”<sup>108</sup> Furthermore, the EA addresses only the limited withdrawals that were known or expected at the time of publication.<sup>109</sup> For instance, the EA does not discuss FPL’s temporary authorization to withdraw up to 100 million gallons per day from the L31 canal.<sup>110</sup> CASE’s petition expresses concern that this authorization would not be temporary, but could “set a precedent for future freshwater requests.”<sup>111</sup> In fact, on February 18, 2015, FPL requested permanent authorization from the South Florida Water Management District to draw 100 million gallons per day from the L31 canal in order to resolve temperature and salinity problems in CCS.<sup>112</sup> As discussed earlier, the NRC Staff’s obligation to consider environmental impacts under NEPA does not end with its publication of an environmental review document, but rather continues until final agency action.<sup>113</sup> The legitimacy of the NRC’s hearing process requires that the grant of a license amendment not be considered final agency action until the process has run its course.<sup>114</sup>

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<sup>106</sup> NRC Answer at 19, 20; FPL Answer at 29-30. None of the aquifer withdrawals discussed date back to the time of the EPU since the 2012 EA noted that “[t]he licensee is not requesting an increase in water supply under the proposed EPU.” 2012 EA, 77 Fed. Reg. at 20,063.

<sup>107</sup> See 2014 EA, 79 Fed. Reg. at 44,468. The EA states instead that “[b]ecause the CCS is a manmade closed cycle cooling system, aquifer withdrawals are not likely to have a significant cumulative effect on surface water resources.” *Id.*

<sup>108</sup> Tr. at 68-69.

<sup>109</sup> 2014 EA, 79 Fed. Reg. at 44,468.

<sup>110</sup> These temporary withdrawals were not approved until August 28, 2014. See Tr. at 166.

<sup>111</sup> See Petition at 16-17 (quoting Brian Carlstrom, Superintendent of Biscayne National Park).

<sup>112</sup> See Jenny Staletovich, *Florida Power & Light Spars with National Park Over Water Needs for Nuclear Plant*, Miami Herald (Feb. 19, 2015, 11:48 a.m.), <http://www.miamiherald.com/news/local/environment/article10655732.html>.

<sup>113</sup> See *supra* text accompanying note 90.

<sup>114</sup> In fact, NRC regulations specifically provide that, when an adjudicatory proceeding has been initiated with respect to a license amendment issued with a no significant hazards determination, “[o]nce the presiding officer’s initial decision becomes effective, the appropriate official shall take action with respect to that amendment in accordance with the initial decision.” 10 C.F.R. § 2.340(a)(2)(ii).

(iii) CONCLUSION RELATED TO CONSIDERATION OF SALTWATER INTRUSION

To CASE, the NRC's failure to address matters related to saltwater intrusion appears to be an abdication of responsibility for environmental impacts associated with FPL's operation of the CCS.<sup>115</sup> CASE's critique in this regard seems to be borne out by the NRC Staff's efforts to limit its responsibilities to radiological safety. Thus, at oral argument, counsel for the NRC Staff stated that "in terms of the staff being able to tell FPL that salinity is too high in the canal . . . that would be something that the State of Florida would have authority over, as long as that salinity was not impacting the operation of the reactor."<sup>116</sup> As if to emphasize this narrow view of its NEPA obligations, the state officer with whom the NRC Staff consulted was Cindy Becker, Chief of the Bureau of Radiation Control at the Florida Department of Health, who had no comments on environmental impacts associated with the proposed action.<sup>117</sup> The Florida Department of Health's Bureau of Radiation Control is responsible for monitoring the radiological environment at Florida's nuclear power plants — not the increasing salinity or temperature of the CCS. Apparently, the NRC Staff made no attempt to consult with the Florida Department of Environmental Protection, which is the state agency that would be in the position to best comment upon environmental conditions in the CCS because it — and not the Department of Health's Bureau of Radiation Control — has primary responsibility for this issue.<sup>118</sup> To this Board, it appears reasonable to ask whether the NRC Staff has fulfilled its NEPA obligation to take a hard look at environmental impacts associated with issuance of license amendments increasing the allowable temperature in the CCS.

The Board thus rules that CASE has shown a genuine dispute as to whether the 2014 EA adequately addresses environmental impacts related to saltwater intrusion both from the CCS into surrounding groundwater and surface water, and as a result of reasonably foreseeable aquifer withdrawals that will be undertaken by FPL to mitigate temperature and salinity increases in the CCS.

*b. Admission of Contention 1*

CASE identifies the concern that precipitated its filing of a petition by stating that "[w]e saw the solutions to mitigate the problem which we considered evasive

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<sup>115</sup> See Tr. at 77-78. According to CASE's representative, "a bifurcated system has evolved where FDEP has responsibility without authority, and the NRC has authority without responsibility. . . . But if it turns out that the problem is being caused by something in the reactors like the up-rate, [the FDEP] do[es]n't have the authority . . . . And the reverse, the NRC controls the reactor and they have delegated their authority to the DEP to look after how it affects the land and the people."

<sup>116</sup> Tr. at 155.

<sup>117</sup> See Tr. at 204-06; 2014 EA, 79 Fed. Reg. at 44,469.

<sup>118</sup> See 2014 EA, 79 Fed. Reg. at 44,466, 44,468.

and problematic. And their failure to consider other options as causes.”<sup>119</sup> The Board views this statement as a basic summation of CASE’s contention, but has narrowed the contention to eliminate those areas where CASE alleges the omission of information that is, in fact, discussed in the NRC Staff’s EA.<sup>120</sup> As such, the Board admits *Contention 1*, narrowed and reformulated to read as follows:

The NRC’s environmental assessment, in support of its finding of no significant impact related to the 2014 Turkey Point Units 3 and 4 license amendments, does not adequately address the impact of increased temperature and salinity in the CCS on saltwater intrusion arising from (1) migration out of the CCS; and (2) the withdrawal of fresh water from surrounding aquifers to mitigate conditions within the CCS.

Of course, the question whether the EA is, in fact, sufficient to satisfy the NRC Staff’s NEPA requirements is not the focus of our inquiry here but must await consideration at a full evidentiary hearing.<sup>121</sup>

## 2. *Contention 2*

As proffered by CASE, Contention 2 alleges that “[t]he exigent CCS problems started years before July, 2014 and were being addressed in 2013 and earlier.”<sup>122</sup> CASE challenges the need to issue the license amendments in an “exigent” manner, arguing that circumstances requiring NRC action “had been building and growing since 2012 when Turkey Point Units 3 & 4 were uprated.”<sup>123</sup> In support, CASE points to a variety of remedial measures that FPL has undertaken in the past year to show that the problems leading to increased temperatures have existed for some time.<sup>124</sup>

The NRC Staff opposes Contention 2, asserting that it appropriately determined, pursuant to 10 C.F.R. § 50.91(a)(6), that exigent circumstances existed such that there was insufficient time for a full 30-day public comment period.<sup>125</sup> The NRC Staff further states that its “treatment of the amendment as exigent did not change or alter CASE’s rights in this proceeding[,] . . . only affects whether

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<sup>119</sup> Tr. at 125.

<sup>120</sup> See *infra* Part IV.B.3 for a discussion of these alleged omissions in the context of Contention 3.

<sup>121</sup> See *Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-146, 6 AEC 631, 633 n.5 (1973).

<sup>122</sup> Petition at 5.

<sup>123</sup> *Id.* at 10.

<sup>124</sup> *Id.* at 10-12.

<sup>125</sup> NRC Staff Answer at 16.

a hearing opportunity is provided prior to issuance of the amendment[, and] the Atomic Energy Act does not require pre-amendment hearing.”<sup>126</sup>

Similarly, FPL opposes Contention 2, stating that “[t]he scope of this proceeding is limited to the license amendment itself, not the timing by which the amendment was issued.”<sup>127</sup> FPL also disputes CASE’s suggestion that its request should not qualify for exigent consideration because the problems leading to the CCS temperature increase have been known for some time, stating that while it has taken remedial action to address salinity issues in the CCS “[t]here was no reason to request an amendment from the NRC, exigent or otherwise, until it became clear that the UHS was in danger of approaching the 100°F TS limit.”<sup>128</sup>

The Board denies admission of Contention 2 as beyond the scope of this proceeding. Under 10 C.F.R. § 50.91(a)(5),

[w]here the Commission finds that an emergency situation exists, in that failure to act in a timely way would result in derating or shutdown of a nuclear power plant, . . . it may issue a license amendment involving no significant hazards consideration without prior notice and opportunity for a hearing or for public comment.

The NRC Staff, in reviewing the present license amendments, did indeed find that (1) “exigent circumstances exist”; and (2) “the amendment involves no significant hazards considerations.”<sup>129</sup> In light of 10 C.F.R. § 50.91(a)(5), the “exigent circumstances” determination seems compelled by the fact that violation of the TS limit for the CCS, whatever the cause of the temperature increase, requires a dual unit shutdown. And, the second finding — the “no significant hazards determination” — may not be challenged before the Commission or a licensing board.<sup>130</sup> Furthermore, the NRC Staff’s determinations did not actually deprive CASE of its opportunity to request a hearing, but simply delayed that hearing until after the license amendment had been issued. The Board therefore declines to admit Contention 2.

### **3. Contention 3**

As proffered by CASE, Contention 3 alleges that “[t]he measures being used to control the CCS conditions are extraordinarily invasive, environmentally usurious

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<sup>126</sup> *Id.*

<sup>127</sup> FPL Answer at 25.

<sup>128</sup> *Id.* at 26. During oral argument, FPL asserted that “temperature did not become a concern with respect to crossing the limit until the summer of 2014.” Tr. at 136.

<sup>129</sup> Amendment Notice, 79 Fed. Reg. at 47,690.

<sup>130</sup> See 10 C.F.R. § 50.58(b)(6).

and some untested.”<sup>131</sup> Like Contention 1, Contention 3 also alleges inadequate consideration of the current and reasonably foreseeable environmental impacts of FPL’s ongoing actions in the CCS to mitigate rising temperature and salinity levels. The Board declines to admit Contention 3 as a separate contention, since its concerns are largely duplicative of those raised in Contention 1.

Contention 3 does raise some issues not directly addressed in the Board’s discussion of Contention 1. For instance, CASE faults FPL for using copper sulfate to control algae blooms in the CCS<sup>132</sup>; and raises “concerns related to increasing reactor operating temperatures in relation to waste.”<sup>133</sup> The NRC Staff and FPL rightly argue<sup>134</sup> that, contrary to CASE’s claim, the EA associated with the present license amendments does address potential environmental impacts associated with the use of copper sulfate, and other chemicals, in the CCS.<sup>135</sup> Therefore, on this point, CASE fails to show that a genuine dispute exists, as required by 10 C.F.R. § 2.309(f)(1)(vi), since the EA does in fact discuss those impacts. The Board also agrees with the NRC Staff and FPL argument<sup>136</sup> that CASE’s radiological claims represent a direct challenge to the 2012 license amendments authorizing the EPU’s and are, therefore, outside the scope of this proceeding and inadmissible pursuant to 10 C.F.R. § 2.309(f)(1)(iv).<sup>137</sup>

#### **4. Contention 4**

As proffered by CASE, Contention 4 alleges that “[t]he CCS is aging, old technology and FPL has no redundancy for Units 3 & 4 limiting corrective actions.”<sup>138</sup> CASE suggests that “the CCS has outlived its usefulness and functionality”<sup>139</sup> and claims FPL has failed to provide enough back-up power generation to Turkey Point Units 3 and 4, thereby creating an exigent situation in need of immediate NRC action.<sup>140</sup>

The NRC Staff opposes Contention 4, arguing that (1) it fails to identify a genuine dispute with the NRC Staff’s Safety Evaluation Report conducted in

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<sup>131</sup> Petition at 5.

<sup>132</sup> See *id.* at 15 (“There was no mention of the use of [copper sulfate] in the NRC notice.”).

<sup>133</sup> *Id.* at 20.

<sup>134</sup> See NRC Staff Answer at 19; FPL Answer at 28.

<sup>135</sup> See 2014 EA, 79 Fed. Reg. at 44,468 (referencing the NRC’s July 25, 2014 biological assessment on the American crocodile, which includes an analysis of impacts related to copper sulfate).

<sup>136</sup> See NRC Staff Answer at 20; FPL Answer at 33-34.

<sup>137</sup> CASE abandoned its arguments related to radiological concerns at oral argument. See Tr. at 183-84.

<sup>138</sup> Petition at 5.

<sup>139</sup> *Id.* at 22.

<sup>140</sup> See *id.* at 22-23; Tr. at 197.

conjunction with the present license amendments;<sup>141</sup> (2) it is beyond the scope of this proceeding as a challenge to the design and function of the CCS;<sup>142</sup> and (3) it fails to identify factual support for its claims.<sup>143</sup> The NRC Staff argues that CASE's concerns with the current design and operation of the CCS would be more properly addressed through a petition under 10 C.F.R. § 2.206, noting that "there is an ongoing section 2.206 safety proceeding regarding Turkey Point and the CCS."<sup>144</sup>

FPL opposes Contention 4, claiming that CASE's vague assertions about the CCS's age and operation "do not amount to a litigable dispute."<sup>145</sup> Further, FPL argues, its "business decisions and grid reliability efforts are beyond the purview of the NRC, far beyond the scope of this proceeding, and immaterial to the NRC's review of the amendment."<sup>146</sup>

The Board agrees that CASE's Contention 4 fails to state an admissible contention. First, CASE fails to state any issue of law or fact that disputes the NRC's findings related to safety at Turkey Point Units 3 and 4. Second, Contention 4 amounts to a challenge to the current design and function of the CCS and so is outside the scope of this proceeding. Finally, questions as to whether the CCS has "outlived its usefulness and functionality"<sup>147</sup> or whether "FPL has limited its options by shutting down, or re-purposing [units] one and two"<sup>148</sup> are immaterial to the issues before this Board. As such, the Board declines to admit Contention 4.

## V. CONCLUSION

For the foregoing reasons, the Board *grants* FPL's motion to strike with respect to the identified portions of CASE's reply that include arguments in support of contention admissibility that were not contained in its initial petition to intervene.

The Board *grants* CASE's petition to intervene and request for a hearing. The Board *admits* a narrowed version of Contention 1, but *denies* admission of Contentions 2, 3, and 4.

An appeal of this Memorandum and Order may be filed within twenty-five (25) days of service of this decision by filing a notice of appeal and an accompanying

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<sup>141</sup> NRC Staff Answer at 22.

<sup>142</sup> *Id.* at 22-23.

<sup>143</sup> *Id.* at 23-24.

<sup>144</sup> *Id.* at 22-23 & n.82.

<sup>145</sup> FPL Answer at 35.

<sup>146</sup> *Id.*

<sup>147</sup> Petition at 22.

<sup>148</sup> Tr. at 197.



supporting brief under 10 C.F.R. § 2.311(b). Any party opposing an appeal may file a brief in opposition to the appeal. All briefs must conform to the requirements of 10 C.F.R. § 2.341(c)(3).

It is so ORDERED.

THE ATOMIC SAFETY AND  
LICENSING BOARD

Michael M. Gibson, Chairman  
ADMINISTRATIVE JUDGE

Dr. Michael F. Kennedy  
ADMINISTRATIVE JUDGE

Dr. William W. Sager  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
March 23, 2015

## CASE NAME INDEX

ALL GENERAL ELECTRIC MARK I BOILING-WATER REACTOR OPERATING LICENSEES  
REQUEST FOR ACTION; DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206; DD-15-1, 81 NRC 193 (2015)

ALL OPERATING REACTOR LICENSEES  
REQUEST FOR ACTION; DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206; DD-15-6, 81 NRC 884 (2015)

CROW BUTTE RESOURCES, INC.  
MATERIALS LICENSE AMENDMENT; MEMORANDUM AND ORDER (Denying Applications for Stay of Source Materials License SUA-1534); Docket No. 40-8943 (ASLBP No. 08-867-02-OLA-BD01); LBP-15-2, 81 NRC 48 (2015)  
MATERIALS LICENSE AMENDMENT; MEMORANDUM AND ORDER (Ruling on Proposed Contentions Related to the Environmental Assessment); Docket No. 40-8943 (ASLBP No. 08-867-02-OLA-BD01); LBP-15-11, 81 NRC 401 (2015)  
MATERIALS LICENSE AMENDMENT; MEMORANDUM AND ORDER (Denying Motion to Admit Additional Contentions Based on EPA Proposed Rules); Docket No. 40-8943 (ASLBP No. 08-867-02-OLA-BD01); LBP-15-15, 81 NRC 598 (2015)

DOMINION VIRGINIA POWER  
COMBINED LICENSE; MEMORANDUM AND ORDER; Docket No. 52-017-COL; CLI-15-4, 81 NRC 221 (2015); CLI-15-10, 81 NRC 535 (2015); CLI-15-15, 81 NRC 803 (2015)

DTE ELECTRIC COMPANY  
COMBINED LICENSE; MEMORANDUM AND ORDER; Docket No. 52-033-COL; CLI-15-1, 81 NRC 1 (2015); CLI-15-4, 81 NRC 221 (2015); CLI-15-10, 81 NRC 535 (2015); CLI-15-12, 81 NRC 551 (2015); CLI-15-13, 81 NRC 555 (2015)  
COMBINED LICENSE; ORDER (Terminating Licensing Board Adjudicatory Proceeding); Docket No. 52-033-COL (ASLBP No. 09-880-05-COL-BD01); LBP-15-12, 81 NRC 452 (2015)  
OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER; Docket No. 50-341-LR; CLI-15-4, 81 NRC 221 (2015)  
OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER (Ruling on Petitions to Intervene and Requests for a Hearing); Docket No. 50-341-LR (ASLBP No. 14-933-01-LR-BD01); LBP-15-5, 81 NRC 249 (2015)

DUKE ENERGY CAROLINAS, LLC  
COMBINED LICENSE; MEMORANDUM AND ORDER; Docket Nos. 52-018-COL, 52-019-COL; CLI-15-4, 81 NRC 221 (2015); CLI-15-10, 81 NRC 535 (2015); CLI-15-15, 81 NRC 803 (2015)

ENTERGY NUCLEAR OPERATIONS, INC.  
OPERATING LICENSE AMENDMENT; MEMORANDUM AND ORDER (Ruling on Request for Hearing and Petition to Intervene); Docket No. 50-271-LA (ASLBP No. 15-934-01-LA-BD01); LBP-15-4, 81 NRC 156 (2015)  
OPERATING LICENSE AMENDMENT; MEMORANDUM AND ORDER (Ruling on Petition to Intervene and Request for a Hearing); Docket No. 50-255-LA (ASLBP No. 15-936-03-LA-BD01); LBP-15-17, 81 NRC 753 (2015)  
OPERATING LICENSE AMENDMENT; MEMORANDUM AND ORDER (Denying Hearing Request); Docket No. 50-271-LA-2 (ASLBP No. 15-937-02-LA-BD01); LBP-15-18, 81 NRC 793 (2015)

## CASE NAME INDEX

OPERATING LICENSE AMENDMENT; MEMORANDUM AND ORDER (Granting Petition to Intervene and Request for a Hearing); Docket No. 50-255-LA-2 (ASLBP No. 15-939-04-LA-BD01); LBP-15-20, 81 NRC 829 (2015)

OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER; Docket Nos. 50-247-LR, 50-286-LR; CLI-15-2, 81 NRC 213 (2015); CLI-15-3, 81 NRC 217 (2015); CLI-15-4, 81 NRC 221 (2015); CLI-15-6, 81 NRC 340 (2015)

REQUEST FOR ACTION; DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206; Docket No. 50-333 (License No. DPR-059); DD-15-2, 81 NRC 205 (2015)

REQUEST FOR ACTION; DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206; Docket No. 50-255 (License No. DPR-20); DD-15-3, 81 NRC 713 (2015)

ENTERGY NUCLEAR VERMONT YANKEE, LLC

OPERATING LICENSE AMENDMENT; MEMORANDUM AND ORDER (Ruling on Request for Hearing and Petition to Intervene); Docket No. 50-271-LA (ASLBP No. 15-934-01-LA-BD01); LBP-15-4, 81 NRC 156 (2015)

OPERATING LICENSE AMENDMENT; MEMORANDUM AND ORDER (Denying Hearing Request); Docket No. 50-271-LA-2 (ASLBP No. 15-937-02-LA-BD01); LBP-15-18, 81 NRC 793 (2015)

EXELON GENERATION COMPANY, LLC

ENFORCEMENT; MEMORANDUM AND ORDER; Docket Nos. 50-237-EA, 50-249-EA; CLI-15-16, 81 NRC 810 (2015)

FIRSTENERGY NUCLEAR OPERATING COMPANY

OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER; Docket No. 50-346-LR; CLI-15-4, 81 NRC 221 (2015); CLI-15-15, 81 NRC 803 (2015)

OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER (Denying Intervenor's Motion to Admit Contention No. 7); Docket No. 50-346-LR (ASLBP No. 11-907-01-LR-BD01); LBP-15-1, 81 NRC 15 (2015)

OPERATING LICENSE RENEWAL; ORDER (Terminating Proceeding); Docket No. 50-346-LR (ASLBP No. 11-907-01-LR-BD01); LBP-15-9, 81 NRC 396 (2015)

FLORIDA POWER & LIGHT COMPANY

COMBINED LICENSE; MEMORANDUM AND ORDER; Docket Nos. 52-040-COL, 52-041-COL; CLI-15-4, 81 NRC 221 (2015)

COMBINED LICENSE; MEMORANDUM AND ORDER (Denying the City of Miami's Petition to Intervene, but Granting Its Request to Participate as an Interested Local Governmental Body); Docket Nos. 52-040-COL, 52-041-COL (ASLBP No. 10-903-02-COL-BD01); LBP-15-19, 81 NRC 815 (2015)

OPERATING LICENSE AMENDMENT; MEMORANDUM AND ORDER (Granting CASE's Petition to Intervene); Docket Nos. 50-250-LA, 50-251-LA (ASLBP No. 15-935-02-LA-BD01); LBP-15-13, 81 NRC 456 (2015)

LUMINANT GENERATION COMPANY, LLC

COMBINED LICENSE; MEMORANDUM AND ORDER; Docket Nos. 52-034-COL, 52-035-COL; CLI-15-4, 81 NRC 221 (2015); CLI-15-10, 81 NRC 535 (2015); CLI-15-15, 81 NRC 803 (2015)

NEBRASKA PUBLIC POWER DISTRICT

REQUEST FOR ACTION; DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206; Docket No. 50-298 (Renewed License No. DPR-46); DD-15-5, 81 NRC 877 (2015)

NEXTERA ENERGY SEABROOK, LLC

OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER; Docket No. 50-443-LR; CLI-15-4, 81 NRC 221 (2015)

NUCLEAR INNOVATION NORTH AMERICA LLC

COMBINED LICENSE; MEMORANDUM AND ORDER; Docket Nos. 52-012-COL, 52-013-COL; CLI-15-4, 81 NRC 221 (2015); CLI-15-7, 81 NRC 481 (2015); CLI-15-10, 81 NRC 535 (2015); CLI-15-15, 81 NRC 803 (2015)

OLD DOMINION ELECTRIC COOPERATIVE

COMBINED LICENSE; MEMORANDUM AND ORDER; Docket No. 52-017-COL; CLI-15-4, 81 NRC 221 (2015); CLI-15-15, 81 NRC 803 (2015)

OMAHA PUBLIC POWER DISTRICT

OPERATING LICENSE AMENDMENT; MEMORANDUM AND ORDER; Docket No. 50-285; CLI-15-5, 81 NRC 329 (2015)

## CASE NAME INDEX

REQUEST FOR ACTION; DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206; Docket No. 50-285  
(Renewed License No. DPR-40); DD-15-4, 81 NRC 869 (2015); DD-15-5, 81 NRC 877 (2015)

PACIFIC GAS AND ELECTRIC COMPANY  
OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER; Docket Nos. 50-275-LR,  
50-323-LR; CLI-15-4, 81 NRC 221 (2015)  
OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER (Denying Petition to Intervene  
and Petition for Waiver); Docket Nos. 50-275-LR, 50-323-LR (ASLBP No. 10-900-01-LR-BD01);  
LBP-15-6, 81 NRC 314 (2015)  
SPECIAL PROCEEDING; MEMORANDUM AND ORDER; Docket Nos. 50-275, 50-323; CLI-15-14, 81  
NRC 729 (2015)

POWERTECH USA, INC.  
MATERIALS LICENSE; PARTIAL INITIAL DECISION; Docket No. 40-9075-MLA (ASLBP No.  
10-898-02-MLA-BD01); LBP-15-16, 81 NRC 618 (2015)

PPL SUSQUEHANNA, LLC  
LICENSE TRANSFER; MEMORANDUM AND ORDER; Docket Nos. 50-387, 50-388, 72-28; CLI-15-8,  
81 NRC 500 (2015)

PROGRESS ENERGY FLORIDA, INC.  
COMBINED LICENSE; MEMORANDUM AND ORDER; Docket Nos. 52-029-COL, 52-030-COL;  
CLI-15-4, 81 NRC 221 (2015); CLI-15-10, 81 NRC 535 (2015); CLI-15-15, 81 NRC 803 (2015)  
COMBINED LICENSE; ORDER (Terminating Proceeding); Docket Nos. 52-029-COL, 52-030-COL  
(ASLBP No. 09-879-04-COL-BD01); LBP-15-8, 81 NRC 393 (2015)

SHAW AREVA MOX SERVICES, LLC  
MATERIALS LICENSE; MEMORANDUM AND ORDER; Docket No. 70-3098-MLA (Possession and  
Use License); CLI-15-9, 81 NRC 512 (2015)

SHIELDALLOY METALLURGICAL CORPORATION  
MATERIALS LICENSE AMENDMENT; ORDER (Terminating Proceeding by Reason of Loss of  
Jurisdiction over the Subject Matter); Docket No. 40-7102-MLA (ASLBP No. 07-852-01-MLA-BD01);  
LBP-15-10, 81 NRC 399 (2015)

STP NUCLEAR OPERATING COMPANY  
OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER; Docket Nos. 50-498-LR,  
50-499-LR; CLI-15-4, 81 NRC 221 (2015); CLI-15-10, 81 NRC 535 (2015); CLI-15-15, 81 NRC 803  
(2015)

STRATA ENERGY, INC.  
MATERIALS LICENSE; INITIAL DECISION (Ruling on Joint Intervenor's Environmental Contentions  
1-3); Docket No. 40-9091-MLA (ASLBP No. 12-915-01-MLA-BD01); LBP-15-3, 81 NRC 65 (2015)

TENNESSEE VALLEY AUTHORITY  
COMBINED LICENSE; MEMORANDUM AND ORDER; Docket Nos. 52-014-COL, 52-015-COL;  
CLI-15-4, 81 NRC 221 (2015)  
OPERATING LICENSE; MEMORANDUM AND ORDER; Docket No. 50-391-OL; CLI-15-4, 81 NRC  
221 (2015); CLI-15-10, 81 NRC 535 (2015); CLI-15-15, 81 NRC 803 (2015)  
OPERATING LICENSE; MEMORANDUM AND ORDER (Denying Motion to Reopen); Docket No.  
50-391-OL (ASLBP No. 09-893-01-OL-BD01); LBP-15-14, 81 NRC 591 (2015)  
OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER; Docket Nos. 50-327-LR,  
50-328-LR; CLI-15-4, 81 NRC 221 (2015); CLI-15-15, 81 NRC 803 (2015)  
OPERATING LICENSE RENEWAL; ORDER (Terminating Proceeding); Docket Nos. 50-327-LR,  
50-328-LR (ASLBP No. 13-927-01-LR-BD01); LBP-15-7, 81 NRC 391 (2015)

UNION ELECTRIC COMPANY  
OPERATING LICENSE RENEWAL; MEMORANDUM AND ORDER; Docket No. 50-483-LR;  
CLI-15-4, 81 NRC 221 (2015); CLI-15-11, 81 NRC 546 (2015)

VIRGINIA ELECTRIC AND POWER COMPANY  
COMBINED LICENSE; MEMORANDUM AND ORDER; Docket No. 52-017-COL; CLI-15-4, 81 NRC  
221 (2015); CLI-15-15, 81 NRC 803 (2015)



## LEGAL CITATIONS INDEX

### CASES

- Airport Neighbors Alliance v. United States*, 90 F.3d 426, 432 (10th Cir. 1996)  
reasonable alternatives under NEPA do not include alternatives that are impractical, present unique problems, or cause extraordinary costs; LBP-15-3, 81 NRC 104 (2015)
- Akiak Native Community v. U.S. Postal Service*, 213 F.3d 1140, 1147 (9th Cir. 2000)  
NEPA does not require that environmental assessments include a discussion of mitigation strategies; LBP-15-11, 81 NRC 431 (2015)
- Alabama Power Co.* (Joseph M. Farley Nuclear Plant, Units 1 and 2), CLI-81-27, 14 NRC 795, 797 (1981)  
stay movant has the burden of persuasion on the four factors of 10 C.F.R. 2.1213(d); LBP-15-2, 81 NRC 53 (2015)
- Alaska v. Andrus*, 580 F.2d 465, 473-74 (D.C. Cir. 1978)  
one cost that must be weighed by decisionmakers is the cost of uncertainty; LBP-15-3, 81 NRC 119-20 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-13, 67 NRC 396, 400 (2008)  
even if a party moving for a stay fails to show irreparable injury, a board may still grant a stay if movant has made an overwhelming showing or a demonstration of virtual certainty that it will prevail on the merits; LBP-15-2, 81 NRC 54, 58 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-28, 68 NRC 658, 674 (2008)  
NRC rules impose a deliberately heavy burden on intervenor who seeks to supplement the evidentiary record after it has been closed; LBP-15-14, 81 NRC 594-95 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235 (2009),  
*petition for review denied sub nom. New Jersey Environmental Federation v. NRC*, 645 F.3d 220 (3d Cir. 2011)  
attempts by petitioners to challenge aspects of an aging management plan that they could have challenged earlier were rejected; LBP-15-1, 81 NRC 31 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 259 (2009)  
grant of discretionary review must show that a board's ruling was a departure from, or contrary to, established law; CLI-15-7, 81 NRC 496 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 260-61 (2009)  
intervenors carry the burden of showing that any late-filed contentions are admissible; LBP-15-16, 81 NRC 703 n.567 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 263 (2009)  
licensee must show with reasonable assurance that its proposed methodology for material control and accounting will not be inimical to the common defense and security and will not constitute an unreasonable risk to the health and safety of the public; CLI-15-9, 81 NRC 517 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 268-70 (2009)  
petitioners have the burden of going forward, which requires them to provide factual allegations or expert testimony to show a potential deficiency in applicant's aging management plan; LBP-15-5, 81 NRC 295 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 270-71 (2009)  
current licensing basis issues cannot be challenged in license renewal proceedings; LBP-15-5, 81 NRC 291 (2015)

## LEGAL CITATIONS INDEX

### CASES

- enforcement orders are outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 292 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 274 (2009), *petition for review denied sub nom. New Jersey Environmental Federation v. NRC*, 645 F.3d 220 (3d Cir. 2011)
- if, as intervenors allege, applicant's enhanced monitoring program is inadequate, then applicant's unenhanced monitoring program embodied in its license renewal application was *a fortiori* inadequate, and intervenors had a regulatory obligation to challenge it in their original petition to intervene; LBP-15-1, 81 NRC 32 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 276 (2009)
- party may not provide support for a contention in its reply; LBP-15-5, 81 NRC 289 (2015)
- support for a contention must be provided when the contention is filed, not at some later date; LBP-15-5, 81 NRC 312, 313 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-22, 64 NRC 229, 231-32, 245-46 (2007), *aff'd*, CLI-09-7, 69 NRC 235 (2009)
- intervenors opposed renewal of the nuclear power plant license, and proposed new contentions for increased ultrasonic testing of sand bed epoxy coating integrity; LBP-15-1, 81 NRC 32 (2015)
- AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-22, 64 NRC 229, 246 (2007), *aff'd*, CLI-09-7, 69 NRC 235 (2009)
- as a matter of policy, applicant's decision to improve an existing program to promote health and safety or to boost public support and confidence ought not ordinarily be viewed as conferring petitioners with an automatic opportunity to advance a new contention; LBP-15-1, 81 NRC 32 (2015)
- American Petroleum Institute v. Environmental Protection Agency*, 683 F.3d 382, 387 (D.C. Cir. 2012)
- debating compliance with another agency's proposed policies before they have been finalized would subject administrative agencies to needless and repetitive litigation; LBP-15-15, 81 NRC 614 (2015)
- precedence requires a licensing board to let EPA's rulemaking run its course, allowing intelligent resolution of any remaining claims instead of piecemeal and repetitive litigation; LBP-15-15, 81 NRC 610 (2015)
- proposed rules are not binding upon administrative agencies and are not ripe for review by NRC boards; LBP-15-15, 81 NRC 610 n.83 (2015)
- Anderson v. Bessemer City*, 470 U.S. 564, 573-76 (1985)
- Commission gives substantial deference to licensing board findings of fact, and will not overturn a board's factual findings unless they are not even plausible in light of the record viewed in its entirety; CLI-15-9, 81 NRC 522 (2015)
- Anderson Brothers Ford v. Valencia*, 452 U.S. 205, 212-13 (1981)
- courts have relied on language accompanying proposed rulemakings to determine agency intent; LBP-15-15, 81 NRC 610 (2015)
- AREVA Enrichment Services, LLC* (Eagle Rock Enrichment Facility), CLI-11-4, 74 NRC 1, 8 n.35 (2011)
- NRC guidance documents are not legally binding, and compliance with them is not required; LBP-15-20, 81 NRC 847 n.100 (2015)
- Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991)
- board may appropriately view petitioner's support for its contention in a light favorable to petitioner, but the board cannot do so by ignoring the requirements set forth in 10 C.F.R. 2.309(f)(1); LBP-15-5, 81 NRC 288 n.248 (2015); LBP-15-17, 81 NRC 789 n.234 (2015); LBP-15-19, 81 NRC 827 (2015); LBP-15-20, 81 NRC 858 n.155 (2015)
- licensing board may appropriately view petitioner's supporting information in a light favorable to petitioner, but failure to provide such information requires that the contention be rejected; LBP-15-1, 81 NRC 38 (2015); LBP-15-11, 81 NRC 426 n.156, 438 n.232 (2015)
- when petitioner neglects to provide the requisite support for its contentions, it is not within the board's power to make assumptions or draw inferences that favor petitioner, nor may the board supply information that is lacking; LBP-15-1, 81 NRC 39 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Babcock & Wilcox* (Apollo, Pennsylvania Fuel Fabrication Facility), LBP-92-31, 36 NRC 255, 263 (1992)  
in addressing the stay criteria in a Subpart L proceeding, litigant must come forth with more than  
general or conclusory assertions in order to demonstrate its entitlement to relief; LBP-15-2, 81 NRC  
54 (2015)
- Baltimore Gas & Electric Co. v. Natural Resources Defense Council, Inc.*, 462 U.S. 87, 98 (1983)  
NRC's use of rulemaking to address generic issues has been approved by the Supreme Court;  
CLI-15-6, 81 NRC 379 n.204 (2015)
- Baltimore Gas & Electric Co. v. Natural Resources Defense Council, Inc.*, 462 U.S. 87, 100, 103 (1983)  
generic analyses of the environmental impacts of continued storage and disposal in the context of  
NRC reactor licensing proceedings are acceptable; CLI-15-4, 81 NRC 238 (2015)
- Batterton v. Marshall*, 648 F.2d 694, 700 (D.C. Cir. 1980)  
Administrative Procedure Act broadly defines "rule" to include nearly every statement an agency may  
make; LBP-15-15, 81 NRC 612 n.100 (2015)
- Batterton v. Marshall*, 648 F.2d 694, 701 (D.C. Cir. 1980)  
many agency statements, including statements sometimes called "rules," do not have force and effect,  
and advance notice and public participation are required for rules that carry the force of law;  
LBP-15-15, 81 NRC 612 n.100 (2015)
- Bennett v. Spear*, 520 U.S. 154, 178 (1997)  
agency action is final at the consummation of the agency's decisionmaking process, and when rights  
or obligations have been determined; LBP-15-2, 81 NRC 57 n.66 (2015)
- Bulova Watch Co. v. United States*, 365 U.S. 753, 758 (1961)  
specific regulations control over general regulations; CLI-15-10, 81 NRC 540 (2015)
- Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911  
(2009)  
Commission affirmed board ruling on standing and upheld the validity of the proximity presumption;  
CLI-15-13, 81 NRC 561 n.22 (2015)
- Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC  
911, 915-16 (2009)  
to demonstrate organizational standing, petitioner must show injury-in-fact to the interests of the  
organization itself; LBP-15-17, 81 NRC 771 (2015)
- Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC  
911, 915-17 (2009)  
proximity presumption allows petitioner living within 50 miles of the reactor to establish standing  
without the need to make an individualized showing of injury, causation, and redressability;  
LBP-15-5, 81 NRC 256 (2015)
- Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC  
911, 916-17 (2009)  
organization members living within 50 miles of a reactor are presumed to have standing under the  
Commission's 50-mile proximity presumption; LBP-15-5, 81 NRC 257 (2015)
- Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63  
(2012)  
final licensing decisions were suspended until the Commission addressed the court's remand on the  
Waste Confidence Decision and Temporary Storage Rule and boards were instructed to hold relevant  
contentions in abeyance pending further order; CLI-15-11, 81 NRC 547 (2015); CLI-15-12, 81 NRC  
552 (2015)
- Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63,  
66-67 (2011)  
all final decisions for licenses that relied on the Waste Confidence Decision and Temporary Storage  
Rule were suspended; CLI-15-4, 81 NRC 230 (2015)
- Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63,  
67 (2012)  
in light of the vacatur and remand of the Waste Confidence Decision and Temporary Storage Rule  
and in response to suspension petitions filed on multiple dockets, issuance of final licensing  
decisions for affected matters were held in abeyance while the Commission addressed the court's  
remand; CLI-15-13, 81 NRC 562-63 (2015)



## LEGAL CITATIONS INDEX

### CASES

members of the public had the opportunity to fully participate in the Continued Storage rulemaking proceeding; CLI-15-10, 81 NRC 541-42 (2015)

to the extent NRC takes action with respect to waste confidence on a case-by-case basis, litigants can challenge such site-specific agency actions in the adjudicatory process; CLI-15-11, 81 NRC 547 n.5 (2015); CLI-15-12, 81 NRC 552 n.5 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63, 67 & n.7 (2012)

decision to suspend final licensing decisions is highly dependent upon the facts and requires a judgment that the significance of the matter raised is so substantial as to warrant suspension; CLI-15-14, 81 NRC 736 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63, 68-69 (2012)

Commission directed that all spent fuel storage contentions be held in abeyance; CLI-15-6, 81 NRC 344 n.11 (2015); LBP-15-1, 81 NRC 21 (2015); LBP-15-12, 81 NRC 453 n.2 (2015)

motion for leave to file a new contention concerning storage and disposal of spent nuclear fuel was held in abeyance pending further order of the Commission; LBP-15-14, 81 NRC 592 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-13-4, 77 NRC 101, 104 n.9 (2013)

it is within Commission discretion to grant leave for participation as amicus curiae; CLI-15-1, 81 NRC 5 n.19 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71 (2014)

Continued Storage Rule makes generic safety findings concerning feasibility and capacity of spent fuel disposal; LBP-15-9, 81 NRC 397 (2015)

decision to suspend final licensing decisions is highly dependent upon the facts and requires a judgment that the significance of the matter raised is so substantial as to warrant suspension; CLI-15-14, 81 NRC 736-37 (2015)

NRC adopted a generic environmental impact statement identifying and analyzing environmental impacts of continued storage of spent nuclear fuel and associated revisions to the Temporary Storage Rule in 10 C.F.R. 51.23; LBP-15-1, 81 NRC 21-22 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 75 (2014)

Commission adopted a generic environmental impact statement to identify and analyze the environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors; LBP-15-5, 81 NRC 267 (2015); LBP-15-12, 81 NRC 453 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 77 (2014)

Commission lifted its suspension on final licensing decisions after adopting a generic environmental impact statement to identify and analyze environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors; LBP-15-5, 81 NRC 267 (2015)

NRC Staff must account for the environmental impacts of continued storage before finalizing individual licensing decisions, and, when appropriate circumstances exist, the question of whether to prepare a supplemental final environmental impact statement is to be part of that analysis; CLI-15-10, 81 NRC 543, 544 (2015)

results of the continued storage proceeding must be accounted for before finalizing individual license decisions; CLI-15-10, 81 NRC 542 (2015)

to address the court's remand and provide a comprehensive analysis of the environmental impacts of continued storage, the Commission issued a final Continued Storage Rule and supporting Generic Environmental Impact Statement; CLI-15-13, 81 NRC 563 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 77-79 (2014)

concurrent with approval of the Continued Storage Rule and Generic Environmental Impact Statement, the Commission lifted the suspension on final licensing decisions and directed that proposed spent fuel storage contentions be dismissed; CLI-15-11, 81 NRC 548 n.6 (2015); CLI-15-12, 81 NRC 552 (2015)

## LEGAL CITATIONS INDEX

### CASES

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 78 (2014)

assumptions used in the analysis of impacts of continued storage of spent fuel are sufficiently conservative to bound the impacts such that variances that may occur between sites are unlikely to result in environmental impact determinations greater than those presented in the continued storage generic environmental impact statement; CLI-15-11, 81 NRC 548 n.7 (2015)

impacts of continued storage will not vary significantly across sites and can be analyzed generically; CLI-15-11, 81 NRC 548 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 79 (2014)

assumptions used in the analysis of impacts of continued storage of spent fuel are sufficiently conservative to bound the impacts such that variances that may occur between sites are unlikely to result in environmental impact determinations greater than those presented in the continued storage generic environmental impact statement; CLI-15-12, 81 NRC 552 n.7 (2015)

Commission directed all licensing boards to reject pending waste confidence contentions that had been held in abeyance, because the generic impact determinations have been the subject of extensive public participation in the rulemaking process and therefore are excluded from litigation in individual proceedings; LBP-15-1, 81 NRC 22 (2015); LBP-15-5, 81 NRC 267 (2015); LBP-15-8, 81 NRC 394 (2015)

contention that impermissibly challenges an agency regulation is outside the scope of an individual licensing proceeding and is therefore inadmissible; CLI-15-11, 81 NRC 549 (2015)

generic determinations are appropriately excluded from litigation in individual proceedings; CLI-15-11, 81 NRC 548 (2015); CLI-15-12, 81 NRC 552 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 79 n.27 (2014)

contentions that are the subject of general rulemaking by NRC may not be litigated in individual licensing proceedings; LBP-15-4, 81 NRC 167 n.64 (2015); LBP-15-17, 81 NRC 778 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 79-80 (2014)

concurrent with issuance of a Continued Storage Rule and Generic Environmental Impact Statement, the Commission lifted the licensing suspension and dismissed, or directed licensing boards to dismiss, proposed contentions that had been filed with the multidocket suspension petitions and held in abeyance; CLI-15-13, 81 NRC 563 (2015)

following adoption of a revised Continued Storage Rule, boards were ordered to reject continued storage contentions pending before them, except contentions unresolved by the Continued Storage Rule; CLI-15-6, 81 NRC 344-45 n.11 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 80 (2014)

Commission directed all affected licensing boards to reject proffered contentions on environmental impacts of spent nuclear fuel storage; LBP-15-14, 81 NRC 592 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-09-4, 69 NRC 170, 184, *aff'd*, CLI-09-20, 70 NRC 911 (2009)

it is for the Commission, not licensing boards, to revise its rulings; LBP-15-18, 81 NRC 797 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-09-4, 69 NRC 170, 190 (2009), *aff'd*, CLI-09-20, 70 NRC 911 (2009)

pleading requirements of 10 C.F.R. 2.309(f)(1)(v), calling for a recitation of facts or expert opinion supporting the issue raised, are inapplicable to a contention of omission beyond identifying the regulatively required missing information; LBP-15-11, 81 NRC 437-38 n.241 (2015)

*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-09-4, 69 NRC 170, 228 (2009), *aff'd*, CLI-09-20, 70 NRC 911 (2009)

environmental contentions are expected in response to applicant's or NRC Staff's environmental reviews, and contentions regarding their adequacy cannot be expected to be proffered at an earlier stage of the proceeding before the documents are available; LBP-15-11, 81 NRC 423 n.132 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-10-24, 72 NRC 720, 750 (2010)  
although boards do not decide the merits or resolve conflicting evidence at the contention admissibility stage, materials cited as the basis for a contention are subject to scrutiny by the board to determine whether they actually support the facts alleged; LBP-15-20, 81 NRC 865 (2015)  
boards may examine both the statements in the document that support petitioner's assertions and those that do not; LBP-15-20, 81 NRC 865 (2015)
- Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-10-24, 72 NRC 720, 750-52 (2010)  
licensing board concluded that information on a website cited by the intervenors, instead of supporting intervenors' claim, contradicted it; LBP-15-20, 81 NRC 860 n.187 (2015)
- Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), CLI-01-11, 53 NRC 370, 383 (2001)  
arguments not raised before the board or not clearly articulated in the petition for review are deemed waived; LBP-15-5, 81 NRC 290 n.263 (2015)
- Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), ALAB-577, 11 NRC 18, 23-25 (1980), *modified*, CLI-80-12, 11 NRC 514 (1980)  
although contention ultimately was resolved in NRC Staff's favor, Commission takes review as a matter of discretion because the board's ruling raises substantial questions of precedential importance; CLI-15-6, 81 NRC 369 (2015)
- Center for Auto Safety v. National Highway Traffic Safety Administration*, 710 F.2d 842, 844-45 (D.C. Cir. 1983)  
advance notice of proposed rulemaking was withdrawn due to changes in market demand; LBP-15-15, 81 NRC 612 (2015)
- Center for Auto Safety v. National Highway Traffic Safety Administration*, 710 F.2d 842, 846 (D.C. Cir. 1983)  
nonfinal rulemaking action can be ripe for review; LBP-15-15, 81 NRC 612 (2015)  
where the basis behind the determination not to proceed with a rulemaking was a final agency ruling allowing for judicial review, the earlier advance notice of proposed rulemaking itself was not held to have any binding effect on the public; LBP-15-15, 81 NRC 612 (2015)
- Ciba-Geigy Corp. v. Environmental Protection Agency*, 801 F.2d 430, 436 (D.C. Cir. 1986)  
reviewing proposed actions improperly intrudes into NRC's decisionmaking process; LBP-15-15, 81 NRC 610 (2015)
- Citizens Awareness Network, Inc. v. NRC*, 59 F.3d 284, 295 (1st Cir. 1995)  
NRC expressly altered the policy and application of 10 C.F.R. 50.59 as it related to decommissioning activities, permitting licensee to dismantle major structural components without prior NRC approval of a final decommissioning plan; CLI-15-14, 81 NRC 734 n.21 (2015)
- Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985)  
NEPA-required alternatives discussion need not include every possible alternative, but rather every reasonable alternative; LBP-15-3, 81 NRC 104 (2015)
- Citizens for Safe Power, Inc. v. NRC*, 524 F.2d 1291, 1294 n.5 (D.C. Cir. 1975)  
appeal board's ruling that the environmental impact statement was deemed modified by the parties' stipulations at hearing did not violate the letter or spirit of NEPA; CLI-15-6, 81 NRC 388 n.255 (2015)
- City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1310 (9th Cir. 1990)  
agency violates NEPA by failing to rigorously explore and objectively evaluate all reasonable alternatives to the proposed action; LBP-15-15, 81 NRC 607 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 89 (1993)  
pressurized water reactor pressure vessel surveillance program relies on physical material samples, also known as specimens, capsules, or coupons; LBP-15-17, 81 NRC 761 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 89, 90 (1993)  
proximity presumption applied where petitioners' contention concerned a license amendment to move the schedule for withdrawal of reactor vessel material specimens from the technical specifications to the updated safety analysis report; LBP-15-17, 81 NRC 773 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 91 (1993)  
if a license were amended, the public only means to participate in future schedule changes would be through a request for action under 10 C.F.R. 2.206; LBP-15-17, 81 NRC 773 n.124 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993)  
contemporaneous judicial concepts of standing are applied in NRC proceedings; LBP-15-17, 81 NRC 770 (2015); LBP-15-19, 81 NRC 819 (2015)  
under judicial concepts of standing, petitioner must allege a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision;  
LBP-15-5, 81 NRC 255-56 (2015); LBP-15-13, 81 NRC 463(2015); LBP-15-17, 81 NRC 770 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 95 (1993)  
petitioners had proximity-based standing even though they did not provide a reactor vessel failure scenario; LBP-15-17, 81 NRC 774 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 95-96 (1993)  
license amendments related to reactor pressure vessel embrittlement present an obvious potential for offsite public health and safety consequences; LBP-15-17, 81 NRC 773 (2015)  
material condition of a plant's reactor vessel obviously bears on the health and safety of those members of the public who reside in the plant's vicinity; LBP-15-20, 81 NRC 837 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315, 317 (1996)  
long-term exposure to neutron radiation and elevated temperatures in a reactor vessel decrease the vessel materials' fracture toughness; LBP-15-20, 81 NRC 832-33 (2015)  
Part 50, Appendix H directs licensees to attach a particular number of surveillance capsules to specified areas within the reactor vessel; LBP-15-20, 81 NRC 838 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315, 321 (1996)  
license amendment is not required to change the reactor vessel surveillance capsule testing schedule; LBP-15-20, 81 NRC 842 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315, 322 (1996)  
nature of a reactor vessel surveillance capsule withdrawal schedule is such that modifications may need to be made; LBP-15-20, 81 NRC 842 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315, 326 (1996)  
agency actions not formally labeled as license amendments nevertheless can constitute de facto license amendments and accordingly trigger hearing rights for the public under Atomic Energy Act § 189a; CLI-15-5, 81 NRC 334 (2015); CLI-15-14, 81 NRC 741 (2015)  
key factors to consider when determining whether agency action constitutes a de facto license amendment are whether the agency action granted licensee any greater authority or otherwise altered the original terms of the license; CLI-15-5, 81 NRC 334 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315, 326-28 (1996)  
scope of the referral is limited to whether NRC granted licensee greater authority than that provided by its existing licenses or otherwise altered the terms of its existing licenses, thereby entitling petitioner to an opportunity to request a hearing; CLI-15-14, 81 NRC 734 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315, 327 (1996)  
any changes to the material specimen withdrawal schedule that conform to the ASTM standard referenced in Appendix H will not alter the plant's license; LBP-15-20, 81 NRC 842 (2015)
- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315, 328 (1996)  
ASTM Standard E 185 anticipates that during the course of a nuclear power plant's life the surveillance capsule withdrawal schedule may need to be revised and allows and provides for such changes; LBP-15-20, 81 NRC 842 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-820, 22 NRC 743, 746 n.8 (1985)  
upon a strong showing of irreparable injury, stay movant need not always establish a high probability of success on the merits; LBP-15-2, 81 NRC 54 (2015)
- Colorado Environmental Coalition v. Dombeck*, 185 F.3d 1162, 1174 (10th Cir. 1999)  
NEPA requires that an actual range of alternatives be considered, so that the Act will preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only applicant's proposed project; LBP-15-15, 81 NRC 607 n.57 (2015)
- Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 and 2), CLI-99-4, 49 NRC 185, 191 (1999)  
proximity presumption applies in more limited license amendment proceedings only if the proposed amendment obviously entails an increased potential for offsite consequences; LBP-15-17, 81 NRC 770-71 (2015)
- Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 and 2), CLI-00-5, 51 NRC 90, 94-98 (2000)  
Congress intentionally limited the opportunity for a hearing to certain designated agency actions which do not include exemptions; LBP-15-18, 81 NRC 797 n.20 (2015)
- Communities, Inc. v. Busey*, 956 F.2d 619, 627 (6th Cir. 1992)  
discussion of alternatives that present severe engineering requirements or are imprudent for reasons including their high cost, safety hazards, and operational difficulties are excluded under NEPA; LBP-15-3, 81 NRC 104-05 (2015)  
reasonable alternatives under NEPA do not include alternatives that are impractical, that present unique problems, or that cause extraordinary costs; LBP-15-3, 81 NRC 104 (2015)
- Connecticut Bankers Association v. Board of Governors*, 627 F.2d 245, 251 (D.C. Cir. 1980)  
petitioners are required to make a minimal showing that material facts are in dispute, thereby demonstrating that an inquiry in depth is appropriate; LBP-15-20, 81 NRC 850, 860 (2015)
- Connecticut Light & Power Co. v. NRC*, 673 F.2d 525, 530-31 (D.C. Cir.), *cert. denied*, 459 U.S. 835 (1982)  
preamble to notice of proposed rulemaking addresses agency's duty to identify and make available technical studies and data that it has employed in reaching the decisions to propose particular rules; LBP-15-15, 81 NRC 612-13 (2015)
- Consolidated Edison Co. of New York* (Indian Point, Units 1 and 2), CLI-01-19, 54 NRC 109, 134 (2001)  
mere notice pleading is insufficient, but requirement for contention specificity and factual support rather than vague or conclusory statements is not intended to prevent intervention when material and concrete issues exist; LBP-15-20, 81 NRC 852-53 & n.140 (2015)
- Consumers Energy Co.* (Palisades Nuclear Plant), CLI-07-18, 65 NRC 399, 409 (2007)  
interests that representative organization seeks to protect must be germane to its own purpose, and neither the asserted claim nor the required relief must require an individual member to participate in the organization's legal action; LBP-15-5, 81 NRC 256, 257 (2015); LBP-15-17, 81 NRC 771 (2015)
- Consumers Energy Co.* (Palisades Nuclear Plant), CLI-07-18, 65 NRC 399, 411-12 (2007)  
organization that seeks representational standing must show that at least one of its members would be affected by the proceeding, identify that member by name and address, show that the member would have standing to intervene in his/her own right, and that identified member has authorized the organization to request a hearing on his/her behalf; LBP-15-5, 81 NRC 256 (2015)  
to demonstrate organizational standing, petitioner must show a discrete injury to the organization itself; LBP-15-5, 81 NRC 256 (2015)
- Consumers Energy Co.* (Palisades Nuclear Plant), CLI-07-18, 65 NRC 399, 414 n.49 (2007)  
contention admissibility criteria are strict by design but should not be turned into a fortress to deny intervention; LBP-15-20, 81 NRC 855-56 (2015)
- Consumers Energy Co.* (Palisades Nuclear Plant), CLI-07-22, 65 NRC 525, 529 (2007)  
challenges based on 10 C.F.R. 50.61a and the question of whether applicant demonstrated substantial advantage under 10 C.F.R. Part 50, Appendix H as a reason to not test capsules are beyond the scope of a license amendment proceeding, which concerns compliance with Appendix G of 10 C.F.R. Part 50; LBP-15-20, 81 NRC 862 (2015)

## LEGAL CITATIONS INDEX

### CASES

- issues addressed in a separate proceeding are beyond the scope of a later proceeding; LBP-15-20, 81 NRC 862 n.200 (2015)
- Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), CLI-09-9, 69 NRC 331, 350-51 (2009)
- issue of alleged failure to consult with a tribe is material and within the scope of materials license proceeding; LBP-15-16, 81 NRC 643 n.143 (2015)
- Crow Butte Resources, Inc.* (Marsland Expansion Area), CLI-14-2, 79 NRC 11, 20 n.49 (2014)
- contention claiming that NRC Staff's consultation was inadequate does not ripen until issuance of Staff's draft environmental impact statement; LBP-15-5, 81 NRC 280 n.178 (2015)
- Crow Butte Resources, Inc.* (Marsland Expansion Area), CLI-14-2, 79 NRC 11, 26 (2014)
- Commission affords substantial deference to licensing boards' contention admission decisions; CLI-15-6, 81 NRC 355 (2015)
- Crow Butte Resources, Inc.* (Marsland Expansion Area), LBP-13-6, 77 NRC 253, 292 (2013), *aff'd*, CLI-14-2, 79 NRC 11 (2014)
- requirement that a contention refer to specific portions of the application ensures that the board will be able to determine whether the contention is within the scope of the proceeding and that applicant knows which portions of the application it must defend; LBP-15-20, 81 NRC 861-62 (2015)
- Crow Butte Resources, Inc.* (Marsland Expansion Area), LBP-13-6, 77 NRC 253, 293 (2013), *aff'd*, CLI-14-2, 79 NRC 11 (2014)
- requirement that a contention refer to specific portions of the application is satisfied when a commonsense reading of the petition makes abundantly clear which sections of the application petitioners are challenging, even though petitioners do not specifically cite particular sections; LBP-15-20, 81 NRC 862 (2015)
- Crow Butte Resources, Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 549-50 (2009)
- lack of prejudice, standing alone, does not excuse an untimely filing, but it is a factor the Commission has considered in determining whether good cause exists; LBP-15-4, 81 NRC 164 n.40 (2015)
- Crow Butte Resources, Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 552 (2009)
- boards have the authority to reformulate contentions to consolidate issues for a more efficient proceeding; LBP-15-17, 81 NRC 780 n.165 (2015)
- boards may reformulate contentions to eliminate extraneous issues or to consolidate issues for a more efficient proceeding; LBP-15-5, 81 NRC 262, 270 n.116, 273 (2015); LBP-15-13, 81 NRC 468 n.66 (2015)
- Crow Butte Resources, Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 552-53 (2009)
- to eliminate the inadmissible issue of tribal notification and to clarify the scope of the subsistence consumption issue, board narrows and reformulates a contention; LBP-15-5, 81 NRC 281 n.194 (2015)
- Crow Butte Resources, Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 553 (2009)
- when petitioner neglects to provide the requisite support for its contentions, it is not within the board's power to make assumptions or draw inferences that favor petitioner, nor may the board supply information that is lacking; LBP-15-1, 81 NRC 39 (2015)
- Crow Butte Resources, Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 557 (2009)
- any contention that fails to directly controvert the application or environmental impact statement, or mistakenly asserts the application does not address a relevant issue, will be dismissed; LBP-15-1, 81 NRC 37 (2015)
- Cuomo v. NRC*, 772 F.2d 972, 974 (D.C. Cir. 1985)
- upon a strong showing of irreparable injury, stay movant need not always establish a high probability of success on the merits; LBP-15-2, 81 NRC 54 (2015)
- Curators of the University of Missouri* (TRUMP-S Project), CLI-95-1, 41 NRC 71, 150 (1995)
- NRC Staff guidance documents do not have the force of law and boards are not bound to follow them; CLI-15-6, 81 NRC 358 (2015)
- where NRC guidance document is not directly applicable to the issue at hand, the presiding officer is afforded greater leeway in its application; CLI-15-6, 81 NRC 358 n.86 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Curators of the University of Missouri* (TRUMP-S Project), CLI-95-1, 41 NRC 71, 170 (1995)  
contention that regulatory provisions are themselves insufficient to protect the public health and safety constitutes an improper collateral attack on NRC regulations; LBP-15-4, 81 NRC 167 n.64 (2015)
- Curators of the University of Missouri* (TRUMP-S Project), CLI-95-8, 41 NRC 386, 395-96 (1995)  
adequacy of NRC Staff's review is not a litigable issue in a licensing case; CLI-15-9, 81 NRC 531 (2015)
- David Geisen*, CLI-09-23, 70 NRC 935, 936 & n.4 (2009)  
irreparable injury is the most important of the factors for grant or denial of a stay; LBP-15-2, 81 NRC 53-54 (2015)
- David Geisen*, CLI-10-23, 72 NRC 210 (2010)  
oversight activities at times involve enforcement actions, including orders and civil penalties, to which a hearing right or opportunity attaches; CLI-15-5, 81 NRC 338 n.52 (2015)
- David Geisen*, CLI-10-23, 72 NRC 210, 220 (2010)  
Commission gives substantial deference to licensing board findings of fact and will not overturn a board's factual findings unless they are not even plausible in light of the record viewed in its entirety; CLI-15-9, 81 NRC 522 (2015)
- David Geisen*, CLI-10-23, 72 NRC 210, 224-25 (2010)  
Commission reviews questions of law de novo, but defers to a board's findings with respect to the underlying facts unless they are clearly erroneous; CLI-15-7, 81 NRC 493 (2015); CLI-15-9, 81 NRC 519 (2015)  
to show clear error, petitioner must show that the board's determination is not even plausible in light of the record as a whole; CLI-15-7, 81 NRC 493 (2015); CLI-15-9, 81 NRC 519 (2015)
- David Geisen*, CLI-10-23, 72 NRC 210, 225 (2010)  
mere presence of evidence supporting both sides does not call for Commission review, where it appears that the board considered all the evidence and arguments before it; CLI-15-7, 81 NRC 497 n.96 (2015)
- Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-470, 7 NRC 473, 474 n.1 (1978)  
mother was denied standing based on her son's residence within 50 miles of a power plant, because she herself lived more than 50 miles away; LBP-15-17, 81 NRC 775 n.135 (2015)  
parent could attain proximity-based standing through reference to her child if the child was a minor or otherwise under a legal disability and thus unable to participate; LBP-15-17, 81 NRC 775 n.139 (2015)
- Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), LBP-78-37, 8 NRC 575, 584-85 (1978)  
special circumstances required to obtain a rule waiver have been described as a prima facie showing that application of a rule in a particular way would not serve the purposes for which the rule was adopted; LBP-15-5, 81 NRC 272 (2015)
- Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-09-16, 70 NRC 227, 255 (2009)  
petitioners cannot argue for an analysis different from that required by regulation; LBP-15-20, 81 NRC 845 (2015)  
when an NRC regulation permits use of a particular analysis, a contention asserting that a different analysis or technique should be used is inadmissible because it indirectly attacks NRC's regulations; LBP-15-20, 81 NRC 845 (2015)
- Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-09-16, 70 NRC 227, 262, *aff'd*, CLI-09-22, 70 NRC 932 (2009)  
environmental considerations that the environmental report must discuss are equivalent to, and in most instances verbatim restatements of, environmental considerations that NEPA requires the agency to describe in detail in the environmental impact statement; LBP-15-5, 81 NRC 265 (2015)
- Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-09-16, 70 NRC 227, 267, *aff'd*, CLI-09-22, 70 NRC 932 (2009)  
contention quotes text from a notice of proposed rulemaking, but it never ties the statements from the NOPR to any specific section of the environmental assessment, and thus fails to raise a genuine dispute with the EA; LBP-15-15, 81 NRC 614 n.111 (2015)  
when an application is alleged to be deficient, petitioner must identify the deficiencies and provide supporting reasons for its position that such information is required; LBP-15-1, 81 NRC 37 (2015)

## LEGAL CITATIONS INDEX

### CASES

- when an NRC regulation permits use of a particular analysis, a contention asserting that a different analysis or technique should be used is inadmissible because it indirectly attacks the Commission's regulations; LBP-15-17, 81 NRC 782 (2015)
- Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-09-16, 70 NRC 227, 279-80 (2009)  
contention that environmental report failed to explain whether a discharge pipe with phosphoric acid as a corrosion inhibitor would increase algae production and potential for toxic algal blooms is admissible; LBP-15-5, 81 NRC 305 n.393 (2015)
- Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-10-9, 71 NRC 493, 510-11 (2010)  
contention that raised two distinct issues is best divided into separate contentions; LBP-15-5, 81 NRC 268 (2015)
- Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-12-23, 76 NRC 445, 454-55 (2012)  
harmful algae blooms from *Lyngbya wollei* are unlikely to form in unsheltered areas; LBP-15-5, 81 NRC 305 n.393 (2015)
- Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-12-23, 76 NRC 445, 469 (2012)  
agency preparing the NEPA document must explain the statutory or regulatory requirements it is relying on and its reasons for concluding that the application of those requirements will actually result in the mitigation and monitoring it assumes will occur; LBP-15-11, 81 NRC 432 (2015)
- Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-12-23, 76 NRC 445, 470-71 (2012)  
board may construe an admitted contention contesting applicant's environmental report as a challenge to a subsequently issued draft or final environmental impact statement without the necessity for intervenors to file a new or amended contention; LBP-15-11, 81 NRC 410 n.38 (2015)
- Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-12-23, 76 NRC 445, 486 n.259 (2012)  
environmental impact statement must discuss any adverse environmental effects that cannot be avoided should the proposal be implemented and must provide a reasonably complete discussion of possible mitigation measures; LBP-15-11, 81 NRC 431 n.189 (2015)
- Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-14-9, 80 NRC 15, 41 (2014)  
action lacks independent utility when it would be irrational or unwise to pursue the action without the presence of the EIS-generating central action; LBP-15-16, 81 NRC 697 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 213 (2003)  
contention admissibility requirements seek to ensure that NRC hearings serve to adjudicate genuine, substantive safety and environmental issues placed in contention by qualified intervenors; CLI-15-8, 81 NRC 504 (2015)  
contention admission standards are strict by design and exist to focus litigation on concrete issues and result in a clearer and more focused record for decision; LBP-15-5, 81 NRC 258 (2015); LBP-15-11, 81 NRC 407 (2015); LBP-15-15, 81 NRC 601 (2015); LBP-15-17, 81 NRC 777 (2015); LBP-15-20, 81 NRC 867-68 (2015)  
contentions need to have some reasonably specific factual or legal basis; CLI-15-8, 81 NRC 504 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 219 (2003)  
NRC deliberately raised the admission standards for contentions to obviate serious hearing delays caused in the past by poorly defined or poorly supported contentions; LBP-15-1, 81 NRC 38 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 3), CLI-08-17, 68 NRC 231, 233 (2008)  
board declines to entertain contentions based on little more than speculation, which represent negligible knowledge of the issues being challenged; LBP-15-1, 81 NRC 43 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 3), CLI-09-5, 69 NRC 115, 123 n.39 (2009)  
contention fails because it contests NRC Staff's safety review rather than the license renewal application; LBP-15-15, 81 NRC 614 n.111 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 3), CLI-09-5, 69 NRC 115, 125-26 (2009)  
most important among the late-filing factors is that intervenors demonstrate good cause; LBP-15-1, 81 NRC 30 n.73 (2015)



## LEGAL CITATIONS INDEX

### CASES

- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001)  
contention admissibility standards are strict by design; CLI-15-8, 81 NRC 504 (2015); LBP-15-19, 81 NRC 820 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358-59 (2001)  
admissible contention must meet six pleading requirements; LBP-15-17, 81 NRC 777 (2015)  
board declines to entertain contentions based on little more than speculation, which represent negligible knowledge of the issues being challenged; LBP-15-1, 81 NRC 43 (2015)  
rules on contention admissibility are strict by design; LBP-15-5, 81 NRC 258 (2015); LBP-15-20, 81 NRC 867-68 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 359 (2001)  
petitioners must articulate at the outset the specific issues they wish to litigate as a prerequisite to gaining formal admission as parties; CLI-15-9, 81 NRC 529 n.110 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551 (2005)  
rule waiver may be granted only upon a showing that all four factors of 10 C.F.R. 2.335 have been satisfied; LBP-15-6, 81 NRC 325-26 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 559-60 (2005)  
petition for waiver of a specific NRC regulation must satisfy a four-factor test; LBP-15-17, 81 NRC 778 n.156 (2015)  
special circumstances required to obtain a rule waiver have been described as a prima facie showing that application of a rule in a particular way would not serve the purposes for which the rule was adopted; LBP-15-5, 81 NRC 272 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 560-61 (2005)  
challenges to emergency planning fall outside the scope of a license renewal proceeding; LBP-15-5, 81 NRC 296, 299 n.340 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 561 (2005)  
it makes no sense to spend the parties' and NRC's own valuable resources litigating allegations of current deficiencies in a proceeding that is directed to future-oriented issues of aging; LBP-15-6, 81 NRC 326 (2015)  
NRC regulations provide two other procedural mechanisms under 10 C.F.R. 2.206 and 2.802 by which petitioner may pursue its concerns about current deficiencies; LBP-15-6, 81 NRC 326 (2015)
- Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 565 & n.60 (2005)  
publication in the Federal Register is legally sufficient notice to all affected people; LBP-15-5, 81 NRC 280 n.181 (2015)
- Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 222 n.21 (2007)  
Council on Environmental Quality regulations provide guidance on agency compliance with NEPA and not binding on NRC when the agency has not expressly adopted them, but are entitled to considerable deference; LBP-15-16, 81 NRC 636 (2015)
- Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), LBP-04-18, 60 NRC 253, 265 (2004)  
providing any material or document as a basis for a contention without setting forth an explanation of its significance, is inadequate to support admission of that contention; LBP-15-20, 81 NRC 865 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 2), CLI-15-4, 81 NRC 221 (2015)  
motion to reopen regarding spent nuclear fuel was denied; LBP-15-14, 81 NRC 592 (2015)

## LEGAL CITATIONS INDEX

### CASES

- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 2), LBP-15-5, 81 NRC 249, 286 (2015)  
pleadings submitted by pro se petitioners are afforded greater leniency than petitions drafted with the assistance of counsel; LBP-15-13, 81 NRC 468 n.65 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-14-7, 80 NRC 1, 5 & n.11, 10 (2014)  
suspension request that would have halted final licensing decisions pending action on a petition for rulemaking regarding the Staff's review of the potential expedited transfer of spent fuel from pools to dry casks was denied; CLI-15-13, 81 NRC 564 n.42 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-14-7, 80 NRC 1, 7 n.22 (2014)  
where petition fails on the merits, the Commission need not address procedural issues; CLI-15-10, 81 NRC 539 n.8 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-14-9, 80 NRC 147, 149-50 (2014)  
Commission exercised its supervisory authority and dismissed proposed waste confidence safety contention and denied suspension petitions; CLI-15-13, 81 NRC 563-64 (2015); LBP-15-1, 81 NRC 22 (2015); LBP-15-8, 81 NRC 394 (2015); LBP-15-9, 81 NRC 397 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-14-10, 80 NRC 157, 164 n.38 (2014)  
boards are given broad discretion in the conduct of NRC adjudicatory proceedings, and the Commission generally defers to board case-management decisions; LBP-15-15, 81 NRC 615 n.114 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-14-10, 80 NRC 157, 164 n.39 (2014)  
NRC Rules of Practice provide the board with substantial authority to regulate hearing procedures; LBP-15-15, 81 NRC 615 n.114 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-4, 81 NRC 221 (2015)  
waste confidence issues are addressed; CLI-15-7, 81 NRC 484 n.9 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-4, 81 NRC 221, 223-24 (2015)  
Commission declined to admit new safety-related waste confidence contentions and denied suspension petitions; LBP-15-8, 81 NRC 394 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-4, 81 NRC 221, 223-24, 225 (2015)  
Commission exercised its supervisory authority and dismissed proposed waste confidence safety contention and denied suspension petitions; CLI-15-13, 81 NRC 563-64 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-4, 81 NRC 221, 223-24, 242 (2015)  
Commission denied suspension petitions and intervenors' motion to admit new continued storage safety findings contentions; LBP-15-9, 81 NRC 397 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-4, 81 NRC 221, 239 n.100 (2015)  
where petition fails on the merits, the Commission need not address procedural issues; CLI-15-10, 81 NRC 539 n.8 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-4, 81 NRC 221, 242 (2015)  
Commission denied motions for leave to file new contentions concerning the Continued Storage Rule; LBP-15-7, 81 NRC 392 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-10, 81 NRC 535 (2015)  
Commission denied petition to supplement and declined to admit "placeholder" contention; CLI-15-13, 81 NRC 564 (2015)
- DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-12, 81 NRC 551 (2015)  
contention that supplementation of the environmental impact statement is necessary to allow members of the public to lodge placeholder contentions challenging Commission reliance, in individual licensing proceedings, on the Continued Storage GEIS and Continued Storage Rule is inadmissible; CLI-15-10, 81 NRC 538 n.7 (2015); CLI-15-13, 81 NRC 564 (2015); CLI-15-15, 81 NRC 805 (2015)
- Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-6, 59 NRC 62, 67 (2004)  
licensing boards cannot superintend the conduct of NRC Staff's technical reviews; LBP-15-2, 81 NRC 52 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-19, 60 NRC 5, 12 (2004)  
when the Commission has determined that compliance with a regulation is sufficient to provide for reasonable assurance of public health and safety, a licensing board cannot impose requirements that exceed those in the regulation; LBP-15-20, 81 NRC 848 n.108 (2015)
- Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-21, 60 NRC 21, 27 (2004)  
boards have considerable discretion in their evidentiary rulings; CLI-15-6, 81 NRC 383 (2015)
- Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), LBP-04-10, 59 NRC 296, 309 (2004)  
contention presenting a genuine dispute on a material issue should either reference specific portions of the application in dispute or identify omissions in the application, as well as provide supporting reasons; LBP-15-1, 81 NRC 37 n.117 (2015)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-01-20, 54 NRC 211, 212 (2001)  
scope of a license renewal safety review is limited to plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses; LBP-15-6, 81 NRC 321 (2015)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-17, 56 NRC 1, 3-7 (2002)  
inadequacy in the severe accident mitigation alternatives analysis is material if license renewal applicant failed to consider complete information without justifying why particular information was omitted; LBP-15-5, 81 NRC 298 (2015)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-17, 56 NRC 1, 5 (2002)  
severe accident mitigation alternatives review identifies and assesses possible changes, such as improvements in hardware, training, or procedures, that could cost-effectively mitigate the environmental impacts that would otherwise flow from a potential severe accident; LBP-15-5, 81 NRC 260 (2015)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-17, 56 NRC 1, 7 (2002)  
hard look under NEPA is subject to a rule of reason, and consideration of environmental impacts need not address all theoretical possibilities, but only those that have some reasonable possibility of occurring; LBP-15-16, 81 NRC 638 (2015)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-26, 56 NRC 358, 363 (2002)  
license renewal safety review is limited to licensee's management of aging for certain systems, structures, and components, and review of time-limited aging analyses; LBP-15-5, 81 NRC 259 (2015)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 382-84 (2002)  
contentions of omission and contentions of inadequacy are defined; LBP-15-5, 81 NRC 284 n.213 (2015)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383 (2002)  
facts relied on to support a contention of omission need not show that the facility cannot be safely operated, but only that the application is incomplete; LBP-15-5, 81 NRC 258 (2015)  
if applicant cures the omission cited in a contention, the contention will become moot unless revised by intervenors; LBP-15-5, 81 NRC 258 (2015)
- Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 431-32 (2003)  
in judging whether NRC Staff took the NEPA-mandated hard look, the Board reviewed the proposed mitigation programs to ensure that sufficient detail was provided on mitigation measures to show a fair agency evaluation of mitigation and environmental consequences, and that NRC Staff did not ignore or minimize pertinent environmental effects; LBP-15-16, 81 NRC 688 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334 (1999)  
although an admissible contention requires no more than some minimal factual and legal foundation in support, the Commission expects that in almost all instances a petitioner must go beyond merely quoting a request for additional information to justify admission; LBP-15-1, 81 NRC 42 (2015)  
contention admissibility requirements seek to ensure that NRC hearings serve to adjudicate genuine, substantive safety and environmental issues placed in contention by qualified intervenors; CLI-15-8, 81 NRC 504 (2015)  
contention rule reflects a deliberate effort to prevent the major adjudicatory delays caused in the past by ill-defined or poorly supported contentions that were admitted for hearing although based on little more than speculation; CLI-15-8, 81 NRC 504 (2015)  
intervention petitioner may not attack generic NRC requirements or regulations or express generalized grievances about NRC policies; CLI-15-9, 81 NRC 527-28 n.98 (2015)  
to meet the section 2.309(f)(1)(v) requirement for providing factual and expert support, petitioners must proffer at least some minimal factual and legal foundation in support of their contentions; LBP-15-1, 81 NRC 38 (2015)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334-35 (1999)  
admissible contention must meet six pleading requirements; LBP-15-17, 81 NRC 777 (2015)  
contention admissibility criteria are strict by design; LBP-15-5, 81 NRC 258 (2015); LBP-15-20, 81 NRC 867-68 (2015)  
NRC deliberately raised the admission standards for contentions to obviate serious hearing delays caused in the past by poorly defined or poorly supported contentions; LBP-15-1, 81 NRC 38 (2015)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 335 (1999)  
contention admissibility criteria are strict by design but should not be turned into a fortress to deny intervention; LBP-15-20, 81 NRC 855-56 (2015)  
contentions shall not be admitted if at the outset they are not described with reasonable specificity or are not supported by some alleged fact demonstrating a genuine material dispute; LBP-15-1, 81 NRC 38 (2015)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 336 (1999)  
issuance of a request for additional information does not alone establish deficiencies in an application or that NRC Staff will go on to find any of applicant's clarifications, justifications, or other responses to be unsatisfactory; CLI-15-8, 81 NRC 506 n.47 (2015)  
petitioners must do more than rest on the mere existence of requests for additional information as a basis for their contention; CLI-15-8, 81 NRC 506 n.47 (2015)  
requests for additional information are a routine means for NRC Staff to ask for clarification or additional corroborating information from an applicant; CLI-15-8, 81 NRC 506 (2015)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 337 (1999)  
contention must explain what specific deficiencies exist and why they materially impact the license renewal application or environmental impact statement; LBP-15-1, 81 NRC 37 (2015)  
contention quotes text from a notice of proposed rulemaking, but it never ties the statements from the NOPR to any specific section of the environmental assessment, and thus fails to raise a genuine dispute with the EA; LBP-15-15, 81 NRC 614 n.111, 617 (2015)  
requests for additional information reflect followup questions, an ongoing dialogue between NRC Staff and applicant; CLI-15-8, 81 NRC 506 (2015)
- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 341 (1999)  
intervenor must do more than point to issues with the shield building, but must also indicate what is wrong with applicant's response and its amended inspection program and why intervenor believes the particular inspection program makes the license renewal application unacceptable; LBP-15-1, 81 NRC 40 (2015)  
intervenors must develop a fact-based argument that actually and specifically challenges the application; LBP-15-1, 81 NRC 42 (2015)  
intervenors' requests for more testing, more methods of testing, and more information, without an explanation of why the current program is inadequate, are not sufficient to create a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 41 n.150 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 345 (1999)  
contention that impermissibly challenges an agency regulation is outside the scope of an individual licensing proceeding and is therefore inadmissible; CLI-15-11, 81 NRC 549 (2015)  
contentions that are the subject of general rulemaking by NRC may not be litigated in individual licensing proceedings; LBP-15-17, 81 NRC 778 (2015)
- Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790-91 (1985)  
scope of the proceeding is defined by the Commission in its initial hearing notice and order referring the proceeding to the licensing board; LBP-15-20, 81 NRC 849 (2015)
- Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1048-49 (1983)  
NRC Staff's safety analysis and environmental analysis occur separately, and intervenors are expected to raise safety challenges in response to the safety reports and environmental challenges in response to the environmental statements; LBP-15-11, 81 NRC 423 n.132 (2015)
- Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983)  
burden of NEPA compliance lies with NRC Staff; LBP-15-2, 81 NRC 57 n.63 (2015); LBP-15-3, 81 NRC 84 (2015); LBP-15-16, 81 NRC 641 (2015)  
environmental contentions are expected in response to applicant's or NRC Staff's environmental reviews, and contentions regarding their adequacy cannot be expected to be proffered at an earlier stage of the proceeding before the documents are available; LBP-15-11, 81 NRC 423 n.132 (2015)
- Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-82-116, 16 NRC 1937, 1946 (1982)  
Commission must find that activities authorized by a license amendment can be conducted without endangering the health and safety of the public and will be in compliance with Commission regulations; LBP-15-20, 81 NRC 841 (2015)  
contention about a matter not covered by a specific rule need only allege that it poses a significant safety problem; LBP-15-20, 81 NRC 847-48, 854 n.151 (2015); LBP-15-17, 81 NRC 787 (2015)  
petitioners' contention challenges the sufficiency of the equivalent margins analysis to provide reasonable assurance of reactor safety and is therefore within the scope of the proceeding; LBP-15-20, 81 NRC 849 (2015)  
petitioners may raise issues not addressed by a specific regulation when unique features in the facility or ongoing development of a generic solution mean that there are some gaps in the regulatory scheme that must be addressed on a case-by-case basis; LBP-15-20, 81 NRC 840 (2015)
- Ecology Action v. AEC*, 492 F.2d 998, 1001-02 (2d Cir. 1974)  
deficiency in a final environmental impact statement is not automatic ground for reversal of an order granting a permit although the issue has been opened for full consideration in an agency hearing; CLI-15-6, 81 NRC 388 n.255 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 300-01 (2010)  
licensing board failed to provide sufficient justification for rejecting a challenge to applicant's meteorological model where the petitioners pointed to site-specific meteorological patterns to argue that the model and inputs were inaccurate and insufficiently conservative; LBP-15-20, 81 NRC 852 n.139 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 308-09 (2010)  
in interpreting the scope of an admitted contention, boards look back to the bases set forth in support of the contention; CLI-15-9, 81 NRC 529 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 309 (2010)  
NRC adjudications are limited to the scope of admitted contentions; CLI-15-9, 81 NRC 529 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 311 & n.121 (2010)  
failure to offer factual support for the proposition that applicant's inputs for evacuation times are flawed or unreasonable or that its sensitivity analysis of these inputs was incorrect renders a contention inadmissible; LBP-15-5, 81 NRC 299 n.339 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 313-14 (2010)  
failure to offer factual support for the proposition that applicant's inputs for evacuation times are flawed or unreasonable or that its sensitivity analysis of these inputs was incorrect renders a contention inadmissible; LBP-15-5, 81 NRC 299 n.338 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 315 (2010)  
NEPA does not require the adoption of best practices, particularly in the face of a potentially significant resource commitment; LBP-15-3, 81 NRC 93 (2015)  
NRC Staff must have some discretion to draw the line and move forward with decisionmaking; LBP-15-16, 81 NRC 638 n.100 (2015)  
there is no NEPA requirement to use the best scientific methodology, and NEPA should be construed in the light of reason if it is not to demand virtually infinite study and resources; LBP-15-3, 81 NRC 82 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 316 (2010)  
generic environmental impact statement findings with respect to severe accident consequences are not subject to challenge in individual license renewal proceedings; CLI-15-6, 81 NRC 380 n.214 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 453-56 (2010)  
safety issue that does not involve aging management issues is outside the scope of a license renewal proceeding; LBP-15-5, 81 NRC 264 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 459-60 (2010)  
because petitioner has not shown how a proposed plan would fail to ensure that buried pipes continue to fulfill their intended safety purposes, the contention is inadmissible; LBP-15-5, 81 NRC 295 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 463 (2010)  
regulatory process continuously reassesses whether there is a need for additional oversight or regulations to protect public health and safety; LBP-15-4, 81 NRC 175 n.105 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 465-67 (2010)  
with respect to the definition of “reasonable assurance,” applicant is required to show that safety features will fulfill their intended function, not that every structure will maintain its current licensing basis throughout the renewal period; LBP-15-5, 81 NRC 295 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 471 (2010)  
license renewal applicants need not provide site-specific analyses of environmental impacts of subjects identified as Category 1 issues; LBP-15-5, 81 NRC 266 n.92 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 473-76 (2010)  
generic environmental impact statement for spent fuel pools is not limited to discussing only normal operations, but also discusses potential accidents and other nonroutine events, and thus need not be included in the severe accident mitigation alternatives analysis for license renewal; LBP-15-5, 81 NRC 307 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-22, 72 NRC 202, 208 (2010)  
environmental impact statement is not intended to be a research document; LBP-15-3, 81 NRC 82 (2015); LBP-15-16, 81 NRC 638 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-1, 75 NRC 39, 61 (2012)  
section 51.102(c) has been consistently interpreted to provide that environmental impact statements are modified by any subsequent board or Commission decision; CLI-15-6, 81 NRC 388 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-3, 75 NRC 132, 139 n.41 (2012)  
Commission discourages incorporating pleadings or arguments by reference; LBP-15-5, 81 NRC 290 n.263 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-3, 75 NRC 132, 140-41 (2012)  
heavy barrier to reopening applies whenever an adjudication has been closed and not merely after a case has been terminated following a full evidentiary hearing on the merits; LBP-15-14, 81 NRC 595 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-6, 75 NRC 352, 372-76 (2012)  
admission of a “placeholder” contention is not necessary to ensure that petitioner’s challenges to the Continued Storage Rule and GEIS receive a full and fair airing; CLI-15-11, 81 NRC 550 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-10, 75 NRC 479, 488-89 (2012)  
material difference must exist between information on which a contention is based and information that was previously available, e.g., a difference between the environmental report and the draft EIS or the draft EIS and the final EIS; CLI-15-1, 81 NRC 7 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-10, 75 NRC 479, 492-94 (2012)  
petitioners who choose to wait to raise contentions that could have been raised earlier risk the possibility that there will not be a material difference between the application and NRC Staff's review documents, thus rendering any newly proposed contention on previously available information impermissibly late; CLI-15-1, 81 NRC 7 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-15, 75 NRC 704, 706 (2012)  
severe accident mitigation alternatives analysis is conducted pursuant to NEPA, and thus is an environmental issue, not a safety one; LBP-15-1, 81 NRC 28 n.67 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-15, 75 NRC 704, 714-15 (2012)  
petitioners must offer more than speculation at the contention admission stage; LBP-15-5, 81 NRC 305 n.391 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 280-300 (2006)  
contention that environmental report is inadequate insofar as it does not consider the risk of spent fuel pool fires is inadmissible; LBP-15-5, 81 NRC 306-07 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 356 (2006)  
admissibility requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons; LBP-15-1, 81 NRC 36-37 (2015)  
intervenor do not point to any recitation of the factors underlying the contention or references to documents and texts that give the board reason to believe applicant's inspection program may lead to a material negative impact on public safety, or that an improved program will lead to any positive impact; LBP-15-1, 81 NRC 40 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-07-13, 66 NRC 131, 149 (2007)  
petitioner's failure to address applicant's supplemental economic analyses, demonstrate specific knowledge of the analysis, and not indicate, even broadly, that the SAMA economic cost-benefit conclusions are not sufficiently conservative renders a contention inadmissible; LBP-15-5, 81 NRC 299 n.339 (2015)
- Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-12-16, 76 NRC 44, 59-60 (2012)  
licensing board lacks authority to hold a hearing on the adequacy of a different agency's regulations; LBP-15-5, 81 NRC 306 (2015)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-11-14, 74 NRC 801, 809-10 (2011)  
issues raised in an intervention petition or answer are within the appropriate scope of a reply brief; LBP-15-5, 81 NRC 304 n.386 (2015)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-15-6, 81 NRC 340, 354-56 (2015)  
petitioners may challenge a Staff guidance document such as a Regulatory Guide; LBP-15-20, 81 NRC 846-47 & n.100 (2015)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-15-6, 81 NRC 340, 356, 358 n.85, 359 (2015)  
NRC Staff guidance is entitled to special weight in a decision on the merits; LBP-15-20, 81 NRC 847 (2015)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-15-6, 81 NRC 340, 359 (2015)  
boards should accord special weight to NRC Staff guidance; LBP-15-16, 81 NRC 659 n.242 (2015)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 112 (2008)  
contention that population used for analysis might underestimate the exposed population in a severe accident and, in turn, underestimate the benefit achieved in implementing a severe accident mitigation alternatives analysis is admissible; LBP-15-5, 81 NRC 298 (2015)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 86, *aff'd*, CLI-08-28, 68 NRC 655 (2008)  
commitment to develop a program by the time the 20-year extension begins does not demonstrate that the effects of aging will be adequately managed; LBP-15-1, 81 NRC 36 (2015)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 196 (2008)  
to challenge a Category 1 issue such as public health, petitioner must request a waiver and show that unique circumstances warrant a site-specific determination; LBP-15-5, 81 NRC 302 n.365 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-10-13, 71 NRC 673, 686-87 (2010)  
contention that applicant's severe accident mitigation alternatives analysis is significantly flawed because of the use of inaccurate factual assumptions about population is admissible; LBP-15-5, 81 NRC 297 (2015)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-11-17, 74 NRC 11, 20-22, interlocutory review denied, CLI-11-14, 74 NRC 801, 803 (2011)  
NEPA review in license renewal proceedings is not limited to aging management-related issues; LBP-15-5, 81 NRC 260 (2015)  
to evaluate a power reactor license renewal application, NRC reviews management of aging effects and time-limited aging analysis of particular safety-related functions of the plant's systems, structures, and components and environmental impacts and alternatives to the proposed action; LBP-15-5, 81 NRC 259 (2015)
- Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-11-17, 74 NRC 11, 21 (2011)  
severe accident mitigation alternatives analysis must be considered as part of the environmental report and, ultimately, as part of NRC Staff's supplemental environmental impact statement for a power reactor license renewal; LBP-15-5, 81 NRC 260 (2015)  
severe accident mitigation alternatives fall within Category 2 and must therefore be addressed on a site-specific basis; LBP-15-5, 81 NRC 260 (2015)  
severe accident mitigation alternatives review identifies and assesses possible changes, such as improvements in hardware, training, or procedures, that could cost-effectively mitigate the environmental impacts that would otherwise flow from a potential severe accident; LBP-15-5, 81 NRC 260 (2015)
- Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), CLI-08-19, 68 NRC 251, 254 (2008)  
radius for the proximity presumption has to be at least as large as the range where obvious offsite consequences can occur; LBP-15-17, 81 NRC 773 (2015)
- Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), CLI-08-19, 68 NRC 251, 262 (2008)  
contention filing deadlines support the Commission's interest in promoting efficient adjudication; LBP-15-11, 81 NRC 409 n.32 (2015)
- Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), LBP-15-17, 81 NRC 753, 789 & n.237 (2015)  
when the Commission has determined that compliance with a regulation is sufficient to provide for reasonable assurance of public health and safety, a licensing board cannot impose requirements that exceed those in the regulation; LBP-15-20, 81 NRC 848 (2015)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-06-8, 63 NRC 235, 237 (2006)  
for a potential injury to be irreparable, it must be shown to be imminent, certain, and great; LBP-15-2, 81 NRC 54 (2015)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-06-8, 63 NRC 235, 238 (2008)  
if a board determines after full adjudication that the license amendment should not have been granted, it may be revoked or conditioned; LBP-15-16, 81 NRC 658 n.235 (2015)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 17-18 (2007)  
generic environmental analysis is incorporated into NRC regulations, and thus Category 1 generic findings may not be challenged in individual licensing proceedings unless accompanied by a petition for rule waiver; CLI-15-6, 81 NRC 350-51 (2015)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 20 (2007)  
in theory, Commission approval of a rule waiver could allow a contention on a Category 1 issue to proceed where special circumstances exist; CLI-15-6, 81 NRC 379 n.204 (2015)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 21 (2007)  
because the probability of a spent fuel pool accident causing significant harm is remote, there is no need for applicants to assess spent fuel pool accident mitigation alternatives as part of license renewal; LBP-15-5, 81 NRC 266, 307 (2015)



## LEGAL CITATIONS INDEX

### CASES

- no discussion of mitigation alternatives for Category 1 issues is necessary because NRC has already generically concluded that additional site-specific mitigation alternatives are unlikely to be beneficial; LBP-15-5, 81 NRC 266 (2015)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-10-17, 72 NRC 1, 11, 35 (2010)
- Commission reviews board's legal rulings de novo and will reverse them if they are contrary to established law; CLI-15-6, 81 NRC 351 (2015)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-10-17, 72 NRC 1, 45 n.246 (2010)
- pleadings submitted by pro se petitioners are afforded greater leniency than petitions drafted with the assistance of counsel; LBP-15-5, 81 NRC 286 n.234 (2015)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-11-2, 73 NRC 333, 338 (2011)
- given the need for finality in adjudications, reopening the record is an extraordinary action imposing a deliberately heavy burden on intervenor; LBP-15-14, 81 NRC 594 (2015)
- Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), DD-06-2, 63 NRC 425 (2006)
- concerns about a facility's emergency plans may be raised at any time pursuant to 10 C.F.R. 2.206; CLI-15-6, 81 NRC 386 n.248 (2015)
- Entergy Nuclear Vermont Yankee* (Vermont Yankee Nuclear Power Station), LBP-04-28, 60 NRC 548, 560-61 (2004)
- no significant hazards consideration determination is a procedural decision barred from litigation; LBP-15-17, 81 NRC 790 (2015)
- Exelon Generation Co., LLC* (Byron Nuclear Power Station, Units 1 and 2; Braidwood Nuclear Power Station, Units 1 and 2), CLI-14-6, 79 NRC 445, 449 (2014)
- once all contentions have been decided, the contested proceeding is terminated; LBP-15-9, 81 NRC 397 n.10 (2015)
- when there are no proffered or admitted contentions remaining in the adjudicatory proceeding, the board's jurisdiction terminates; LBP-15-12, 81 NRC 454 (2015)
- Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 807 (2005)
- hard look under NEPA is subject to a rule of reason, and consideration of environmental impacts need not address all theoretical possibilities, but only those that have some reasonable possibility of occurring; LBP-15-16, 81 NRC 638 (2015)
- Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 385-86 (2012)
- interpretation of statutes at issue and the regulations governing their implementation falls within the Commission's province; LBP-15-5, 81 NRC 302 n.363 (2015)
- pointing to alleged new and significant information is not enough to allow boards to adjudicate an issue resolved generically by regulation; LBP-15-5, 81 NRC 302 (2015)
- Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 385-88 (2012)
- it is a well-established principle that a petitioner in an adjudicatory proceeding cannot use one regulation to challenge another without first obtaining a waiver by showing special circumstances; LBP-15-4, 81 NRC 173 (2015)
- Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 387 (2012)
- to challenge a Category 1 issue such as public health, petitioner must request a waiver and show that unique circumstances warrant a site-specific determination; LBP-15-5, 81 NRC 302 n.365 (2015)
- Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 206-07 (2013)
- to obtain waiver of a rule, the allegation of special circumstances must be set forth with particularity and supported by an affidavit or other proof; LBP-15-5, 81 NRC 272 n.129 (2015)

## LEGAL CITATIONS INDEX

### CASES

*Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-13-7, 78 NRC 199, 207-09 (2013)

special circumstances required to obtain a rule waiver have been described as a prima facie showing that application of a rule in a particular way would not serve the purposes for which the rule was adopted; LBP-15-5, 81 NRC 272 (2015)

*Exelon Nuclear Texas Holdings, LLC* (Victoria County Station Site), LBP-11-16, 73 NRC 645, 667 (2011)

to be admissible, a contention must provide more than a bare assertion, but must explain the supporting reasons for the dispute raised in that contention; LBP-15-1, 81 NRC 42 (2015)

*Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003)

neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention; LBP-15-1, 81 NRC 38-39, 42 (2015)

to be admissible, a contention must provide more than a bare assertion, and must explain the supporting reasons for the dispute raised; LBP-15-1, 81 NRC 42 (2015)

*Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 204-05 (2003)

simply attaching material or documents as a basis for a contention, without setting forth an explanation of that information's significance, is inadequate to support the admission of the contention; LBP-15-1, 81 NRC 39 (2015)

*Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 205 (2003)

providing any material or document as a basis for a contention without setting forth an explanation of its significance, is inadequate to support admission of that contention; LBP-15-20, 81 NRC 865 (2015)

*FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 395-96 (2012)

admissible contention must satisfy all six criteria of 10 C.F.R. 2.309(f)(1); LBP-15-4, 81 NRC 164 (2015); LBP-15-18, 81 NRC 798 (2015); LBP-15-20, 81 NRC 840 (2015)

*FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 396 (2012)

contentions shall not be admitted if at the outset they are not described with reasonable specificity or are not supported by some alleged fact or facts demonstrating a genuine material dispute; LBP-15-1, 81 NRC 38 (2015)

*FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 400-02 (2012)

it is not enough to demonstrate a theoretical possibility that wind farms spread across a wide area could provide consistent power, but rather petitioners must show concretely that wind could be a reliable, commercially viable source of baseload power during the license renewal period; LBP-15-5, 81 NRC 279 (2015)

*FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 402, 405 (2012)

failure to reference specific sources showing that wind or other renewables are viable sources of baseload power within the service area renders a contention inadmissible; LBP-15-5, 81 NRC 279 (2015)

*FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 404-05 (2012)

petitioner that fails to provide sufficient factual or expert support for the claims in its contention in contravention of section 2.309(f)(1)(v), also may have failed to show a genuine dispute with the application as required under section 2.309(f)(1)(vi); LBP-15-1, 81 NRC 38 n.124 (2015)

*FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 405 (2012)

failure to provide a direct critique of the analysis in the environmental report discussing the potential for offshore power and interconnected wind farms is a failure to identify a genuine dispute with the applicant; LBP-15-5, 81 NRC 279 (2015)

## LEGAL CITATIONS INDEX

### CASES

- FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 407 (2012)  
unless a petitioner sets forth a supported contention pointing to an apparent error or deficiency that may have significantly skewed the environmental conclusions, there is no genuine material dispute for hearing; LBP-15-5, 81 NRC 293 (2015)
- FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 410-11 (2012)  
petitioners must provide site-specific support to show that the severe accident mitigation alternatives analysis is unreasonable; LBP-15-5, 81 NRC 294 (2015)
- FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 416 (2012)  
to the extent petitioner is challenging the adequacy of computer modeling of plume variability, petitioner bears the burden of providing evidence specific to the license renewal applicant; LBP-15-5, 81 NRC 296-97, 299 (2015)
- FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), LBP-15-1, 81 NRC 15, 30 n.72 (2015)  
contentions proposed after the filing deadline, which would have been allowable under the previous 10 C.F.R. 2.309(f)(2) requirements, will also be allowable under the current section 2.309(c)(1) requirements; LBP-15-11, 81 NRC 408 n.30 (2015)
- FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), LBP-15-1, 81 NRC 15, 41 (2015)  
contentions that request more testing, more methods of testing, and more information, without explaining why the current program is inadequate, are inadmissible; LBP-15-20, 81 NRC 853 (2015)
- Florida Power & Light Co. v. Lorion*, 470 U.S. 729, 743-44 (1985)  
fact-finding administrative body, such as a licensing board, with authority to develop an evidentiary record, is distinguished from reviewing adjudicatory and judicial bodies, generally with a more limited record-creating authority; LBP-15-3, 81 NRC 122 n.49 (2015)
- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), ALAB-335, 3 NRC 830, 842 n.26 (1976)  
board considered evidence submitted with petitioner's reply to which opposing parties didn't object; LBP-15-5, 81 NRC 289 n.252 (2015)
- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), CLI-14-11, 80 NRC 167, 173 (2014)  
agency approval or authorization is a necessary component of Commission action that affords a hearing opportunity under AEA § 189a, but not all agency approvals granted to licensees constitute de facto licensee amendments; CLI-15-14, 81 NRC 734-35 (2015)  
licensee action without NRC approval of an increase in authority or alteration of the terms of the license does not constitute a de facto amendment; CLI-15-14, 81 NRC 735 n.23 (2015)  
licensee cannot amend the terms of its license unilaterally, but rather must request and obtain agency approval; CLI-15-5, 81 NRC 334 (2015); CLI-15-14, 81 NRC 734 n.21, 741 (2015)  
petitioners' premise that a series of NRC Staff communications relating to plant oversight should be considered as an element of a single, overarching de facto license amendment is rejected; CLI-15-14, 81 NRC 735 n.24 (2015)
- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), CLI-14-11, 80 NRC 167, 173 & n.31 (2014)  
licensee action, as opposed to agency action, is insufficient to trigger a de facto license amendment proceeding; CLI-15-14, 81 NRC (2015)
- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), CLI-14-11, 80 NRC 167, 174 n.33 (2014)  
licensee actions made in response to NRC Staff oversight activities do not constitute de facto license amendments; CLI-15-5, 81 NRC 335 (2015)
- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), CLI-14-11, 80 NRC 167, 175 (2014)  
if a hearing could be invoked each time NRC engaged in oversight over or inquiry into plant conditions, NRC's administrative process could be brought to a virtual standstill; CLI-15-14, 81 NRC 745-46 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), CLI-14-11, 80 NRC 167, 179 (2014)  
assertion that the section 2.206 process does not provide a viable forum for relief is rejected;  
CLI-15-14, 81 NRC 736 n.32 (2015)  
challenges to licensee actions taken under 10 C.F.R. 50.59 may only be taken by means of a petition  
for enforcement action under 10 C.F.R. 2.206; CLI-15-5, 81 NRC 337 (2015)  
section 2.206 provides a process for stakeholders to advance concerns and obtain full or partial relief,  
or written reasons why the requested relief is not warranted; LBP-15-4, 81 NRC 175 (2015)
- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit 2), CLI-14-11, 80 NRC 167, 179 n.60  
(2014)  
intervention as a matter of discretion is permitted only where at least one petitioner has established  
standing and at least one contention has been admitted, and petitioner is required to address six  
factors in its initial petition; CLI-15-14, 81 NRC 738 n.41 (2015)
- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325  
(1989)  
proximity presumption was applied in a license amendment proceeding where management's lack of  
character and competence was alleged; LBP-15-17, 81 NRC 773 n.121 (2015)
- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329  
(1989)  
living within 50 miles of a nuclear power reactor is enough to confer standing on an individual or  
group in proceedings for construction permits, operating licenses, or significant amendments thereto;  
LBP-15-17, 81 NRC 770 n.96 (2015); LBP-15-20, 81 NRC 836-37 & n.30 (2015)  
petitioner who lives, has frequent contacts, or has significant property interest within 50 miles of a  
nuclear power reactor has standing without the need to make an individualized showing of injury,  
causation, and redressability; LBP-15-17, 81 NRC 770 (2015)  
petitioners cannot gain standing from the interests of third parties except in very limited  
circumstances; LBP-15-17, 81 NRC 775 n.139 (2015)  
proximity presumption applies when there are clear implications for the offsite environment or major  
alterations to the facility with a clear potential for offsite consequences; LBP-15-17, 81 NRC 770  
(2015)
- Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325,  
329-30 (1989)  
in situations involving obvious potential for offsite consequences, Commission has routinely granted  
standing to petitioners who live within a certain distance of the facility at issue under the proximity  
presumption, effectively dispensing with the need to make an affirmative showing of injury,  
causation, and redressability; LBP-15-13, 81 NRC 463 (2015)  
proximity presumption applies in more limited license amendment proceedings only if the proposed  
amendment obviously entails an increased potential for offsite consequences; LBP-15-17, 81 NRC  
770-71 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-91-13, 34 NRC  
185, 188 (1991)  
licensing boards can refer potentially significant safety issues that cannot be addressed through the  
adjudicatory process to NRC Staff for review; LBP-15-1, 81 NRC 45 n.181 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3,  
6-13 (2001)  
safety issue that does not involve aging management issues is outside the scope of a license renewal  
proceeding; LBP-15-5, 81 NRC 264 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3,  
7-8 (2001)  
license renewal safety review is limited to licensee's management of aging for certain systems,  
structures, and components, and review of time-limited aging analyses; LBP-15-5, 81 NRC 259  
(2015)

## LEGAL CITATIONS INDEX

### CASES

- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 8 (2001)  
 license renewal applicants must demonstrate how their programs will be effective in managing the effects of aging during the proposed period of extended operation, at a detailed component and structure level, rather than at a more generalized system level; LBP-15-5, 81 NRC 259 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 8-9 (2001)  
 compliance with orders issued as part of NRC's ongoing oversight program are enforcement issues that are not within the scope of a license renewal proceeding; LBP-15-5, 81 NRC 291, 292 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 8-10 (2001)  
 license renewal review is not intended to duplicate NRC's ongoing oversight of operating reactors; CLI-15-6, 81 NRC 347 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 9 (2001)  
 "current licensing basis" is a term of art comprehending the various NRC requirements applicable to a specific plant that are in effect at the time of a license renewal application; LBP-15-20, 81 NRC 844 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 10 (2001)  
 adjudicatory hearings in individual license renewal proceedings will share the same scope of issues as NRC Staff review, for NRC's hearing process, like NRC Staff's review, necessarily examines only the questions NRC safety rules make pertinent; LBP-15-5, 81 NRC 259 n.43 (2015)  
 Commission distinguishes between aging management issues, reviewed at the time of license renewal, and operational issues, reviewed at all times as part of the current licensing basis; LBP-15-5, 81 NRC 259 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 11 (2001)  
 Category 1 issues are not subject to challenge in a relicensing proceeding, absent a waiver under 10 C.F.R. 2.335, because they involve environmental effects that are essentially similar for all plants and need not be assessed repeatedly on a site-specific basis; LBP-15-5, 81 NRC 260 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 13 (2001)  
 NRC's AEA safety review under Part 54 does not compromise or limit NEPA; LBP-15-5, 81 NRC 260 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 15 (2001)  
 pleadings submitted by pro se petitioners are afforded greater leniency than petitions drafted with the assistance of counsel; LBP-15-5, 81 NRC 286 n.234 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 21-22 (2001)  
 no discussion of mitigation alternatives for Category 1 issues is necessary because NRC has already generically concluded that additional site-specific mitigation alternatives are unlikely to be beneficial; LBP-15-5, 81 NRC 266 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 21-23 (2001)  
 generic environmental analysis is incorporated into NRC regulations, and thus Category 1 generic findings may not be challenged in individual licensing proceedings unless accompanied by a petition for rule waiver; CLI-15-6, 81 NRC 351 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 23 (2001)  
 license renewal provisions cover environmental issues relating to onsite spent fuel storage generically, and all such issues, including accident risk, fall outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 266 n.92 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-81-16, 13 NRC 1115, 1120 (1981)  
prior to license issuance NRC must find reasonable assurance that activities authorized by the amendment can be conducted without endangering the health and safety of the public, and in compliance with Commission regulations; LBP-15-17, 81 NRC 778 n.154 (2015); LBP-15-20, 81 NRC 841 n.65 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-90-16, 31 NRC 509, 515, 521 & n.12 (1990)  
petitioner must provide factual evidence or supporting documents that produce some doubt about the adequacy of a specified portion of applicant's documents or that provide supporting reasons that tend to show that there is some specified omission from applicant's documents; LBP-15-20, 81 NRC 850 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 148 (2001)  
proximity presumption applies across the board to all proceedings regardless of type because the rationale underlying it is not based on the type of proceeding per se but on whether the proposed action involves a significant source of radioactivity producing an obvious potential for offsite consequences; LBP-15-17, 81 NRC 770-71 n.102 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 149-50 (2001)  
licensing actions that could increase reactor vessel embrittlement, such as license renewals, hold the potential for offsite consequences that are obvious; LBP-15-17, 81 NRC 774 n.127 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-08-18, 68 NRC 533, 539 (2008)  
proximity presumption applies in more limited license amendment proceedings only if the proposed amendment obviously entails an increased potential for offsite consequences; LBP-15-17, 81 NRC 770-71 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7), LBP-11-6, 73 NRC 149, 247 (2002)  
good cause doesn't exist where petitioner's late-filed contention is due to careless inadvertence and not, as petitioner claimed, attributable to technical difficulties with the E-Filing system; LBP-15-4, 81 NRC 163 n.39 (2015)
- Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 and 7), LBP-11-6, 73 NRC 149, 253 (2011)  
to be admissible, a contention must provide more than a bare assertion, and must explain the supporting reasons for the dispute raised in that contention; LBP-15-1, 81 NRC 42 n.154 (2015)
- Friends of Sierra Railroad, Inc. v. Interstate Commerce Commission*, 881 F.2d 663, 667-68 (9th Cir. 1989)  
publication in the Federal Register is legally sufficient notice to all interested or affected persons regardless of actual knowledge or hardship resulting from ignorance; LBP-15-5, 81 NRC 280 n.181 (2015)
- Frizelle v. Slater*, 111 F.3d 172, 177 (D.C. Cir. 1997)  
agencies must adhere to their own regulations; LBP-15-17, 81 NRC 789 n.237 (2015)
- General Electric Co.* (Southwest Experimental Fast Oxide Reactor), 3 AEC 99, 101 (1966)  
foreign ownership, control, or domination analysis should be given an orientation toward safeguarding the national defense and security; CLI-15-7, 81 NRC 489 (2015)  
"owned, controlled, or dominated" refers to relationships in which the will of one party is subjugated to the will of another; CLI-15-7, 81 NRC 489-90, 498 (2015)  
whether a foreign entity has the ability to restrict or inhibit compliance with security or other regulations of the Commission is of greatest significance to a foreign ownership, control, or domination review; CLI-15-7, 81 NRC 494 (2015)
- General Electric Co.* (Southwest Experimental Fast Oxide Reactor), 3 AEC 99, 101-02 (1966)  
in determining foreign ownership issues, boards may consider aspects of control that do not affect nuclear safety or security; CLI-15-7, 81 NRC 497-98 (2015)

## LEGAL CITATIONS INDEX

### CASES

- General Public Utilities Nuclear Corp.* (Three Mile Island Nuclear Station, Unit 2), LBP-89-7, 29 NRC 138, 190-91 (1989)  
Commission must find that activities authorized by a license amendment can be conducted without endangering the health and safety of the public and will be in compliance with NRC regulations; LBP-15-20, 81 NRC 841 (2015)
- Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995)  
although petitioner bears the burden of establishing standing, licensing boards should construe the petition in favor of petitioner; LBP-15-13, 81 NRC 463 (2015)  
contemporaneous judicial concepts of standing are applied in NRC proceedings; LBP-15-19, 81 NRC 819 (2015)  
petitioner must allege a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision; LBP-15-13, 81 NRC 463 (2015); LBP-15-17, 81 NRC 770 (2015)
- Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 116 (1995)  
proximity presumption applies across the board to all proceedings regardless of type because the rationale underlying it is not based on the type of proceeding per se but on whether the proposed action involves a significant source of radioactivity producing an obvious potential for offsite consequences; LBP-15-17, 81 NRC 770-71 n.102 (2015)
- Georgia Power Co.* (Alvin W. Vogtle Nuclear Plant, Units 1 and 2, ALAB-291, 2 NRC 404, 408 (1975)  
parties' duty to report material significant developments in a matter under adjudication arises immediately upon discovery of that information; CLI-15-16, 81 NRC 813 n.11 (2015)
- Ginsberg & Sons v. Popkin*, 285 U.S. 204, 208 (1932)  
specific regulations control over general regulations; CLI-15-10, 81 NRC 540 (2015)
- GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 206 (2000)  
contention attempting to impose a requirement more stringent than the one imposed by the regulations will be rejected; LBP-15-4, 81 NRC 167 n.64, 172-73 n.94 (2015)
- GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 207 (2000)  
boards cannot assume that applicants will not comply with its regulatory responsibilities, including its license conditions; LBP-15-3, 81 NRC 132, 140-41 (2015)  
there is nothing in the record to suggest that applicant or NRC Staff will not act in good faith to ensure that applicant's regulatory responsibilities, including its license conditions, are honored, and the Board cannot assume noncompliance; LBP-15-11, 81 NRC 439 n.252 (2015)
- Grannis v. Ordean*, 234 U.S. 385, 394 (1914)  
so far as fairness is concerned, each side must be heard; LBP-15-5, 81 NRC 289 (2015)
- Gulf States Utilities Co.* (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 48 (1994)  
Atomic Energy Act authorizes NRC to accord protection from radiological injury to both health and property interests, and thus a genuine property interest is sufficient to accord petitioner proximity-based standing; LBP-15-17, 81 NRC 776 (2015)
- Gulf States Utilities Co.* (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 51 (1994)  
petitioners are not required at the contention admission stage to prove their case on the merits or even to provide expert or factual support as strong as that necessary to withstand a summary disposition motion; LBP-15-20, 81 NRC 851, 855 (2015)  
petitioners are required to make a minimal showing that material facts are in dispute, thereby demonstrating that an inquiry in depth is appropriate; LBP-15-20, 81 NRC 850, 860 (2015)
- Honeywell International, Inc.* (Metropolis Works Uranium Conversion Facility), CLI-13-1, 77 NRC 1, 10 (2013)  
when licensee requests an exemption in a related license amendment application, hearing rights on the amendment application are considered to encompass the exemption request as well; LBP-15-18, 81 NRC 797 n.22 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Honeywell International, Inc.* (Metropolis Works Uranium Conversion Facility), CLI-13-1, 77 NRC 1, 18-19 (2013)  
Commission reviews questions of law de novo, but defers to a board's findings with respect to the underlying facts unless they are clearly erroneous; CLI-15-7, 81 NRC 493 (2015); CLI-15-9, 81 NRC 519 (2015)  
to show clear error, petitioner must show that the board's determination is not even plausible in light of the record as a whole; CLI-15-7, 81 NRC 493 (2015); CLI-15-9, 81 NRC 519 (2015)
- Honeywell International, Inc.* (Metropolis Works Uranium Conversion Facility), CLI-13-1, 77 NRC 1, 19 (2013)  
presence of evidence in petitioner's favor does not, without more, warrant reversal of a board's decision; CLI-15-7, 81 NRC 497 n.96 (2015)
- Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-535, 9 NRC 377, 389-400 (1979)  
organization seeking representational standing on behalf of its members may meet the injury-in-fact requirement by demonstrating that at least one of its members, who has authorized the organization to represent his/her interest, will be injured by the possible outcome of the proceeding; LBP-15-5, 81 NRC 256 n.18, 257 (2015); LBP-15-17, 81 NRC 771 n.104 (2015)
- Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-565, 10 NRC 521, 524 (1979)  
so far as fairness is concerned, each side must be heard; LBP-15-5, 81 NRC 289 (2015)
- Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), ALAB-549, 9 NRC 644 (1979)  
board may appropriately view petitioner's support for its contention in a light favorable to petitioner but may not do so by ignoring other admissibility requirements; LBP-15-17, 81 NRC 789 n.234 (2015)
- Hughes River Watershed Conservancy v. Johnson*, 165 F.3d 283, 288 (4th Cir. 1999)  
NEPA hard look must emerge from an engagement in informed and reasoned decisionmaking, as the agency obtains opinions from its own experts and experts outside the agency and gives careful scientific scrutiny and responds to all legitimate concerns that are raised; LBP-15-16, 81 NRC 637 n.98 (2015)
- Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 4 (1999)  
supplementation of the final environmental impact statement is required when new information presents a seriously different picture of the environmental impact of the proposed project from what was previously envisioned; CLI-15-10, 81 NRC 543 (2015)
- Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 8 (1999)  
although 10 C.F.R. Part 40 applies to ISL mining, some of the specific requirements in Part 40, such as many of those found in Appendix A, address hazards posed only by conventional uranium milling operations, and do not carry over to ISL mining; LBP-15-16, 81 NRC 659 n.239 (2015)
- Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 8-9 (1999)  
although the Part 40, Appendix A criteria were developed for conventional uranium milling facilities, they have since been applied in limited fashion to ISR facilities; LBP-15-3, 81 NRC 89-90 n.15 (2015)
- Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 9 (1999)  
requirements in Part 40, such as many of the provisions in Appendix A, that, by their own terms, apply only to conventional uranium milling activities, cannot sensibly govern in situ leach mining; LBP-15-16, 81 NRC 637 (2015)
- Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 14 (1999)  
Commission approved NRC Staff completion of some National Historic Preservation Act documents after the environmental impact statement process was complete, but before the license was issued; LBP-15-16, 81 NRC 694 (2015)



## LEGAL CITATIONS INDEX

### CASES

- overall record for the licensing action includes a complete analysis of cultural resources; LBP-15-16, 81 NRC 694 n.489 (2015)
- supplementation of the final environmental impact statements is not necessary every time new information comes to light after the environmental impact statement is finalized; CLI-15-10, 81 NRC 543 (2015)
- Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 18-19 (1999)
- waiting until after licensing (although before mining operations begin) to establish definitively the groundwater quality baselines and upper control limits is consistent with industry practice and NRC methodology, given the sequential development of in situ leach well fields; LBP-15-3, 81 NRC 91 (2015)
- Hydro Resources, Inc.* (Crownpoint Uranium Project), CLI-04-33, 60 NRC 581, 659 (2004)
- with respect to the need to supplement an issued final EIS, the party offering the new contention has the burden of presenting information sufficient to show that there is a genuine issue regarding whether the NRC Staff should supplement its document; LBP-15-16, 81 NRC 704 (2015)
- Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 38 (2001)
- board's findings and the adjudicatory record are, in effect, part of the final supplemental environmental impact statement; LBP-15-16, 81 NRC 694 n.490, 707 (2015)
- objectives of the NRC adjudicatory procedures and policies include producing an informed adjudicatory record that supports agency decisionmaking on public health and safety, the common defense and security, and the environment; LBP-15-20, 81 NRC 848 n.105 (2015)
- Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 53 (2001)
- board's ultimate NEPA judgments can be made on the basis of the entire adjudicatory record in addition to NRC Staff's final environmental impact statement; LBP-15-3, 81 NRC 82 (2015)
- decision of the board or Commission becomes the record of decision, which may also incorporate the final environmental impact statement; CLI-15-6, 81 NRC 376, 388 n.255 (2015)
- Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 71 (2001)
- boards do not sit to "flyspeck" environmental documents or to add details or nuances, but the environmental report or environmental impact statement must come to grips with all important considerations; LBP-15-5, 81 NRC 283 (2015)
- Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-04-39, 60 NRC 657, 659 (2004)
- supplementation of the final environmental impact statement is not necessary every time new information comes to light after the EIS is finalized; CLI-15-10, 81 NRC 543 (2015)
- supplementation of the final environmental impact statement is required when new information presents a seriously different picture of the environmental impact of the proposed project from what was previously envisioned; CLI-15-10, 81 NRC 543 (2015)
- Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), CLI-06-1, 63 NRC 1, 4 (2006)
- post-hearing resolution of licensing issues must not be employed to obviate the basic findings prerequisite to a license; LBP-15-3, 81 NRC 141 n.66 (2015)
- Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), CLI-06-1, 63 NRC 1, 5 (2006)
- intervenor litigated whether the performance-based licensing complies with the Atomic Energy Act and National Environmental Policy Act, and whether undue discretion was accorded to licensee; LBP-15-16, 81 NRC 665 (2015)
- Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), CLI-06-1, 63 NRC 1, 5-6 (2006)
- in NEPA context, path that licensee and NRC Staff must follow relative to a license condition is sufficiently clear that continuing to hold the hearing open while it is completed would be an unnecessary extension of the adjudicatory process; LBP-15-3, 81 NRC 141 n.66 (2015)
- Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), CLI-06-1, 63 NRC 1, 6 (2006)
- site-specific data to confirm proper baseline quality values, and confirm whether existing rock units provide adequate confinement cannot be collected until an in situ leach wellfield has been installed; LBP-15-3, 81 NRC 91 (2015)
- waiting until after licensing, although before mining operations begin, to establish definitively the groundwater quality baselines and upper control limits is consistent with industry practice and NRC methodology, given the sequential development of in situ leach wellfields; LBP-15-16, 81 NRC 665 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), CLI-06-29, 64 NRC 417, 427 (2006)  
mitigation plan in final supplemental environmental impact statement need not be in final form to comply with NEPA's procedural requirements; LBP-15-16, 81 NRC 694 (2015)  
NEPA does not demand the presence of a fully developed plan that will mitigate environmental harm before an agency can act; LBP-15-16, 81 NRC 688 (2015)
- Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), CLI-06-29, 64 NRC 417, 429 (2006)  
though mitigation measures must be discussed in an environmental impact statement, NEPA does not guarantee that federally approved projects will have no adverse impacts; LBP-15-16, 81 NRC 687-88 (2015)
- Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), LBP-04-23, 60 NRC 441, 448 (2004)  
new information on the need to supplement an issued final EIS must point to impacts that affect the quality of the human environment in a significant manner or to a significant extent not already considered; LBP-15-16, 81 NRC 704 (2015)
- Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), LBP-05-26, 62 NRC 442, 472 (2005)  
although an agency may coordinate and, where practicable, integrate its National Environmental Policy Act and National Historic Preservation Act review efforts, the two statutes impose separate and distinct obligations; LBP-15-16, 81 NRC 654 n.214 (2015)
- Immigration and Naturalization Service v. National Center for Immigrants' Rights, Inc.*, 502 U.S. 183, 189-90 (1991)  
regulation's title can aid in construing regulatory text; LBP-15-4, 81 NRC 170 n.82 (2015)
- In re Three Mile Island Alert, Inc.*, 771 F.2d 720 (3d Cir. 1985)  
NRC approvals of plant restart and lifting suspension did not trigger AEA § 189a hearing rights; CLI-15-14, 81 NRC 734 n.21 (2015)
- International Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 632 n.51 (D.C. Cir. 1973)  
contrary rule on notice of proposed rulemaking would lead to the absurdity that the agency can learn from the comments on its proposed rules only at the peril of starting a new procedural round of commentary; LBP-15-15, 81 NRC 611 n.95 (2015)
- International Union, United Mine Workers of America v. Mine Safety and Health Administration*, 407 F.3d 1250, 1259 (D.C. Cir. 2005)  
agency is generally not required to issue a new notice of proposed rulemaking if it changes its position, as long as the final rule is a logical outgrowth of the proposed rule; LBP-15-15, 81 NRC 611 n.95 (2015)
- International Uranium (USA) Corp.* (Request for Materials License Amendment), CLI-00-1, 51 NRC 9, 19 (2000)  
NRC Staff guidance documents do not have the force of law and boards are not bound to follow them; CLI-15-6, 81 NRC 358 (2015)
- Iowa Utilities Board v. Federal Communications Commission*, 109 F.3d 418, 425 (8th Cir. 1996)  
for injunctive relief, party must show that the harm is certain and great and of such imminence that there is a clear and present need for equitable relief; LBP-15-2, 81 NRC 56 (2015)
- Justice v. Town of Cicero, Illinois*, 682 F.3d 662, 665 (7th Cir. 2012)  
when a filing deadline is approaching, notwithstanding that an attorney is engaged in good-faith settlement discussions, prudence should compel the attorney to take all actions that are necessary to ensure the deadline will be met in the event that settlement discussions are unsuccessful; LBP-15-4, 81 NRC 164 (2015)
- Kansas Gas and Electric Co.* (Wolf Creek Generating Station, Unit 1), ALAB-279, 1 NRC 559, 576-77 (1975)  
pro se petitioners are not required to provide the same level of specificity as those with counsel; LBP-15-5, 81 NRC 294-95 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Kelley v. Selin*, 42 F.3d 1501, 1515 (6th Cir. 1995)  
NRC Staff inspections and confirmatory action letters are oversight activities normally conducted to ensure that licensees comply with existing NRC requirements and license conditions and therefore do not typically trigger the opportunity for a hearing; CLI-15-5, 81 NRC 334 (2015)
- Kelley v. Selin*, 42 F.3d 1501, 1521 (6th Cir. 1995)  
consideration of alternatives under NEPA that are technologically unproven is unnecessary; LBP-15-3, 81 NRC 104 (2015)
- Lands Council v. Powell*, 395 F.3d 1019, 1026, 1034 (9th Cir. 2005)  
agency's failure to adequately validate a quantitative model on which it relies may lead the reviewing court to conclude that the agency's decision is arbitrary, capricious, or contrary to law; LBP-15-20, 81 NRC 854 n.151 (2015)
- Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 725, 743 (3d Cir. 1989)  
Advisory Council on Historic Preservation regulations provide guidance on agency compliance with NEPA and are not binding on NRC when the agency has not expressly adopted them, but are entitled to considerable deference  
NRC has not expressly adopted Council on Environmental Quality regulations, but they are entitled to considerable deference; LBP-15-3, 81 NRC 81 (2015); LBP-15-16, 81 NRC 636 (2015)
- Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-156, 6 AEC 831, 836 (1973)  
hard look under NEPA is subject to a rule of reason, and consideration of environmental impacts need not address all theoretical possibilities, but only those that have some reasonable possibility of occurring; LBP-15-3, 81 NRC 81-82 (2015); LBP-15-16, 81 NRC 638 (2015)
- Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-900, 28 NRC 275, 290 (1988)  
guidance documents set neither minimum nor maximum regulatory requirements, although they are entitled to special weight; CLI-15-6, 81 NRC 356, 358 n.85 (2015)
- Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-91-2, 33 NRC 61, 71 (1991)  
NEPA-required alternatives discussion need not include every possible alternative, but rather every reasonable alternative; LBP-15-3, 81 NRC 104 (2015)
- Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-91-7, 33 NRC 179, 183 (1991)  
final no significant hazards consideration determination does not either prevent the adjudication from proceeding or restrict the licensing board's substantive determination on public health and safety issues; LBP-15-17, 81 NRC 790 n.238 (2015)
- Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 84 (1998)  
admitted contentions challenging applicant's environmental report may function as challenges to similar portions of NRC Staff's NEPA document; LBP-15-11, 81 NRC 409-10 (2015)
- Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87 (1998)  
environmental impact statement or environmental assessment must describe the potential environmental impact of a proposed action and discuss any reasonable alternatives; LBP-15-11, 81 NRC 437 n.238 (2015)  
principal goals of a final environmental impact statement are to force agencies to take a hard look at the environmental consequences of a proposed project and to permit the public a role in the agency's decisionmaking process; LBP-15-16, 81 NRC 697 n.511 (2015)
- Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87-88 (1998)  
NEPA requires federal agencies to take a hard look at the environmental impacts of a proposed action, as well as reasonable alternatives to that action; LBP-15-3, 81 NRC 81 (2015)  
while reviewing any adverse effects, federal agencies must take a hard look at the environmental impacts of a proposed action; LBP-15-16, 81 NRC 637 (2015)
- Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 88 (1998)  
court may not substitute its own judgment for that of an agency, and agencies are not constrained by NEPA to select only the most environmentally benign option; LBP-15-16, 81 NRC 688 (2015)  
hard look under NEPA is intended to foster both informed agency decisionmaking and informed public participation so as to ensure that the agency does not act upon incomplete information, only to regret its decision after it is too late to correct; LBP-15-3, 81 NRC 81 (2015)  
when the adequacy of an EIS mitigation strategy is challenged, the determining issue is whether the agency took a sufficiently hard look at environmental consequences and ensured that its decision was supported by a completely informed record; LBP-15-16, 81 NRC 688 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 89 (1998)  
board's findings and the adjudicatory record are, in effect, part of the final supplemental environmental impact statement; CLI-15-6, 81 NRC 376 (2015); LBP-15-16, 81 NRC 638, 694 n.490, 707 (2015)
- Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 102-03 (1998)  
NEPA does not require NRC Staff to examine every conceivable aspect of federally licensed projects in preparing its environmental impact statement; LBP-15-3, 81 NRC 82 (2015)
- Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 103 (1998)  
agencies are given broad discretion to keep their NEPA inquiries within appropriate and manageable boundaries; LBP-15-3, 81 NRC 82 (2015)
- Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), LBP-96-25, 44 NRC 331, 339 (1996)  
because NRC Staff relies heavily on the applicant's environmental report in preparing the environmental impact statement, should the applicant become a proponent of a particular challenged position set forth in the EIS, the applicant, as such a proponent, also has the burden on that matter; LBP-15-3, 81 NRC 85 (2015); LBP-15-16, 81 NRC 642 (2015)
- Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 224 (2004)  
reply brief may not be used to present entirely new arguments in support of an existing contention or to propose a new contention; LBP-15-5, 81 NRC 284, 285, 304 (2015)  
right to reply is intended to provide an opportunity to legitimately amplify arguments made in the intervention petition in response to applicant and NRC Staff answers; LBP-15-5, 81 NRC 284, 285, 304 (2015); LBP-15-13, 81 NRC 461 (2015)
- Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 224-25 (2004)  
petitioners cannot rely on a late attempt to reinvigorate thinly supported contentions by presenting entirely new arguments in reply briefs; LBP-15-4, 81 NRC 174 n.103 (2015)
- Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 225 (2004)  
new arguments may not be raised for the first time in reply briefs; LBP-15-13, 81 NRC 461 (2015); LBP-15-17, 81 NRC 792 (2015)
- Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-20, 62 NRC 523, 536 (2005)  
NEPA does not call for certainty or precision, but an estimate of anticipated (not unduly speculative) impacts; LBP-15-3, 81 NRC 82 (2015); LBP-15-16, 81 NRC 637 n.99 (2015)
- Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-28, 62 NRC 721, 731 (2005)  
board may incorporate material from another agency's environmental impact statement, which was submitted in the hearing record, as part of the record of decision; CLI-15-6, 81 NRC 388 n.255 (2015)
- Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-06-15, 63 NRC 687, 697 (2006)  
Commission defers to board's factual findings unless they are clearly erroneous and generally steps in only to correct factual findings not even plausible in light of the record reviewed in its entirety, e.g., where it appears that the board has overlooked or misunderstood important evidence; CLI-15-6, 81 NRC 351 (2015)
- Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-06-15, 63 NRC 687, 700 (2006)  
final environmental impact statement as amplified by both board and Commission decisions provides adequate consideration of environmental impacts of near-surface waste disposal; CLI-15-6, 81 NRC 388 n.255 (2015)
- Louisiana Energy Services, L.P.* (National Enrichment Facility), LBP-05-13, 61 NRC 385, 404 (2005), *aff'd*, CLI-06-22, 64 NRC 37 (2006)  
board's ultimate NEPA judgments are made on the basis of the entire adjudicatory record in addition to NRC Staff's final supplemental environmental impact statement; LBP-15-3, 81 NRC 82 (2015); LBP-15-16, 81 NRC 638, 708 (2015)
- Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992)  
contemporaneous judicial concepts of standing are applied in NRC proceedings; LBP-15-13, 81 NRC 463 (2015); LBP-15-19, 81 NRC 819 (2015)  
under judicial concepts of standing, petitioner must allege a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision; LBP-15-5, 81 NRC 256 (2015); LBP-15-13, 81 NRC 463 (2015); LBP-15-17, 81 NRC 770 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4), CLI-11-9, 74 NRC 233, 236 (2011)  
heavy barrier to reopening applies whenever an adjudication has been closed and not merely after a case has been terminated following a full evidentiary hearing on the merits; LBP-15-14, 81 NRC 595 (2015)
- Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4), CLI-12-7, 75 NRC 379, 388-89 (2012)  
to warrant supplementation of the final environmental impact statement, new information must paint a seriously different picture of the environmental landscape; CLI-15-10, 81 NRC 543 n.32 (2015)
- Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4), CLI-12-7, 75 NRC 379, 391-92 (2012)  
final supplemental environmental impact statement is a snapshot in time of expected environmental consequences; CLI-15-6, 81 NRC 378 (2015)
- Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1007 (1973)  
unless the safety findings prescribed by the Atomic Energy Act and the regulations can be made, the reactor does not obtain a license, no matter how badly it is needed; CLI-15-4, 81 NRC 232 (2015)
- Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989)  
hard look under NEPA is intended to foster both informed agency decisionmaking and informed public participation so as to ensure that the agency does not act upon incomplete information, only to regret its decision after it is too late to correct; LBP-15-3, 81 NRC 81 (2015)  
it would be incongruous with NEPA's approach to environmental protection, and with the Act's manifest concern with preventing uninformed action, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior to the completion of agency action simply because the relevant proposal has received initial approval; LBP-15-13, 81 NRC 471 (2015)
- Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989)  
NEPA requires that agencies take a hard look at the environmental effects of actions even after a proposal has received initial approval; LBP-15-16, 81 NRC 657 (2015)  
new information on the need to supplement an issued final EIS must point to impacts that affect the quality of the human environment in a significant manner or to a significant extent not already considered; LBP-15-16, 81 NRC 704 (2015)
- Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 378-85 (1989)  
NEPA hard look must emerge from an engagement in informed and reasoned decisionmaking, as the agency obtains opinions from its own experts and experts outside the agency and gives careful scientific scrutiny and responds to all legitimate concerns that are raised; LBP-15-16, 81 NRC 637 n.98 (2015)
- Massachusetts v. NRC*, 878 F.2d 1516 (1st Cir. 1989)  
Congress intentionally limited the opportunity for a hearing to certain designated agency actions which do not include exemptions; LBP-15-18, 81 NRC 797 n.20 (2015)  
NRC approvals of plant restart and lifting suspensions did not trigger AEA § 189a hearing rights; CLI-15-14, 81 NRC 734 n.21 (2015)
- Massachusetts v. U.S. Environmental Protection Agency*, 549 U.S. 497, 526 (2007)  
remedy that makes even a small contribution to resolving a larger, more complex injury can still support a standing claim; LBP-15-13, 81 NRC 466 (2015)
- Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-697, 16 NRC 1265, 1271 (1982)  
applicant has the burden of providing reasonable assurance that the current licensing basis will be maintained throughout the renewal period; LBP-15-5, 81 NRC 294 (2015)  
licensee generally bears the ultimate burden of proof, but intervenors must give some basis for further inquiry; LBP-15-5, 81 NRC 295 n.308 (2015)
- Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-9, 21 NRC 1118, 1122 (1985)  
even if a site would not be totally evacuated, a fission product release from one unit would likely contaminate the entire site, with the result that both units could be out of operation for years; LBP-15-5, 81 NRC 276 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), LBP-83-76, 18 NRC 1266, 1273 (1983)), *aff'd on other grounds*, CLI-09-22, 70 NRC 932, 933 (2009)  
when an NRC regulation permits use of a particular analysis, a contention asserting that a different analysis or technique should be used is inadmissible because it indirectly attacks NRC's regulations; LBP-15-17, 81 NRC 782 (2015); LBP-15-20, 81 NRC 845 (2015)
- Minnesota v. NRC*, 602 F.2d 412, 412 (D.C. Cir. 1979)  
petitioners challenged NRC's approval of operating license amendments to allow for the use of higher-density spent fuel storage racks in the reactors' spent fuel pools; CLI-15-4, 81 NRC 228 (2015)
- Minnesota v. NRC*, 602 F.2d 412, 413 (D.C. Cir. 1979)  
court expressly declined to set aside or stay challenged license amendments, thus confirming that the court did not view the amendments to be contingent upon any additional safety determination under the Atomic Energy Act; CLI-15-4, 81 NRC 236-37 (2015)
- Minnesota v. NRC*, 602 F.2d 412, 416-17 (D.C. Cir. 1979)  
generic analyses of the environmental impacts of continued storage and disposal in the context of NRC reactor licensing proceedings are acceptable; CLI-15-4, 81 NRC 238 (2015)
- Minnesota v. NRC*, 602 F.2d 412, 417 (D.C. Cir. 1979)  
Congress did not intend in enacting the Atomic Energy Act to require a demonstration that nuclear wastes could be safely disposed of before licensing of nuclear plants was permitted; CLI-15-4, 81 NRC 228-29 (2015)
- Minnesota v. NRC*, 602 F.2d 412, 418 (D.C. Cir. 1979)  
court directed NRC to determine whether there is reasonable assurance that an offsite storage solution will be available by the end of a reactor's license term, and if not, whether there is reasonable assurance that the fuel can be stored safely at the sites beyond those dates; CLI-15-4, 81 NRC 229, 236 (2015)  
court recognized the long-term nature of the concerns associated with spent fuel storage and disposal when it declined to vacate the license amendments that were the subject of the case, noting that doing so would effectively shut down the plants; CLI-15-4, 81 NRC 229 n.34 (2015)
- Montana Wilderness Association v. U.S. Department of Interior*, 725 F.3d 988, 1005-06 (2013)  
Class III archeological survey involves a professionally conducted, pedestrian survey of an entire target area to identify properties that may be eligible for inclusion on the National Register of Historic Places; LBP-15-16, 81 NRC 653 (2015)
- Moreland v. United States*, 270 F.2d 887, 890 (10th Cir. 1959)  
in absence of objection, hearsay evidence is treated as being properly admitted and may be given such probative effect and value to which it is entitled; LBP-15-20, 81 NRC 859 n.184 (2015)
- Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 805 (9th Cir. 1999)  
federal agency must confer with a State Historic Preservation Officer and seek the approval of the ACHP; LBP-15-16, 81 NRC 639 n.110 (2015)
- National Association of Clean Water Agencies v. Environmental Protection Agency*, 734 F.3d 1115, 1138 (D.C. Cir. 2013)  
Environmental Protection Agency is recognized as an expert in environmental protection, and its final policy determinations deserve consideration; LBP-15-15, 81 NRC 613-14 (2015)
- National Committee for the New River, Inc. v. Federal Energy Regulatory Commission*, 373 F.3d 1323, 1330 (D.C. Cir. 2004)  
to warrant supplementation of the final environmental impact statement, new information must paint a seriously different picture of the environmental landscape; CLI-15-10, 81 NRC 543 (2015)
- National Football League v. McBee & Bruno's, Inc.*, 792 F.2d 726, 733 (8th Cir. 1986)  
injury that has never been the focus of a lawsuit cannot constitute irreparable harm; LBP-15-2, 81 NRC 55 n.53 (2015)
- National Labor Relations Board v. Bell Aerospace Co. Division of Textron, Inc.*, 416 U.S. 267, 294 (1974)  
agency has discretion to choose between rulemaking and adjudication; CLI-15-11, 81 NRC 549 n.19 (2015)

## LEGAL CITATIONS INDEX

### CASES

- National Mining Association v. Mine Safety and Health Administration*, 512 F.3d 696, 699 (D.C. Cir. 2008)  
agency is generally not required to issue a new notice of proposed rulemaking if it changes its position, as long as the final rule is a logical outgrowth of the proposed rule; LBP-15-15, 81 NRC 611 (2015)
- Natural Resources Defense Council, Inc. v. Hodel*, 865 F.2d 288, 294 (D.C. Cir. 1988)  
there is no NEPA requirement to use the best scientific methodology, and NEPA should be construed in the light of reason if it is not to demand virtually infinite study and resources; LBP-15-3, 81 NRC 82 (2015)
- Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972)  
alternative energy sources that will be dependent on future environmental safeguards and technological developments may be excluded from the NEPA alternatives discussion; LBP-15-3, 81 NRC 104 (2015)  
there is no NEPA requirement to use the best scientific methodology, and NEPA should be construed in the light of reason if it is not to demand virtually infinite study and resources; LBP-15-3, 81 NRC 82 (2015)
- Natural Resources Defense Council, Inc. v. NRC*, 582 F.2d 166 (2d Cir. 1978)  
Atomic Energy Act does not require NRC, as a precondition to issuing or renewing operating licenses for nuclear power plants, to make definitive findings concerning the technical feasibility of a repository for the disposal of spent nuclear fuel; CLI-15-4, 81 NRC 224 (2015)
- Natural Resources Defense Council, Inc. v. NRC*, 582 F.2d 166, 170 (2d Cir. 1978)  
NRC's long-continued regulatory practice of issuing operating licenses, with an implied finding of reasonable assurance that safe permanent disposal of spent nuclear fuel can be available when needed, is in accord with the intent of Congress underlying the Atomic Energy Act and Energy Reorganization Act; CLI-15-4, 81 NRC 236 (2015)
- Natural Resources Defense Council, Inc. v. NRC*, 582 F.2d 166, 170-71 (2d Cir. 1978)  
Atomic Energy Act § 103 does not contemplate consideration of spent fuel disposal in NRC's licensing decisions, and the Commission declines to infer from Congress's silence an affirmative obligation to the contrary; CLI-15-4, 81 NRC 233 (2015)
- Natural Resources Defense Council, Inc. v. NRC*, 582 F.2d 166, 171 (2d Cir. 1978)  
Atomic Energy Act does not, as a prerequisite to licensing, require a finding of reasonable assurance that highly hazardous and long-lived radioactive materials can be disposed of safely; CLI-15-4, 81 NRC 227 (2015)
- Natural Resources Defense Council, Inc. v. NRC*, 582 F.2d 166, 172 (2d Cir. 1978)  
it is fair to read the AEC and NRC history as a de facto acquiescence in and ratification of the Commission's licensing procedure by Congress; CLI-15-4, 81 NRC 227 (2015)
- Natural Resources Defense Council, Inc. v. NRC*, 582 F.2d 166, 174 (2d Cir. 1978)  
Congress expressly recognized and impliedly approved NRC's regulatory scheme and practice under which the safety of interim storage of high-level wastes at commercial nuclear power reactor sites has been determined separately from the safety of government-owned permanent storage facilities that have not yet been established; CLI-15-4, 81 NRC 236 (2015)  
if there were any doubt over the intent of Congress not to require a safety finding on spent fuel disposal, it was laid to rest by enactment of the Energy Reorganization Act of 1974; CLI-15-4, 81 NRC 228 (2015)
- Natural Resources Defense Council, Inc. v. NRC*, 582 F.2d 166, 175 (2d Cir. 1978)  
NRC is not required to conduct a rulemaking proceeding or to withhold action on pending or future applications for nuclear power reactor operating licenses until it makes a determination that high-level radioactive wastes can be permanently disposed of safely; CLI-15-4, 81 NRC 233 (2015)
- Natural Resources Defense Council, Inc. v. Thomas*, 838 F.2d 1224, 1242 (D.C. Cir. 1988)  
contrary rule on notice of proposed rulemaking would lead to the absurdity that the agency can learn from the comments on its proposed rules only at the peril of starting a new procedural round of commentary; LBP-15-15, 81 NRC 611 n.95 (2015)
- Nevada v. Department of Energy*, 457 F.3d 78, 90-91 (D.C. Cir. 2006)  
NRC need not undertake incorporation by reference of a generic environmental impact statement where the Commission has already taken public comment and performed a comprehensive analysis of the environmental consequences of continued spent fuel storage; CLI-15-10, 81 NRC 542 (2015)

## LEGAL CITATIONS INDEX

### CASES

- New England Coalition on Nuclear Pollution v. NRC*, 582 F.2d 87, 93-94 (1st Cir. 1978)  
licensing board decision modifying a final environmental statement satisfies the spirit of the National Environmental Policy Act; CLI-15-6, 81 NRC 388 n.255 (2015)
- New York v. NRC*, 681 F.3d 471 (D.C. Cir. 2012)  
Waste Confidence Decision and Temporary Storage Rule were vacated and remanded; CLI-15-11, 81 NRC 547 (2015); CLI-15-12, 81 NRC 551 (2015); CLI-15-13, 81 NRC 562 (2015)
- New York v. NRC*, 681 F.3d 471, 473, 481-82 (D.C. Cir. 2012)  
in its Waste Confidence Decision, NRC failed to consider environmental impacts of a repository never becoming available, its analysis of spent fuel pool leaks was not forward-looking, and it had not sufficiently considered the consequences of spent fuel pool fires; CLI-15-4, 81 NRC 229-30 (2015)
- New York v. NRC*, 681 F.3d 471, 480 (D.C. Cir. 2012)  
generic analyses of the environmental impacts of continued storage and disposal in the context of NRC reactor licensing proceedings are acceptable; CLI-15-4, 81 NRC 238 (2015)
- New York v. NRC*, 681 F.3d 471, 482 (D.C. Cir. 2012)  
agency conducting a NEPA analysis must examine both the probability of a given harm occurring and the consequences of that harm if it does occur; CLI-15-6, 81 NRC 379 (2015)  
only if the probability of a severe accident is so small as to be effectively zero could NRC Staff dispense with the consequences portion of the analysis; CLI-15-6, 81 NRC 379 (2015)
- New York v. NRC*, 681 F.3d 471, 483 (D.C. Cir. 2012)  
remand was based solely on the court's finding that NRC did not satisfy its obligations under NEPA; CLI-15-4, 81 NRC 236 (2015)  
Temporary Storage Rule was vacated; LBP-15-1, 81 NRC 21 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 307 (2012), *petition for review denied sub nom. Beyond Nuclear v. NRC*, 704 F.3d 12 (1st Cir. 2013)  
NRC deliberately raised the admission standards for contentions to obviate serious hearing delays caused in the past by poorly defined or poorly supported contentions; LBP-15-1, 81 NRC 38 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 310-11 (2012), *petition for review denied sub nom. Beyond Nuclear v. NRC*, 704 F.3d 12 (1st Cir. 2013)  
intervenor's requests for more testing, more methods of testing, and more information, without an explanation of why the current program is inadequate, are not sufficient to create a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 41 n.150 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 315 (2012)  
contentions calling for requirements in excess of those imposed by NRC regulations will be rejected as a collateral attack on the regulations; LBP-15-4, 81 NRC 167 n.64 (2015)  
NRC Staff guidance is entitled to special weight in a decision on the merits; LBP-15-20, 81 NRC 847 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 315-22 (2012)  
thinly supported contention is inadmissible; CLI-15-6, 81 NRC 355 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 318-19 & n.108 (2012)  
contention is inadmissible where arguments and expert testimony are copied, largely without change, from another proceeding and fail to offer information specific to the challenged license renewal application; CLI-15-6, 81 NRC 355-56 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 320 (2012)  
applicability of a guidance document may be challenged in an individual proceeding; LBP-15-20, 81 NRC 847 n.100 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 322-24 (2012)  
it must be genuinely plausible that revising the severe accident mitigation alternatives analysis would change the outcome so that one or more of the SAMA candidates that applicant evaluated and rejected would become cost-beneficial; LBP-15-5, 81 NRC 270, 276 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 323 (2012)  
severe accident mitigation alternatives analysis issues can present difficult judgment calls at the contention admissibility stage; LBP-15-5, 81 NRC 261 (2015)  
unless it looks genuinely plausible that inclusion of an additional factor or use of other assumptions and models may change the cost-benefit conclusions for the severe accident mitigation alternatives



## LEGAL CITATIONS INDEX

### CASES

- candidates evaluated, no purpose would be served to further refine the SAMA analysis; LBP-15-5, 81 NRC 261 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 323-24, 329 (2012)  
petitioner need not rerun applicant's own cost-benefit calculations, but must do more than merely suggest that additional factors be evaluated or that different analytical techniques be used; LBP-15-5, 81 NRC 261 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 324 (2012)  
contention that environmental report fails to accurately and thoroughly conduct severe accident mitigation alternatives analysis to design vulnerability of GE Mark I boiling water reactor pressure suppression containment system and environmental consequences of a to-be-anticipated severe accident post-Fukushima Daiichi fails to present a genuine material dispute; LBP-15-5, 81 NRC 265 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 334 n.199 (2012),  
*petition for review denied sub nom. Beyond Nuclear v. NRC*, 704 F.3d 12 (1st Cir. 2013)  
generalized economic cost arguments, unsupported by asserted facts or expert opinion, are insufficient to show a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 42 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 335 (2012), *petition for review denied sub nom. Beyond Nuclear v. NRC*, 704 F.3d 12 (1st Cir. 2013)  
petitioner that fails to provide sufficient factual or expert support for the claims in its contention in contravention of section 2.309(f)(1)(v), also may have failed to show a genuine dispute with the application as required under section 2.309(f)(1)(vi); LBP-15-1, 81 NRC 38 n.124 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 341 (2012)  
NEPA requires a hard look at the environmental effects of the planned action, not a circular restatement of NRC Staff's own conclusions; LBP-15-11, 81 NRC 422-23 (2015)
- NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 342-43 (2012), *petition for review denied sub nom. Beyond Nuclear v. NRC*, 704 F.3d 12 (1st Cir. 2013)  
intervenor fails to specify what other alternatives to the license renewal application should be discussed in the draft supplemental environmental impact statement, much less show that any proposed alternative would satisfy the purpose of the applicant's proposed action; LBP-15-1, 81 NRC 42 (2015)
- North Atlantic Energy Services Corp.* (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 217 n.8 (1999)  
intervention petitioner may not attack generic NRC requirements or regulations or express generalized grievances about NRC policies; CLI-15-9, 81 NRC 527-28 n.98 (2015)
- Northeast Nuclear Energy Co.* (Millstone Nuclear Power Station, Unit 3), LBP-98-22, 48 NRC 149, 155, *aff'd*, CLI-98-20, 48 NRC 183, 184 (1998)  
licensing board declined to apply proximity presumption in a license amendment proceeding where there was no obvious potential for offsite consequences; LBP-15-17, 81 NRC 773, 774 (2015)
- Northeast Nuclear Energy Co.* (Millstone Nuclear Power Station, Unit 3), LBP-98-22, 48 NRC 149, 155-56 (1998)  
intervention petition was not sufficiently specific when it merely repeated the contents of petitioner's earlier petition concerning a prior license amendment; LBP-15-17, 81 NRC 774 (2015)
- Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-252, 8 AEC 1175, 1177-78 (1975)  
party may seek reconsideration of an earlier ruling whereby the party was not actually prejudiced, where the ruling could well have an impact upon the course of many licensing hearings; CLI-15-6, 81 NRC 369 n.151 (2015)
- Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-455, 7 NRC 41, 44 (1978)  
in determining whether a license amendment, construction permit, or early site permit will be issued to applicant, common standards of 10 C.F.R. 50.40 are applied; LBP-15-20, 81 NRC 841 n.65 (2015)  
section 50.40 requires that NRC be persuaded that applicant will comply with all applicable regulations, that health and safety of the public will not be endangered, and that issuance of the amendment will not be inimical to the health and safety of the public; LBP-15-17, 81 NRC 778 (2015); LBP-15-20, 81 NRC 847 n.104 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 484 (2010)  
claims of past and current mismanagement are outside the scope of the license renewal proceedings; LBP-15-5, 81 NRC 300 (2015)  
safety culture issues are outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 300 (2015)
- Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 484-85, 494 (2010)  
contention challenging applicant's safety culture and claiming to rely on NRC Staff's Safety Evaluation Report is inadmissible because the SER did not discuss safety culture as a general matter and could not serve as a reasonably apparent foundation for a safety culture contention; LBP-15-11, 81 NRC 409 (2015)
- Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 491 (2010)  
broad-based issues akin to safety culture, such as operational history, quality assurance, quality control, management competence, and human factors, are beyond the bounds of a license renewal proceedings; LBP-15-5, 81 NRC 300, 301 (2015)
- Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 494-95 (2010)  
intervenor's reliance on long-available documents regarding leakages and notices of violation made a contention untimely as filed; LBP-15-11, 81 NRC 409 (2015)
- Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 496 (2010)  
intervenor's are not allowed to postpone filing a contention challenging environmental or safety information or analysis until Staff issues some document that collects, summarizes, and places into context the facts supporting that contention; LBP-15-11, 81 NRC 409 (2015)
- Northwest Resource Information Center, Inc v. National Marine Fisheries Service*, 56 F.3d 1060, 1067-69 (9th Cir. 1995)  
action lacks independent utility when it would be irrational or unwise to pursue the action without the presence of the EIS-generating central action; LBP-15-16, 81 NRC 697 (2015)
- Nuclear Fuel Services* (Erwin, Tennessee), LBP-04-5, 59 NRC 186, 193 n.10, *aff'd*, CLI-04-13, 59 NRC 244 (2004)  
petitioner could not rely on caretakers maintaining and farming the property in petitioner's absence as grounds for proximity-based standing; LBP-15-17, 81 NRC 775 n.139 (2015)
- Nuclear Innovation North America LLC* (South Texas Project, Units 3 and 4), CLI-11-6, 74 NRC 203, 208-09 (2011)  
decision of the board or Commission becomes the record of decision, which may also incorporate the final supplemental environmental impact statement; CLI-15-6, 81 NRC 376, 388 n.255 (2015)
- Nuclear Innovation North America LLC* (South Texas Project, Units 3 and 4), LBP-11-7, 73 NRC 254, 290 n.233, *petition for review denied as premature*, CLI-11-6, 74 NRC 203 (2011)  
intervenor's were correct to file contentions on a newly adopted rule because, unlike a proposed rule, it now has indisputable legal effect; LBP-15-15, 81 NRC 611-12 n.96 (2015)  
proposed rule or proposed law may not support an admissible contention because its ultimate effect is at best speculative; LBP-15-15, 81 NRC 610 (2015)
- Nuclear Innovation North America LLC* (South Texas Project, Units 3 and 4), LBP-11-25, 74 NRC 380, 397 (2011)  
at the contention admissibility stage of a proceeding, intervenor's need not marshal their evidence as though preparing for an evidentiary hearing; LBP-15-20, 81 NRC 858 n.155 (2015)
- Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 473 (9th Cir. 2000)  
mitigation plan in final supplemental environmental impact statement need not be in final form to comply with NEPA's procedural requirements; LBP-15-16, 81 NRC 694 (2015)
- Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 476 (9th Cir. 2000)  
courts decide whether a mitigation plan was adequately or inadequately discussed, but the line between these two options is not well defined; LBP-15-16, 81 NRC 688 (2015)  
merely listing possible mitigation options does not satisfy NEPA; LBP-15-16, 81 NRC 687 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 479-80 (9th Cir. 2000)  
NEPA requires acknowledgment of tribal hunting and fishing rights, as well as an analysis of how the project will affect those rights; LBP-15-5, 81 NRC 282, 286 (2015)
- Omaha Public Power District* (Fort Calhoun Station, Unit 1), CLI-15-5, 81 NRC 329 (2015)  
direction is given on what licensee actions do and do not constitute a de facto license amendment triggering hearing rights; CLI-15-14, 81 NRC 734 n.21 (2015)
- Omaha Public Power District* (Fort Calhoun Station, Unit 1), CLI-15-5, 81 NRC 329, 333 n.19 (2015)  
Commission exercises its discretionary authority to consider amicus brief; CLI-15-10, 81 NRC 537-38 n.5 (2015)
- Omaha Public Power District* (Fort Calhoun Station, Unit 1), CLI-15-5, 81 NRC 329, 337 (2015)  
hearing rights do not attach to licensee changes made under section 50.59 because those changes do not require NRC approval but are instead subject to normal NRC oversight through the inspection process; CLI-15-14, 81 NRC 747 n.41 (2015)
- Omaha Public Power District* (Fort Calhoun Station, Unit 1), CLI-15-5, 81 NRC 329, 338 (2015)  
Commission declined to interpret the AEA to require hearings based on the possibility that a licensee may request an amendment to make unspecified modifications at some uncertain time in the future; CLI-15-14, 81 NRC 741-42, 743 (2015)
- Pa'ina Hawaii, LLC*, CLI-08-3, 67 NRC 151, 168 n.73 (2008)  
adequacy of NRC Staff's review is not a litigable issue in a licensing case; CLI-15-9, 81 NRC 531 (2015)  
contention fails because it contests NRC Staff's safety review rather than the license renewal application; LBP-15-15, 81 NRC 614 n.111 (2015)
- Pa'ina Hawaii, LLC*, CLI-10-18, 72 NRC 56, 75 (2010)  
considering the reasonable alternatives analysis, it is only in the depth of the consideration and in the level of detail provided in the corresponding environmental documents that an environmental assessment and an environmental impact statement will differ; LBP-15-11, 81 NRC 439 n.249 (2015)
- Pa'ina Hawaii, LLC*, CLI-10-18, 72 NRC 56, 87-88 (2010)  
material difference must exist between information on which a contention is based and information that was previously available, e.g., a difference between the environmental report and the draft EIS or the draft EIS and the final EIS; CLI-15-1, 81 NRC 7 (2015)
- Pa'ina Hawaii, LLC*, LBP-06-12, 63 NRC 403, 414 (2006)  
if a contention makes a prima facie allegation that the application omits information required by law, it necessarily presents a genuine dispute with applicant on a material issue and raises an issue plainly material to an essential finding of regulatory compliance needed for license issuance; LBP-15-5, 81 NRC 259 (2015)  
petitioners' contention challenges the sufficiency of the equivalent margins analysis to provide reasonable assurance of reactor safety and is therefore within the scope of the proceeding; LBP-15-20, 81 NRC 849 (2015)  
pleading requirements calling for a recitation of facts or expert opinion supporting the issue raised are inapplicable to a contention of omission beyond identifying the regulatively required missing information; LBP-15-5, 81 NRC 258 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-763, 19 NRC 571, 577 & n.22, rev. declined, CLI-84-14, 20 NRC 285 (1984)  
relative to factual matters, to carry burden of proof, NRC Staff and/or applicant must establish that its position is supported by a preponderance of the evidence; LBP-15-3, 81 NRC 85 (2015); LBP-15-16, 81 NRC 642 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-03-2, 57 NRC 19, 29 (2003)  
Commission has long declined to assume that licensees will refuse to meet their obligations under their licenses or NRC regulations; LBP-15-4, 81 NRC 175 (2015)  
in setting license conditions, NRC Staff may assume that a licensee will comply with all requirements imposed by the license; LBP-15-16, 81 NRC 695 n.494 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 435-36 (2011)  
claims of past and current mismanagement are outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 300, 301 (2015)  
ongoing compliance oversight activities are not within the scope of license renewal proceedings; LBP-15-5, 81 NRC 300 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 436 (2011)  
genuine dispute prong of 10 C.F.R. 2.309(f)(1)(vi) requires a nexus between alleged deficiencies and a material consequence; LBP-15-1, 81 NRC 37 n.121 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 436-37 (2011)  
contention that does not dispute any specific portion of Entergy's fuel handling accident analysis is inadmissible for lack of a genuine dispute; LBP-15-18, 81 NRC 801 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 437 (2011)  
petitioners can raise compliance issues only under 10 C.F.R. 2.206, which would allow them to petition NRC to take enforcement action; LBP-15-5, 81 NRC 264 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 440-43 (2011)  
inadequacy in the severe accident mitigation alternatives analysis is material if license renewal applicant failed to consider complete information without justifying why particular information was omitted; LBP-15-5, 81 NRC 298 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 442 (2011)  
at the contention filing stage, factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion; LBP-15-11, 81 NRC 442 n.271 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 442 n.81 (2011)  
at the contention filing stage the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion; LBP-15-1, 81 NRC 39 (2015); LBP-15-11, 81 NRC 426 n.157 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 442-43 (2011)  
board admitted a contention without deciding if it was a contention of omission or a contention of inadequacy; LBP-15-5, 81 NRC 284 n.220 (2015)  
contention that applicant had failed to discuss a report on a recently identified seismic fault near the plant is admissible; LBP-15-20, 81 NRC 858-59 & n.181 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-12-13, 75 NRC 681, 685 (2012)  
sua sponte review authority is to be used only in extraordinary circumstances; CLI-15-1, 81 NRC 9 n.39 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-1, 67 NRC 1, 6 (2008)  
issuance of NRC Staff's NEPA document represents the first opportunity to raise contentions on the adequacy of NRC Staff's assessments and conclusions; LBP-15-11, 81 NRC 408, 426 (2015)
- Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 526 (2008), *petition for review denied on other grounds, San Luis Obispo Mothers for Peace v. NRC*, 635 F.3d 1109 (9th Cir. 2011)  
decision of the board or Commission becomes the record of decision, which may also incorporate the final supplemental environmental impact statement; CLI-15-6, 81 NRC 376 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), LBP-02-23, 56 NRC 413, 426-27 (2002)  
proximity presumption applies where there is an obvious potential for offsite consequences; LBP-15-17, 81 NRC 772 (2015)
- Pennsylvania Power & Light Co.* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-79-6, 9 NRC 291, 295-96 (1979)  
boards may reformulate contentions to eliminate extraneous issues or to consolidate issues for a more efficient proceeding; LBP-15-5, 81 NRC 262, 270 n.116, 273 (2015)
- Pennzoil Co. v. Federal Energy Regulatory Commission*, 645 F.2d 360, 371 (5th Cir. 1981)  
requirement for a notice of proposed rulemaking is to sufficiently and fairly apprise interested parties of the issues involved, rather than to specify every precise proposal that the agency may ultimately adopt; LBP-15-15, 81 NRC 611 n.94 (2015)
- Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-814, 22 NRC 191, 196 (1985)  
party seeking a stay must specifically and reasonably demonstrate an injury, not merely allege generalized harm; LBP-15-2, 81 NRC 57 (2015)
- Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 706 (1985), *aff'd in part*, CLI-86-5, 23 NRC 125 (1986), *remanded in part on other grounds sub nom.* *Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719 (1989)  
section 51.102(c) merges the final supplemental environmental impact statement with any relevant licensing board decision; CLI-15-6, 81 NRC 387 (2015)  
section 51.102(c) replaced a previous version that expressly permitted licensing boards to modify the content of an environmental impact statement; CLI-15-6, 81 NRC 388 (2015)
- Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 707 (1985), *aff'd in part*, CLI-86-5, 23 NRC 125 (1986), *remanded in part on other grounds sub nom.* *Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719 (1989)  
environmental impact statement may be deemed modified by the hearing record because hearing procedures allow for additional and a more rigorous public scrutiny of the FSEIS than does the usual circulation for comment; CLI-15-6, 81 NRC 388 (2015)
- Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 (1974)  
contention admissibility criteria are strict by design but should not be turned into a fortress to deny intervention; LBP-15-20, 81 NRC 855-56 (2015)  
intervention petitioner may not attack generic NRC requirements or regulations or express generalized grievances about NRC policies; CLI-15-9, 81 NRC 527-28 n.98 (2015)
- Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289-90 n.6 (1979)  
contentions that fall outside the specified scope of the proceeding are inadmissible; LBP-15-20, 81 NRC 849 (2015)
- Potomac Electric Power Co.* (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-218, 8 AEC 79, 85 (1974)  
licensing proceedings are not the appropriate venue for generic rulemaking issues; CLI-15-9, 81 NRC 530 (2015)  
licensing boards should not accept in individual license proceedings contentions that are, or are about to become, the general rulemaking by the Commission; CLI-15-9, 81 NRC 534 n.3 (2015); CLI-15-11, 81 NRC 547 n.5 (2015); CLI-15-12, 81 NRC 552 n.5 (2015)
- Power Authority of the State of New York* (James A. Fitzpatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266, 295 (2000)  
Commission grants standing to a governmental body within close proximity of a proposed nuclear reactor under the proximity presumption, effectively dispensing with the need to make an affirmative showing of injury, causation, and redressability; LBP-15-19, 81 NRC 819 n.17 (2015)  
mere notice pleading is insufficient, but requirement for contention specificity and factual support rather than vague or conclusory statements is not intended to prevent intervention when material and concrete issues exist; LBP-15-20, 81 NRC 853 n.140 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Power Reactor Development Co. v. International Union of Electrical, Radio & Machine Workers*, 367 U.S. 396, 409 (1961)  
it is fair to read the AEC and NRC history as a de facto acquiescence in and ratification of the Commission's licensing procedure by Congress; CLI-15-4, 81 NRC 227 (2015)
- Powertech USA, Inc.* (Dewey-Burdock In Situ Uranium Recovery Facility), LBP-13-9, 78 NRC 37, 46 (2013)  
admitted contentions challenging applicant's environmental report may function as challenges to similar portions of NRC Staff's NEPA document; LBP-15-11, 81 NRC 409-10 (2015)
- Powertech USA, Inc.* (Dewey-Burdock in Situ Uranium Recovery Facility), LBP-13-9, 78 NRC 37, 49 (2013)  
it is the duty of NRC Staff, not applicant, to consult with interested tribes concerning the proposed site in the context of a National Historic Preservation Act contention; LBP-15-5, 81 NRC 280 n.178 (2015)
- Powertech USA, Inc.* (Dewey-Burdock In Situ Uranium Recovery Facility), LBP-13-9, 78 NRC 37, 67 (2013)  
it is not clear NRC Staff relied upon the generic environmental impact statement when preparing the draft supplemental EIS because it was not incorporated by reference or mentioned in any other manner; LBP-15-11, 81 NRC 440 n.258 (2015)
- Powertech USA, Inc.* (Dewey-Burdock In Situ Uranium Recovery Facility), LBP-13-9, 78 NRC 37, 67-68 n.181 (2013)  
principle of *expressio unis est exclusio alterius* is discussed; LBP-15-11, 81 NRC 440 n.258 (2015)
- PPL Bell Bend, LLC* (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC 133, 139 (2010)  
proximity-based standing based on frequent contacts is a determination to be made by a licensing board after weighing all the information provided; LBP-15-17, 81 NRC 775 n.140 (2015)
- PPL Bell Bend, LLC* (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC 133, 139-40 (2010)  
petitioner may use its reply as an opportunity to cure potential defects in standing; LBP-15-5, 81 NRC 285 n.224 (2015); LBP-15-13, 81 NRC 461 (2015)
- PPL Bell Bend, LLC* (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC 133, 140 (2010)  
petitioning member's affidavit must be sufficiently specific to show frequent contact within 50 miles of the plant; LBP-15-17, 81 NRC 775 (2015)  
statement that petitioner lives, recreates, and conducts business within the vicinity of the plant is too vague to demonstrate a substantial or regular presence within 50 miles of the plant; LBP-15-17, 81 NRC 775-76 (2015)  
to demonstrate frequent contacts within the 50-mile site radius under the proximity presumption, petitioner must show that his/her contacts are substantial and regular, and must describe them with specificity; LBP-15-17, 81 NRC 775 (2015)
- PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-4, 65 NRC 281, 299-302 (2007)  
reply brief may not be used to present entirely new arguments in support of an existing contention or to propose a new contention, but board may consider information in a reply that legitimately amplifies an issue presented in the original petition; LBP-15-5, 81 NRC 285 n.223 (2015)
- Preservation Coalition, Inc. v. Pierce*, 667 F.2d 851, 859 (9th Cir. 1982)  
compliance with the National Historic Preservation Act does not relieve a federal agency of the duty of complying with the environmental impact statement requirement to the fullest extent possible; LBP-15-16, 81 NRC 654-55 (2015)
- Private Fuel Storage, LLC*. (Independent Spent Fuel Storage Installation), CLI-98-13, 48 NRC 26, 33-34 (1998)  
Commission grants standing to a governmental body within close proximity of a proposed nuclear reactor under the proximity presumption, effectively dispensing with the need to make an affirmative showing of injury, causation, and redressability; LBP-15-19, 81 NRC 819 n.17 (2015)
- Private Fuel Storage, LLC*. (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 323 (1999)  
when an organization seeks to intervene on behalf of its members, it may establish standing by showing that one or more of its members would individually meet the standing requirements, the

## LEGAL CITATIONS INDEX

### CASES

- member has authorized the organization to represent its interest, and the interest represented is germane to the organization's purpose; LBP-15-13, 81 NRC 463 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999)
- failure to comply with any of the section 2.309(f)(1) requirements renders a contention inadmissible; LBP-15-13, 81 NRC 468 (2015); LBP-15-19, 81 NRC 820 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-9, 53 NRC 232, 235 (2001)
- in the absence of some showing of substantial prior misdeeds, an applicant/licensee will be presumed to follow the agency's regulatory requirements, including the directives in its license; LBP-15-3, 81 NRC 140-41 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-12, 53 NRC 459, 467 (2001)
- exemptions ordinarily do not trigger hearing rights when an already-licensed facility is asking for relief from performing a duty imposed by NRC regulations; LBP-15-18, 81 NRC 797 (2015)
- hearing on exemption-related matters is necessary insofar as resolution of the exemption request directly affects the licensability of a proposed fuel storage site and the exemption raises material questions directly connected to an agency licensing action; LBP-15-18, 81 NRC 797 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 264 (2001)
- guidance documents that are developed to assist in compliance with applicable regulations are entitled to special weight; CLI-15-6, 81 NRC 356 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 264-65 (2001)
- where no Staff guidance was available for the particular type of facility undergoing license review, the board reasonably selected a standard for a facility most like the facility under review; CLI-15-6, 81 NRC 358 n.86 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-26, 54 NRC 376, 380 (2001)
- petitioners asserted that NRC actions following the events of September 11, 2001, and the accident at Fukushima Dai-ichi were insufficient to satisfy NRC's general obligation under the Atomic Energy Act to protect public health and safety; CLI-15-4, 81 NRC 231 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 347 (2002)
- purpose of the final supplemental environmental impact statement is to inform the decisionmaking agency and the public of a broad range of environmental impacts that will result, with a fair degree of likelihood, from a proposed project, rather than to speculate about worst-case scenarios and how to prevent them; CLI-15-6, 81 NRC 386 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 349 (2002)
- NEPA does not require NRC Staff to examine every conceivable aspect of federally licensed projects in preparing its environmental impact statement; LBP-15-3, 81 NRC 82 (2015); LBP-15-16, 81 NRC 638 n.101 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 352 (2002)
- NEPA's mandate to federal agencies is to consider a broad range of environmental effects that are reasonably likely to ensue as a result of a major federal action; CLI-15-6, 81 NRC 386 n.247 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-03-8, 58 NRC 11, 26 (2003)
- Commission gives substantial deference to licensing board findings of fact, and will not overturn a board's factual findings unless they are not even plausible in light of the record viewed in its entirety; CLI-15-9, 81 NRC 522 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 138 (2004)  
although intervenors disagree with applicant's opportunistic inspection strategy for managing rebar corrosion, they merely assert, and do not plausibly explain, how applicant's approach will lead to a material safety impact; LBP-15-1, 81 NRC 42 n.156 (2015)  
intervenors' allegations do not plausibly indicate that the shield building would lose its functionality under the proposed aging management plan; LBP-15-1, 81 NRC 40-41 & n.146 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 138-39 (2004)  
facts put forward by intervenor should plausibly indicate why a program is inadequate; LBP-15-20, 81 NRC 853 n.144 (2015)  
in explaining why there is a genuine material dispute, contention must give the board a reason to believe that the alleged deficiency will lead to a material safety or environmental outcome, based on factual or expert support; LBP-15-1, 81 NRC 37-38 n.122 (2015)  
intervenors do not point to any recitation of the factors underlying the contention or references to documents and texts that give the board reason to believe applicant's inspection program may lead to a material negative impact on public safety, or that an improved program will lead to any positive impact; LBP-15-1, 81 NRC 40 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-12, 61 NRC 345, 350 n.18 (2005)  
there would be little hope of completing administrative proceedings if each newly arising allegation required an agency to reopen its hearings; LBP-15-14, 81 NRC 595 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-19, 62 NRC 403, 411 (2005)  
Commission defers to board's factual findings unless they are clearly erroneous and generally steps in only to correct factual findings not even plausible in light of the record reviewed in its entirety, e.g., where it appears that the board has overlooked or misunderstood important evidence; CLI-15-6, 81 NRC 351 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-06-3, 63 NRC 19, 28 (2006)  
party offering a new contention on the need to supplement an issued final EIS must explain why the new information is sufficiently significant to present a seriously different picture of the environmental landscape; LBP-15-16, 81 NRC 704 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 179, *aff'd as to other matters*, CLI-98-13, 48 NRC 26 (1998)  
"materiality" requires petitioner to show why the alleged error or omission is of possible significance to the result of the proceeding; LBP-15-20, 81 NRC 850 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 179-80, *aff'd as to other matters*, CLI-98-13, 48 NRC 26 (1998)  
subject matter of the contention must impact the grant or denial of a pending license application; LBP-15-20, 81 NRC 850 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 180, *aff'd as to other matters*, CLI-98-13, 48 NRC 26 (1998)  
there must be some significant link between a claimed deficiency and NRC's ultimate determination whether the license applicant will adequately protect the health and safety of the public and the environment; LBP-15-20, 81 NRC 850 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-00-28, 52 NRC 226 (2000)  
even if contentions are based on NRC Staff's FSEIS, intervenor still bears the responsibility of demonstrating that a new contention merits admission and meets all six requirements of 10 C.F.R. 2.309; LBP-15-16, 81 NRC 703 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-01-23, 54 NRC 163, 172 n.3 (2001)  
admitted contentions challenging applicant's environmental report may function as challenges to similar portions of NRC Staff's NEPA document; LBP-15-11, 81 NRC 409-10 (2015)



## LEGAL CITATIONS INDEX

### CASES

- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-03-30, 58 NRC 454, 479 (2003)  
reasonable alternatives under NEPA do not include alternatives that are impractical, present unique problems, or cause extraordinary costs; LBP-15-3, 81 NRC 104 (2015)
- Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-05-12, 61 NRC 319, 331-31 (2005)  
directing NRC Staff to investigate a safety issue that the board could not reach through the adjudicatory process may put the Commission in a position, after receiving views of applicant if it desired, to assure itself about the significance, or lack thereof, of the shield building cracking issues raised by intervenors, and to direct such followup proceedings, if any, as it might deem appropriate; LBP-15-1, 81 NRC 45 n.181 (2015)
- Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 and 3), LBP-08-21, 68 NRC 554, 559 (2008)  
licensing boards are obliged to independently assess petitioners' standing; LBP-15-5, 81 NRC 256 (2015)
- Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), CLI-10-2, 71 NRC 27, 34 (2010)  
when NEPA contentions are involved, the burden of proof shifts to NRC Staff; LBP-15-3, 81 NRC 84-85 (2015); LBP-15-16, 81 NRC 641 (2015)
- Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), CLI-10-2, 71 NRC 27, 40-41 (2010)  
expert witness must have enough knowledge in the subject area to allow him to proffer an expert opinion for the purposes of determining contention admissibility; LBP-15-20, 81 NRC 851 n.129 (2015)
- Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), CLI-10-2, 71 NRC 27, 45 (2010)  
evidentiary objections made for the first time after briefing has been completed unfairly deprive the petitioners of the opportunity to file the response expressly provided in the NRC's procedural rules; LBP-15-20, 81 NRC 859 (2015)
- Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), CLI-10-2, 71 NRC 27, 46 (2010)  
NEPA and 10 C.F.R. Part 52 requirements do not apply in the license transfer context; CLI-15-8, 81 NRC 511 n.81 (2015)
- Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), LBP-09-10, 70 NRC 51, 99-100 (2009)  
brief explanation of the rationale underlying the contention is sufficient to satisfy 10 C.F.R. 2.309(f)(1)(ii); LBP-15-20, 81 NRC 849 (2015)
- Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), LBP-09-10, 70 NRC 51, 101 (2009)  
once challenged, there is no presumption that an environmental report is correct or accurate, with applicant, as the proponent of the license, bearing the burden of proof; LBP-15-2, 81 NRC 57 n.63 (2015)
- Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), LBP-11-1, 73 NRC 19, 26 (2011)  
migration tenet applies when information in the draft environmental impact statement is sufficiently similar to information in applicant's environmental report, and allows previously admitted contentions challenging the environmental report to apply to relevant portions of the DSEIS; LBP-15-16, 81 NRC 631 n.39 (2015)
- Public Citizen Health Research Group v. Commissioner, Food and Drug Administration*, 740 F.2d 21, 31 (D.C. Cir. 1984)  
courts decline to review tentative agency positions because doing so severely compromises the interests that the ripeness doctrine protects; LBP-15-15, 81 NRC 610 n.83 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Public Citizen Health Research Group v. Commissioner, Food and Drug Administration*, 740 F.2d 21, 32 (D.C. Cir. 1984)  
tentative conclusion articulated in a nonfinal, proposed rule does not command deference from the court nor is it binding on the agency; LBP-15-15, 81 NRC 610 n.83 (2015)
- Public Citizen, Inc. v. Shalala*, 932 F. Supp. 13, 18 n.6 (D.D.C. 1996)  
tentative conclusion articulated in a nonfinal, proposed rule does not command deference from the court nor is it binding on the agency; LBP-15-15, 81 NRC 610 n.83 (2015)
- Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-493, 8 NRC 253, 270 (1978)  
stay movant has the burden of persuasion on the four factors of 10 C.F.R. 2.1213(d); LBP-15-2, 81 NRC 53 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-422, 6 NRC 33, 68 (1977)  
Commission may incorporate in any license at the time of issuance, or thereafter, by appropriate rule, regulation, or order, such additional requirements and conditions with respect to licensee's receipt, possession, use, and transfer of source or byproduct material as it deems appropriate or necessary in order to protect health or to minimize danger to life or property; LBP-15-16, 81 NRC 638 n.104 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-471, 7 NRC 477, 489 n.8 (1978)), *rev'd on other grounds*, CLI-97-15, 46 NRC 294 (1997)  
because NRC Staff relies heavily on applicant's environmental report in preparing the environmental impact statement, should applicant become a proponent of a particular challenged position set forth in the EIS, applicant, as such a proponent, also has the burden on that matter; LBP-15-3, 81 NRC 85 (2015); LBP-15-16, 81 NRC 642 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-940, 32 NRC 225, 234-38 (1990)  
NRC Staff oversight activities normally conducted for the purpose of ensuring that licensees comply with existing NRC requirements and license conditions do not typically trigger the opportunity for a hearing under the AEA; CLI-15-5, 81 NRC 334 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-942, 32 NRC 395, 408-09 (1990)  
failure to offer factual support for the proposition that applicant's inputs for evacuation times are flawed or unreasonable or that its sensitivity analysis of these inputs was incorrect renders a contention inadmissible; LBP-15-5, 81 NRC 299 n.338 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-77-8, 5 NRC 503, 527 (1977)  
deference can be given to a state permit's findings as to the acceptability of environmental impacts; LBP-15-11, 81 NRC 439 n.253 (2015)  
it is appropriate for NRC Staff to give substantial weight to state agency's decision that issuing the NPDES permit would be environmentally acceptable; LBP-15-11, 81 NRC 436 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-77-8, 5 NRC 503, 530 (1977)  
in granting a proposed license, board may condition it upon some precautionary measures required at the chosen site; LBP-15-16, 81 NRC 638 n.104 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-77-27, 6 NRC 715, 716 (1977)  
stay of an NRC license is an extraordinary remedy, and a rare occurrence in NRC practice; LBP-15-2, 81 NRC 53 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-89-3, 29 NRC 234, 241 (1989)  
wholesale incorporation by reference does not serve the purposes of a pleading; LBP-15-5, 81 NRC 290 n.263 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-3, 31 NRC 219, 232 (1990)  
arrangements for requesting and effectively using assistance resources should be identified and supported by appropriate letters of agreement; LBP-15-18, 81 NRC 800 n.40 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-3, 31 NRC 219, 248 (1990)  
 lack of detail for emergency sheltering option is not significant because size of sheltering population is very small; LBP-15-18, 81 NRC 800 n.42 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-89-4, 29 NRC 62, 73 (1989)  
 in assessing whether applicant/licensee adequately carries out a licensing directive, boards are to assume that NRC Staff will be fair and judge the matter of an applicant/licensee's compliance on the merits; LBP-15-3, 81 NRC 141 n.66 (2015)
- Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-89-32, 30 NRC 375, 554 n.56 (1989), *rev'd in part on other grounds and remanded*, ALAB-937, 32 NRC 135 (1990), *aff'd in part and rev'd in part on other grounds*, ALAB-941, 32 NRC 337 (1990), *and aff'd on other grounds*, ALAB-947, 33 NRC 299 (1991)  
 board considered evidence submitted with petitioner's reply to which opposing parties didn't object; LBP-15-5, 81 NRC 289 n.252 (2015)
- Public Service Electric and Gas Co.* (Salem Nuclear Generating Station, Units 1 and 2), ALAB-136, 6 AEC 487, 489 (1973)  
 although a totally deficient pleading may not be justified on the basis that it was prepared without the assistance of counsel, pro se petitioners should not be held to those standards of clarity and precision to which a lawyer might reasonably be expected to adhere; LBP-15-13, 81 NRC 468 n.65 (2015)
- Quechan Tribe v. U.S. Department of the Interior*, 755 F. Supp. 2d 1104, 1106-07 (S.D. Cal. Dec. 15, 2010)  
 preliminary injunction halting a solar energy project was granted based on a tribal claim that the project would not avoid most of the 459 cultural sites identified, and that the NEPA and NHPA process had been insufficient; LBP-15-2, 81 NRC 55-56 (2015)
- Quechan Tribe v. U.S. Department of the Interior*, 755 F. Supp. 2d 1104, 1120 (S.D. Cal. Dec. 15, 2010)  
 irreparable harm element of the test for issuance of injunctive relief was met where the tribe's evidence showed that a phase of the project would involve damage to at least one known site, and virtually ensure some loss or damage; LBP-15-2, 81 NRC 56 (2015)
- RadLAX Gateway Hotel, LLC v. Amalgamated Bank*, 132 S. Ct. 2065, 2071 (2012)  
 specific regulations control over general regulations; CLI-15-10, 81 NRC 540 (2015)
- Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989)  
 environmental impact statement ensures that decisionmakers will have available and will carefully consider detailed information concerning significant environmental impacts; CLI-15-10, 81 NRC 540 (2015)  
 environmental impact statement guarantees that the relevant information will be made available to the larger audience, such as petitioners and state and local governments, that may also play a role in the decisionmaking process; CLI-15-10, 81 NRC 540-41 (2015)  
 final environmental impact statements must be supplemented to provide complete, accurate, and up-to-date sources of information for members of the public and state and local governments; CLI-15-10, 81 NRC 538 n.7 (2015)  
 statutory requirement to prepare an environmental impact statement serves two purposes; CLI-15-10, 81 NRC 540 (2015)
- Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349-50 (1989)  
 principal goals of a final environmental impact statement are to force agencies to take a hard look at the environmental consequences of a proposed project and to permit the public a role in the agency's decisionmaking process; LBP-15-16, 81 NRC 697 n.511 (2015)
- Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989)  
 NEPA does not mandate particular results, but simply prescribes the necessary process that agencies must follow in evaluating environmental impacts; LBP-15-19, 81 NRC 824 (2015)
- Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989)  
 final supplemental environmental impact statement need not contain a complete mitigation plan; LBP-15-16, 81 NRC 694 (2015)  
 NEPA requires a reasonably complete discussion of possible mitigation measures; LBP-15-11, 81 NRC 430 (2015)

## LEGAL CITATIONS INDEX

### CASES

- where the agency has found mitigation strategies necessary to alleviate a potential impact, the associated discussion should be reasonably complete to properly evaluate the severity of the adverse effects; LBP-15-11, 81 NRC 431, 437 (2015); LBP-15-16, 81 NRC 687 n.436 (2015)
- Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989)
- NEPA does not demand the presence of a fully developed plan that will mitigate environmental harm before an agency can act; LBP-15-16, 81 NRC 688 (2015)
- Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), ALAB-655, 14 NRC 799, 816 (1981)
- licensing proceedings are not the appropriate venue for generic rulemaking issues; CLI-15-9, 81 NRC 530 (2015)
- San Luis Obispo Mothers for Peace v. NRC*, 799 F.2d 1268, 1270 (9th Cir. 1986)
- NRC regulations appropriately require a hearing before the proposed license amendment becomes effective whenever the amendment creates the possibility of a new or different kind of accident; LBP-15-20, 81 NRC 859 n.181 (2015)
- Securities and Exchange Commission v. Chenery Corp.*, 332 U.S. 194, 203 (1947)
- choice made between proceeding by general rule or by individual, ad hoc litigation is one that lies primarily in the informed discretion of the administrative agency; CLI-15-11, 81 NRC 549 n.19 (2015)
- Sequoyah Fuels Corp.* (Gore, Oklahoma Site Decommissioning), LBP-99-46, 50 NRC 386 (1999)
- “synergistic” refers to the joint action of different parts or sites which, acting together, enhance the effects of one or more individual sites; LBP-15-5, 81 NRC 274 n.135 (2015)
- Sequoyah Fuels Corp. and General Atomics* (Gore Oklahoma Site), CLI-94-12, 40 NRC 64 (1994)
- oversight activities at times involve enforcement actions, including orders and civil penalties, to which a hearing right or opportunity attaches; CLI-15-5, 81 NRC 338 n.52 (2015)
- Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 72 (1994)
- organization seeking representational standing on behalf of its members may meet the injury-in-fact requirement by demonstrating that at least one of its members, who has authorized the organization to represent his or her interest, will be injured by the possible outcome of the proceeding; LBP-15-5, 81 NRC 256, 257 (2015); LBP-15-17, 81 NRC 771 n.104, 776 (2015)
- Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 (1994)
- living within a specific distance from the plant is enough to confer standing on an individual or group in proceedings for construction permits, operating licenses, or significant amendments thereto; LBP-15-20, 81 NRC 837 n.30 (2015)
- proximity presumption applies to persons who have frequent contacts in the area near a nuclear power plant; LBP-15-17, 81 NRC 77 n.97 (2015)
- Shaw AREVA MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-07-14, 66 NRC 169, 183 (2007)
- to demonstrate organizational standing, petitioner must show injury-in-fact to the interests of the organization itself; LBP-15-17, 81 NRC 771 (2015)
- Shaw AREVA MOX Services* (Mixed Oxide Fuel Fabrication Facility), LBP-08-11, 67 NRC 460, 482 (2008)
- boards may reformulate contentions to eliminate extraneous issues or to consolidate issues for a more efficient proceeding; LBP-15-5, 81 NRC 262, 270 n.116, 273 (2015); LBP-15-13, 81 NRC 468 n.66 (2015); LBP-15-17, 81 NRC 780 n.165 (2015)
- Shieldalloy Metallurgical Corp.* (Decommissioning of the Newfield, New Jersey Site), CLI-09-1, 69 NRC 1, 5 (2009)
- absent compelling circumstances, NRC Staff is expected to accord sufficient priority and devote sufficient resources to meeting its current estimated safety and environmental review schedule; LBP-15-2, 81 NRC 59 (2015)
- Shieldalloy Metallurgical Corp.* (Decommissioning of the Newfield, New Jersey Site), CLI-10-8, 71 NRC 142, 151 (2010)
- irreparable injury is the most important of the factors for grant or denial of a stay; LBP-15-2, 81 NRC 53-54 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Shieldalloy Metallurgical Corp.* (Decommissioning of the Newfield, New Jersey Site), CLI-10-8, 71 NRC 142, 154 (2010)  
 even if a party moving for a stay fails to show irreparable injury, a board may still grant a stay if movant has made an overwhelming showing or a demonstration of virtual certainty that it will prevail on the merits; LBP-15-2, 81 NRC 54, 58 (2015)
- Sierra Club v. Van Antwerp*, 661 F.3d 1147, 1155 (D.C. Cir. 2011)  
 federal agency is required to consult if an action may affect listed species or designated critical habitat, even if the effects are expected to be beneficial; LBP-15-11, 81 NRC 445 n.297 (2015)
- Society Hill Towers Owners' Association v. Rendell*, 210 F.3d 168, 181 (3d Cir. 2000)  
 action lacks independent utility when it would be irrational or unwise to pursue the action without the presence of the EIS-generating central action; LBP-15-16, 81 NRC 697 (2015)
- Solite Corp. v. Environmental Protection Agency*, 952 F.2d 473, 484-85 (D.C. Cir. 1991)  
 preamble to notice of proposed rulemaking addresses agency's duty to identify and make available technical studies and data that it has employed in reaching the decisions to propose particular rules; LBP-15-15, 81 NRC 612-13 (2015)
- South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-10-1, 71 NRC 1, 7 (2010)  
 Commission permits petitioners to cure deficiencies with regard to standing in their replies; LBP-15-5, 81 NRC 285 n.224 (2015); LBP-15-13, 81 NRC 461 (2015)
- South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-12-9, 75 NRC 421, 428 (2012)  
 Commission does not review combined license application de novo, but rather considers the sufficiency of NRC Staff's review of the application; CLI-15-13, 81 NRC 560-61 (2015)
- South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-12-9, 75 NRC 421, 460-64 (2012)  
 inservice testing and inspection program for squib valves in combined license applications is discussed; CLI-15-13, 81 NRC 578 (2015)
- South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-12-9, 75 NRC 421, 461 (2012)  
 in the event of a severe accident in an AP1000, squib valves, which are explosively activated, reduce pressure and inject water as needed into the reactor vessel; CLI-15-13, 81 NRC 578 (2015)  
 purpose of the testing program for squib valves is to ensure that the valves operate as intended under design conditions; CLI-15-13, 81 NRC 578 (2015)
- South Carolina Electric & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-12-9, 75 NRC 421, 461-63 (2012)  
 although the Commission found NRC Staff's review of combined license applications rigorous, it imposed a condition requiring implementation of a squib-valve surveillance program prior to fuel load; CLI-15-13, 81 NRC 578 (2015)
- South Fork Band Council v. U.S. Department of Interior*, 588 F.3d 718, 726 (9th Cir. 2009)  
 final supplemental environmental impact statement cannot rely on non-NEPA documents; LBP-15-16, 81 NRC 682 n.390, 699 (2015)  
 non-NEPA document, let alone one prepared and adopted by a state government, cannot satisfy a federal agency's obligations under NEPA; LBP-15-11, 81 NRC 430 n.187, 439 (2015)
- South Texas Project Nuclear Operating Co.* (South Texas Project, Units 3 and 4), CLI-10-24, 72 NRC 451, 467 (2010)  
 guidance documents do not create binding legal requirements; LBP-15-20, 81 NRC 847 n.100 (2015)
- South Texas Project Nuclear Operating Co.* (South Texas Project, Units 3 and 4), LBP-09-21, 70 NRC 581, 617, 618, 619 (2009), *review denied*, *Nuclear Innovation North America LLC* (South Texas Project, Units 3 and 4), CLI-11-6, 74 NRC 203, 210 (2011)  
 petitioners' assertion that applicant must address the potential impacts of a radiological incident on the operations of the other units establishes an admissible contention of omission; LBP-15-5, 81 NRC 275 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 1 and 2), CLI-12-20, 76 NRC 437, 440 (2012)  
 Commission referred request to licensing board, directing the board to consider whether a Confirmatory Action Letter issued to licensee constituted a de facto license amendment; CLI-15-14, 81 NRC 749 (2015)
- Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 1 and 2), LBP-13-7, 77 NRC 307, 327, *vacated as moot*, CLI-13-9, 78 NRC 551 (2013)  
 board examined whether any aspect of the larger Confirmatory Action Letter process constituted a de facto license amendment; CLI-15-14, 81 NRC 749 (2015)
- Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 1 and 2), LBP-13-7, 77 NRC 307, 333-34, *vacated as moot*, CLI-13-9, 78 NRC 551 (2013)  
 board erred in determining that it could review unilateral, unapproved, licensee actions under section 50.59(c)(2) to determine whether they also constituted de facto license amendments; CLI-15-14, 81 NRC 749-50 (2015)
- Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-717, 17 NRC 346, 365 n.32 (1983)  
 Federal Rules of Evidence are not directly applicable to NRC proceedings, but NRC adjudicatory boards often look to those rules for guidance; LBP-15-20, 81 NRC 859 n.184 (2015)
- Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-12-20, 76 NRC 437, 439-40 (2012)  
 assertion that the section 2.206 process does not provide a viable forum for relief is rejected; CLI-15-14, 81 NRC 736 n.32 (2015)  
 NRC's 2.206 process affords a meaningful opportunity to seek review of and action on safety-related concerns; CLI-15-5, 81 NRC 339 (2015)
- Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-13-9, 78 NRC 551, 556 n.17 (2013)  
 amicus curiae filings are allowed at the Commission's discretion or sua sponte; CLI-15-4, 81 NRC 225 n.8 (2015); CLI-15-5, 81 NRC 333 n.19 (2015); CLI-15-10, 81 NRC 537-38 n.5 (2015)  
 Commission exercises its discretion to consider briefs that were not filed via the agency's E-Filing system; LBP-15-4, 81 NRC 163 n.38 (2015)
- Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-13-9, 78 NRC 551, 560 & n.36 (2013)  
 licensing boards are the appropriate finders of fact in most circumstances, and referral of a matter for a fact-specific dispute occurs in the ordinary course of business; CLI-15-14, 81 NRC 735 n.27, 751 n.62 (2015)
- Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), CLI-07-17, 65 NRC 392, 395 (2007)  
 NRC hearings on NEPA issues focus entirely on the adequacy of NRC Staff's work; LBP-15-3, 81 NRC 84-85 (2015); LBP-15-16, 81 NRC 641-41 n.126 (2015)
- Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-08-2, 67 NRC 54, 63-64 (2008)  
 migration of a contention is appropriate only where the environmental analysis or discussion at issue is essentially in pari materia with applicant's analysis or discussion that is the focus of the contention; LBP-15-11, 81 NRC 410 (2015)
- Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613, 632 (2009)  
 board's ultimate NEPA judgments can be made on the basis of the entire adjudicatory record in addition to NRC Staff's final environmental impact statement; LBP-15-3, 81 NRC 82 (2015)
- Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613, 696-702 (2009), *review denied*, CLI-10-5, 71 NRC 90 (2010)  
 ruling that supplements the record should state clearly what evidence the board found credible, whether the evidence supports or alters NRC Staff's conclusions in the environmental impact statement, and what the impact of the proposed action for the specific issue is expected to be; CLI-15-6, 81 NRC 389 n.258 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613, 733 (2009), *petition for review denied*, CLI-10-5, 71 NRC 90 (2010)  
board's ultimate NEPA judgments are made on the basis of the entire adjudicatory record in addition to NRC Staff's final supplemental environmental impact statement; LBP-15-16, 81 NRC 638 (2015)
- Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-11-8, 74 NRC 214, 217 n.1 (2011)  
heavy barrier to reopening applies whenever an adjudication has been closed and not merely after a case has been terminated following a full evidentiary hearing on the merits; LBP-15-14, 81 NRC 595 (2015)
- Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-11-8, 74 NRC 214, 221 (2011)  
merits questions cannot be resolved at the contention admission stage of the proceeding; LBP-15-20, 81 NRC 855 n.158 (2015)  
petitioners are not required at the contention admissibility stage to prove their case on the merits or even to provide expert or factual support as strong as that necessary to withstand a summary disposition motion; LBP-15-20, 81 NRC 851, 855 (2015)
- Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-2, 75 NRC 63, 74 (2012)  
Commission does not review combined license application de novo, but rather considers the sufficiency of NRC Staff's review of the application; CLI-15-13, 81 NRC 560-61 (2015)
- Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-2, 75 NRC 63, 90 (2012)  
in the event of a severe accident in an AP1000, squib valves, which are explosively activated, reduce pressure and inject water as needed into the reactor vessel; CLI-15-13, 81 NRC 578 (2015)  
purpose of the testing program for squib valves is to ensure that the valves operate as intended under design conditions; CLI-15-13, 81 NRC 578 (2015)
- Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-2, 75 NRC 63, 90-96 (2012)  
inservice testing and inspection program for squib valves in combined license applications is discussed; CLI-15-13, 81 NRC 578 (2015)
- Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-2, 75 NRC 63, 93-95 (2012)  
although the Commission found NRC Staff's review of combined license applications rigorous, it imposed a condition requiring implementation of a squib-valve surveillance program prior to fuel load; CLI-15-13, 81 NRC 578 (2015)
- Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-11, 75 NRC 523, 529 (2012)  
even if stay movant fails to show irreparable injury, a board may still grant a stay if movant has made an overwhelming showing or a demonstration of virtual certainty that it will prevail on the merits; LBP-15-2, 81 NRC 54, 58 (2015)  
for a potential injury to be irreparable, it must be shown to be imminent, certain, and great; LBP-15-2, 81 NRC 54 (2015)  
irreparable injury is the most important of the factors for grant or denial of a stay; LBP-15-2, 81 NRC 53-54 (2015)  
where movant cannot show either irreparable injury or a likelihood of prevailing on the merits, a board need not consider the remaining factors; LBP-15-2, 81 NRC 54 (2015)
- Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-11, 75 NRC 523, 530-31 (2012)  
to qualify as irreparable injury, the potential harm cited by stay movant first must be related to the underlying claim that is the focus of the adjudication; LBP-15-2, 81 NRC 54, 55 (2015)
- Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-11, 75 NRC 523, 533 n.53 (2012)  
party offering a new contention on the need to supplement an issued final EIS must explain why the new information is sufficiently significant to present a seriously different picture of the environmental landscape; LBP-15-16, 81 NRC 704 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-11, 75 NRC 523, 534 (2012)  
 results of review by NRC Staff and Indian tribe of applicant's newly disclosed well log data did not paint a seriously different picture of the environmental landscape; LBP-15-16, 81 NRC 705 (2015)
- Southern Utah Wilderness Alliance Corp. v. Norton*, 301 F.3d 1217, 1238 n.19 (10th Cir. 2002), *rev'd on other grounds*, 542 U.S. 55 (2004)  
 standard for preparing a supplemental environmental assessment is the same as for preparing a supplemental environmental impact statement; LBP-15-13, 81 NRC 471 n.89 (2015)
- Southwest Center for Biological Diversity v. U.S. Forest Service*, 100 F.3d 1443, 1447-48 (9th Cir. 1996)  
 if an agency determines that a particular action will have no effect on an endangered or threatened species, the U.S. Fish & Wildlife Service consultation requirements are not triggered; LBP-15-11, 81 NRC 444 n.284 (2015)
- Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22 (1998)  
 board may appropriately view petitioner's support for its contention in a light that is favorable to petitioner, but the board cannot do so by ignoring the requirements set forth in 10 C.F.R. 2.309(f)(1); LBP-15-5, 81 NRC 288 n.248 (2015)
- Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22-23 (1998)  
 sua sponte review authority shall be used only in extraordinary circumstances; CLI-15-1, 81 NRC 9 (2015)
- Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452, 453 (1981)  
 NRC Rules of Practice provide the board with substantial authority to regulate hearing procedures; LBP-15-15, 81 NRC 615 n.114 (2015)
- Strata Energy, Inc.* (Ross In Situ Recovery Uranium Project), LBP-12-3, 75 NRC 164, 207 (2012), *aff'd on other grounds*, CLI-12-12, 75 NRC 603 (2012)  
 generic environmental impact statement for ISL mining is subject to an appropriate challenge in an adjudicatory proceeding; LBP-15-11, 81 NRC 441 (2015)
- Strata Energy, Inc.* (Ross In Situ Recovery Uranium Project), LBP-15-3, 81 NRC 65, 91-92 (2015)  
 precicensing monitoring program to characterize site groundwater constituents need not be coextensive with the Criterion 7A preoperational monitoring, license condition-based program intended to provide the information needed for setting Criterion 5B groundwater protection standards and UCLs; LBP-15-16, 81 NRC 665 (2015)
- Strata Energy, Inc.* (Ross In Situ Recovery Uranium Project), LBP-15-3, 81 NRC 65, 132 (2015)  
 there is nothing in the record to suggest that applicant or NRC Staff will not act in good faith to ensure that applicant's regulatory responsibilities, including its license conditions, are honored, and the board cannot assume noncompliance; LBP-15-11, 81 NRC 439 n.252 (2015)
- System Energy Resources, Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-05-4, 61 NRC 10, 13 (2005)  
 boards do not sit to "flyspeck" environmental documents or to add details or nuances, but the environmental report or environmental impact statement must come to grips with all important considerations; LBP-15-5, 81 NRC 283 (2015)  
 petitioners may raise contentions seeking correction of significant inaccuracies and omissions in the environmental report; LBP-15-5, 81 NRC 282-83 (2015)
- Te-Moak Tribe of Western Shoshone of Nevada v. U.S. Department of Interior*, 608 F.3d 592, 606, 610 (9th Cir. 2010)  
 agency failed to take a hard look at cumulative impacts on cultural resources under NEPA even though the agency had satisfied its obligations under NHPA to consult with the tribe; LBP-15-16, 81 NRC 654 n.214 (2015)
- Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4), CLI-09-3, 69 NRC 68, 75 (2009)  
 absent a waiver, parties are prohibited from collaterally attacking NRC regulations in an adjudication; LBP-15-4, 81 NRC 173 n.96 (2015)  
 contention challenging a Category 1 issue is inadmissible because petitioner has not requested a rule waiver and makes no arguments unique to this reactor; LBP-15-5, 81 NRC 302 (2015)



## LEGAL CITATIONS INDEX

### CASES

- Tennessee Valley Authority* (Browns Ferry Nuclear Plant, Units 1, 2, and 3), ALAB-664, 15 NRC 1, 15-16 (1982), *vacated and remanded on other grounds*, CLI-82-26, 16 NRC 880 (1982)  
prior to license issuance NRC must find reasonable assurance that activities authorized by the amendment can be conducted without endangering the health and safety of the public, and are in compliance with Commission regulations; LBP-15-17, 81 NRC 778 n.154 (2015); LBP-15-20, 81 NRC 841 n.65 (2015)
- Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-463, 7 NRC 341, 362 n.90 (1978)  
board considered a letter written after the original petition was filed and submitted with petitioner's reply; LBP-15-5, 81 NRC 289 n.252 (2015)
- Tennessee Valley Authority* (Sequoyah Nuclear Plant, Units 1 and 2), CLI-14-3, 79 NRC 31, 36 (2014)  
limited interlocutory appeal right attaches only when the board has fully ruled on the initial intervention petition, i.e., when it has admitted or rejected all proposed contentions; LBP-15-1, 81 NRC 46 (2015)
- Tennessee Valley Authority* (Watts Bar Nuclear Plant, Unit 2), LBP-09-26, 70 NRC 939, 33-34 (2009)  
contention where a fisheries biologist opined that applicant lacked adequate data on which to conclude that impacts on the aquatic environment were insignificant was admissible; LBP-15-20, 81 NRC 852 n.139 (2015)
- Theodore Roosevelt Conservation Partnership v. Salazar*, 616 F.3d 497, 517 (D.C. Cir. 2010)  
when the adequacy of an EIS mitigation strategy is challenged, the determining issue is whether the agency took a sufficiently hard look at environmental consequences, and ensured that its decision was supported by a completely informed record; LBP-15-16, 81 NRC 688 (2015)
- Toledo Edison Co.* (Davis-Besse Nuclear Power Station), ALAB-300, 2 NRC 752, 761 (1975)  
specific regulations control over general regulations; CLI-15-10, 81 NRC 540 (2015)
- Town of Winthrop v. Federal Aviation Administration*, 535 F.3d 1, 13 (1st Cir. 2008)  
environmental impact statements are not intended to be research documents; LBP-15-3, 81 NRC 82 (2015)
- Trout Unlimited v. Morton*, 509 F.2d 1276, 1283 (9th Cir. 1974)  
NRC Staff must provide a reasonably thorough discussion of the significant aspects of the probable environmental consequences of a proposed action; LBP-15-16, 81 NRC 637 (2015)
- Tucker v. Atwood*, 880 F.2d 1250, 1250 (11th Cir. 1989)  
Administrative Procedure Act requires no more than a description of the subjects and issues involved in a notice of proposed rulemaking; LBP-15-15, 81 NRC 611 n.94 (2015)
- U.S. Department of Energy* (Clinch River Breeder Reactor Plant), ALAB-721, 17 NRC 539, 544 (1983)  
in addressing the stay criteria in a Subpart L proceeding, litigant must come forth with more than general or conclusory assertions in order to demonstrate its entitlement to relief; LBP-15-2, 81 NRC 54 (2015)
- U.S. Department of Energy* (High-Level Waste Repository), CLI-05-27, 62 NRC 715, 718 (2005)  
stay of an NRC license is an extraordinary remedy, and a rare occurrence in NRC practice; LBP-15-2, 81 NRC 53 (2015)
- U.S. Department of Energy* (High-Level Waste Repository), CLI-09-14, 69 NRC 580, 588 (2009)  
petitioner may not rely on general allegations, but must show specific ties to NRC regulatory requirements or to safety in general to demonstrate a genuine dispute of fact or law; LBP-15-20, 81 NRC 848 n.105 (2015)
- U.S. Department of Energy* (High-Level Waste Repository), CLI-10-13, 71 NRC 387, 389 (2010)  
interpretation of statutes at issue and the regulations governing their implementation falls within the Commission's province; LBP-15-5, 81 NRC 302 n.363 (2015)
- U.S. Department of Energy* (High-Level Waste Repository), LBP-09-6, 69 NRC 367, 416 (2009)  
requiring petitioners to proffer conclusive support for the effect of their proposed contention would improperly require boards to adjudicate the merits of contentions before admitting them; LBP-15-20, 81 NRC 858 n.155 (2015)
- U.S. Department of Energy* (High-Level Waste Repository), LBP-09-6, 69 NRC 367, 467 (2009)  
NRC generally presumes that licensees will comply with its regulations; LBP-15-16, 81 NRC 695 n.494 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Union Electric Co.* (Callaway Plant, Unit 1), CLI-15-11, 81 NRC 546 (2015)  
contention that supplementation of the environmental impact statement is necessary to allow members of the public to lodge placeholder contentions challenging Commission reliance, in individual licensing proceedings, on the Continued Storage Rule and GEIS is denied; CLI-15-10, 81 NRC 538 n.7 (2015)  
motion to reopen the record on claim that final environmental impact statement for combined license application violates National Environmental Policy Act by failing to consider the environmental impacts associated of continued storage of spent nuclear fuel is denied; CLI-15-12, 81 NRC 551 (2015)  
placeholder contentions that challenge the 2014 Continued Storage Rule and associated Generic Environmental Impact Statement for Continued Storage are inadmissible; CLI-15-15, 81 NRC 805 (2015)
- Union Electric Co.* (Callaway Plant, Unit 1), CLI-15-11, 81 NRC 546, 548-50 (2015)  
contention that challenges an agency regulation does not raise an issue appropriately within the scope of an individual licensing proceeding and thus is not admissible absent a waiver; CLI-15-12, 81 NRC 553 (2015)
- Union Electric Co.* (Callaway Plant, Unit 1), CLI-15-11, 81 NRC 546, 549 (2015)  
contention that does not engage the combined license application has not demonstrated a genuine dispute with applicant on a material issue; CLI-15-12, 81 NRC 554 (2015)
- Union Electric Co.* (Callaway Plant, Unit 1), CLI-15-11, 81 NRC 546, 549 n.17 (2015)  
lack of an admissible contention necessarily precludes reopening the proceeding; CLI-15-12, 81 NRC 554 (2015)
- Union Electric Co.* (Callaway Plant, Unit 1), LBP-12-15, 76 NRC 14, 27 (2012)  
petitioner that fails to provide sufficient factual or expert support for the claims in its contention in contravention of section 2.309(f)(1)(v) also may have failed to show a genuine dispute with the application as required under section 2.309(f)(1)(vi); LBP-15-1, 81 NRC 38 (2015)
- Union Electric Co.* (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141, 146, 177-78 (2011)  
request for suspension of proceedings and other relief after the Fukushima Dai-ichi accident was denied; CLI-15-13, 81 NRC 564 n.42 (2015)
- Union Electric Co.* (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141, 151 (2011)  
petitioners asserted that NRC actions following the events of September 11, 2001, and the accident at Fukushima Dai-ichi were insufficient to satisfy NRC's general obligation under the Atomic Energy Act to protect public health and safety; CLI-15-4, 81 NRC 231 (2015)
- Union Electric Co.* (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141, 152-57, 161-65 (2011)  
decision to suspend final licensing decisions is highly dependent upon the facts and requires a judgment that the significance of the matter raised is so substantial as to warrant suspension; CLI-15-14, 81 NRC 736-37 (2015)
- Union Electric Co.* (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141, 158 n.65 (2011)  
because the Commission finds that the suspension petition and new contention fail on the merits, and it considers and takes action on the petition and motions in its supervisory capacity, it need not address procedural issues; CLI-15-4, 81 NRC 239 n.100 (2015)  
where petition fails on the merits, the Commission need not address procedural issues; CLI-15-10, 81 NRC 539 n.8 (2015)
- United States v. Alexander*, 326 F.2d 736, 741 (5th Cir. 1964)  
in absence of objection, hearsay evidence is treated as being properly admitted and may be given such probative effect and value to which it is entitled; LBP-15-20, 81 NRC 859 n.184 (2015)
- United States v. Carney*, 468 F.2d 354, 357 (8th Cir. 1972)  
in absence of objection, hearsay evidence is treated as being properly admitted and may be given such probative effect and value to which it is entitled; LBP-15-20, 81 NRC 859 n.184 (2015)
- United States v. Chemical Foundation, Inc.*, 272 U.S. 1, 14-15 (1926)  
in assessing whether applicant/licensee adequately carries out a licensing directive, boards are to assume that NRC Staff will be fair and judge the matter of an applicant/licensee's compliance on the merits; LBP-15-3, 81 NRC 141 n.66 (2015)

## LEGAL CITATIONS INDEX

### CASES

- United States v. Duvall*, 740 F.3d 604, 605 (D.C. Cir. 2013)  
concurring opinions, by their nature, do not carry the force of law, except in very narrow circumstances; CLI-15-4, 81 NRC 233 n.61 (2015)
- United States v. Green Acres Enterprises, Inc.*, 86 F.3d 130, 133 (8th Cir. 1996)  
to qualify as irreparable injury, the potential harm cited by stay movant first must be related to the underlying claim that is the focus of the adjudication; LBP-15-2, 81 NRC 54 (2015)
- United States v. Jamerson*, 549 F.2d 1263, 1266-67 (9th Cir. 1977)  
objection not timely made is waived; LBP-15-20, 81 NRC 859 n.184 (2015)
- United States v. Jenkins*, 714 F. Supp. 2d 1213, 1222 (S.D. Ga. Dec. 5, 2008)  
harming Native American artifacts would constitute an irreparable injury because artifacts are, by their nature, unique, and their historical and cultural significance make them difficult to value monetarily; LBP-15-2, 81 NRC 55 n.54 (2015)
- United States v. Turkette*, 452 U.S. 576, 580 (1981)  
because the UFSAR updated under section 50.71(e) also includes changes the agency approved by the license amendment process under section 50.90, challenges under 10 C.F.R. 50.59 would have the agency effectively approve these changes for a second time, without apparent purpose or effect; CLI-15-14, 81 NRC 748 (2015)
- USEC Inc.* (American Centrifuge Plant), CLI-05-11, 61 NRC 309, 314 (2005)  
Atomic Energy Act authorizes NRC to accord protection from radiological injury to both health and property interests, and thus a genuine property interest is sufficient to accord petitioner proximity-based standing; LBP-15-17, 81 NRC 776 (2015)  
proximity presumption applies to persons who have a significant property interest in the area near a nuclear power plant; LBP-15-17, 81 NRC 770, 775 (2015)
- USEC Inc.* (American Centrifuge Plant), CLI-05-11, 61 NRC 309, 314-15 (2005)  
failure of organization member to provide an exact address in her affidavit is not a limiting concern; LBP-15-17, 81 NRC 776 n.144 (2015)
- USEC Inc.* (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 437 (2006)  
contention admissibility standards are strict by design; LBP-15-19, 81 NRC 820 (2015)
- USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 457 (2006)  
petitioner is obliged to present factual allegations and/or expert opinion necessary to support its contention; LBP-15-1, 81 NRC 38 (2015)
- USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 462-63 (2006)  
any contention that fails to directly controvert the application or environmental impact statement, or mistakenly asserts the application does not address a relevant issue, will be dismissed; LBP-15-1, 81 NRC 37 (2015)
- USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006)  
contention admissibility stage is not the appropriate point at which to evaluate witness credibility or to weigh competing evidence, but an expert must provide a reasoned basis or explanation for opinions in support of a contention; LBP-15-17, 81 NRC 783 (2015)  
neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow admission of a proffered contention; LBP-15-1, 81 NRC 38-39, 42 (2015)
- USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 472-74 (2006)  
even if a contention provided information not discussed in the environmental report, it is still not admissible if it fails to provide a reasoned basis or explanation for why the ER is wrong; LBP-15-5, 81 NRC 306 n.394 (2015)
- USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 476 (2006)  
petitioner cannot cure a deficient contention with new arguments not presented in the initial petition; LBP-15-4, 81 NRC 174 n.103 (2015)
- USEC Inc.* (American Centrifuge Plant), LBP-05-28, 62 NRC 585, 596-97 (2005)  
petitioners are not required at the contention admission stage to prove their case on the merits or even to provide expert or factual support as strong as that necessary to withstand a summary disposition motion; LBP-15-20, 81 NRC 851, 855 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Utility Air Regulatory Group v. Environmental Protection Agency*, 320 F.3d 272, 279 (D.C. Cir. 2003)  
reviewing proposed actions improperly intrudes into the agency's decisionmaking process; LBP-15-15, 81 NRC 610 (2015)
- Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 553 (1978)  
it is NRC Staff, not petitioners, that has the burden of complying with NEPA; LBP-15-5, 81 NRC 283 (2015)
- Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 555 (1978)  
there would be little hope of completing administrative proceedings if each newly arising allegation required an agency to reopen its hearings; LBP-15-14, 81 NRC 595 (2015)
- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-4, 31 NRC 333 (1990)  
board examines the information, facts, and expert opinions provided by petitioners to confirm that they do indeed provide adequate support for the contention; LBP-15-20, 81 NRC 850-51 (2015)
- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 169 (2000)  
license transfer proceedings do not encompass a full-scale health-and-safety review of a plant;  
CLI-15-8, 81 NRC 508 (2015)
- Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), LBP-87-7, 25 NRC 116, 118 (1987)  
radius for the proximity presumption has to be at least as large as the range where obvious offsite consequences can occur; LBP-15-17, 81 NRC 773 n.122 (2015)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), CLI-12-14, 75 NRC 692, 692 (2012)  
heavy barrier to reopening applies whenever an adjudication has been closed and not merely after a case has been terminated following a full evidentiary hearing on the merits; LBP-15-14, 81 NRC 595 (2015)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), CLI-12-14, 75 NRC 692, 693, 699-701 (2012)  
board's jurisdiction terminates when there are no longer any contested matters pending before it;  
CLI-15-13, 81 NRC 564 (2015)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), CLI-12-14, 75 NRC 692, 699 (2012)  
when there are no proffered or admitted contentions remaining in the adjudicatory proceeding, the board's jurisdiction terminates; LBP-15-12, 81 NRC 454 (2015)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), CLI-12-14, 75 NRC 692, 699, 701 (2012)  
licensing board's ruling resolving the last pending contention is equivalent to a final decision under 10 C.F.R. 2.341, and a licensing board's jurisdiction ends after it has rendered a final decision;  
LBP-15-9, 81 NRC 397 n.10 (2015)
- Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 317 (2008)  
facts relied on to support a contention of omission need not show that the facility cannot be safely operated, but only that the application is incomplete; LBP-15-5, 81 NRC 258 (2015)  
if applicant cures the omission cited in a contention, the contention will become moot unless revised by intervenors; LBP-15-5, 81 NRC 258 (2015)  
pleading requirements of 10 C.F.R. 2.309(f)(1)(v), calling for a recitation of facts or expert opinion supporting the issue raised, are inapplicable to a contention of omission beyond identifying the regulatively required missing information; LBP-15-5, 81 NRC 258 (2015); LBP-15-11, 81 NRC 437-38 n.241 (2015)

## LEGAL CITATIONS INDEX

### CASES

- Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-146, 6 AEC 631, 633 & n.4 (1973)  
pro se petitioner is not held to the same standards of clarity and precision as a lawyer; LBP-15-5, 81 NRC 286 n.234 (2015)
- Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-146, 6 AEC 631, 633 n.5 (1973)  
question whether the environmental assessment is sufficient to satisfy NRC Staff's NEPA requirements must await consideration at a full evidentiary hearing; LBP-15-13, 81 NRC 476 (2015)
- Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), ALAB-491, 8 NRC 245 (1978)  
Commission must find that activities authorized by a license amendment can be conducted without endangering the health and safety of the public and will be in compliance with Commission regulations; LBP-15-20, 81 NRC 841 (2015)  
contention about a matter not covered by a specific rule need only allege that it poses a significant safety problem; LBP-15-20, 81 NRC 847-48, 854 n.151 (2015)  
petitioners' contention challenges the sufficiency of the equivalent margins analysis to provide reasonable assurance of reactor safety and is therefore within the scope of the proceeding; LBP-15-20, 81 NRC 849 (2015)  
petitioners may raise issues not addressed by a specific regulation when unique features in the facility or ongoing development of a generic solution mean that there are some gaps in the regulatory scheme that must be addressed on a case-by-case basis; LBP-15-20, 81 NRC 840 (2015)
- Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), CLI-76-22, 4 NRC 480, 491 n.11 (1976)  
parties' duty to report material significant developments in a matter under adjudication arises immediately upon discovery of that information; CLI-15-16, 81 NRC 813 n.11 (2015)
- Virginia Electric and Power Co.* (North Anna Power Station, Units 1 and 2), LBP-75-70, 2 NRC 879, 890 (1975), *aff'd*, ALAB-325, 3 NRC 404 (1976), *petition for rev. dismissed sub nom., Culpeper League for Protection v. NRC*, 574 F.2d 633 (D.C. Cir. 1978)  
the fact that a competent and responsible state authority has approved the environmental acceptability of a site or a project after extensive and thorough environmentally sensitive hearings is properly entitled to substantial weight in the conduct of NRC's own NEPA analysis; LBP-15-11, 81 NRC 439 n.253 (2015)
- Warm Springs Dam Task Force v. Gribble*, 621 F.2d 1017, 1026-27 (9th Cir. 1980)  
NRC Staff must provide a reasonably thorough discussion of the significant aspects of the probable environmental consequences of a proposed action; LBP-15-16, 81 NRC 637 (2015)
- Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-94-3, 39 NRC 95, 101 n.7 (1994)  
members of the public may challenge an action taken under 10 C.F.R. 50.59 only by means of a petition under 10 C.F.R. 2.206; CLI-15-14, 81 NRC 747-48 (2015)
- Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998)  
contemporaneous judicial concepts of standing are applied in NRC proceedings; LBP-15-13, 81 NRC 463 (2015); LBP-15-19, 81 NRC 819 (2015)  
petitioner must allege a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision; LBP-15-13, 81 NRC 463 (2015); LBP-15-17, 81 NRC 770 (2015)
- Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-05-15, 61 NRC 365, 375 n.26 (2005)  
guidance documents that are developed to assist in compliance with applicable regulations are entitled to special weight; CLI-15-6, 81 NRC 356 (2015)  
standard review plans do not have the force and effect of law; CLI-15-6, 81 NRC 358 n.85 (2015)
- Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 75-76 (1996), *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996)  
contention alleging a material deficiency must link the claimed deficiency to a public health and safety or an environmental impact; LBP-15-1, 81 NRC 39-40 n.137 (2015)

## LEGAL CITATIONS INDEX REGULATIONS

- 10 C.F.R. 1.13  
independent assessment of the safety aspects of the combined license application is required; CLI-15-13, 81 NRC 559 (2015)
- 10 C.F.R. Part 2  
amended regulations apply to obligations and disputes that arise after the effective date of the regulation; LBP-15-1, 81 NRC 31 n.76 (2015)
- 10 C.F.R. 2.105  
opportunity for a hearing must be provided for an amendment to an operating license, combined license, or manufacturing license; LBP-15-17, 81 NRC 770 n.93 (2015)
- 10 C.F.R. 2.109(b)  
existing license will not be deemed to have expired until the license renewal application has been finally determined; CLI-15-6, 81 NRC 343 (2015)
- 10 C.F.R. 2.202  
discrete enforcement actions such as orders and civil penalties involve defined opportunities for participation; CLI-15-5, 81 NRC 338 n.52 (2015)
- 10 C.F.R. 2.206  
any member of the public may seek enforcement action associated with matters affecting plant operation, including the vitality of component maintenance programs; CLI-15-6, 81 NRC 367 n.140 (2015)  
Commission denies hearing request, but refers the matters raised to the Executive Director of Operations for consideration as a request for enforcement action; CLI-15-5, 81 NRC 333, 339 (2015); CLI-15-14, 81 NRC 730 (2015)  
concerns about current or ongoing safety deficiencies can be raised as a petition for enforcement action; CLI-15-8, 81 NRC 508 n.62 (2015)  
concerns about safety, licensee's compliance with regulatory requirements, and adequacy of NRC oversight are appropriately addressed as requests for enforcement action; CLI-15-14, 81 NRC 733 (2015)  
concerns with the current design and operation of a nuclear power plant are more properly addressed through a petition for enforcement action; LBP-15-13, 81 NRC 479 (2015)  
contention claiming that modifications to repair or replace inadequate structural beams and columns is more appropriately presented as a request for enforcement action; CLI-15-5, 81 NRC 337 (2015)  
if petitioner has a credible basis to question the adequacy of licensee's compliance with 10 C.F.R. 50.54(q)(3), it may petition for enforcement action; LBP-15-4, 81 NRC 175 (2015)  
pending tax litigation would not have a significant implication for public health and safety and, to the extent the claim is viable, it would be better handled through a petition for enforcement action; LBP-15-15, 81 NRC 616 n.120 (2015)  
petition will be reviewed only where petitioner specifies the bases for taking the requested action; DD-15-6, 81 NRC 890 (2015)  
petitioner's concerns about tube leaks, unplanned power changes, and potential primary coolant contamination did not constitute any violations that were more than minor; DD-15-2, 81 NRC 206-11 (2015)  
petitioner's request that the NRC take escalated enforcement action against licensee concerning flooding protection is being addressed by the NRC's request for information; DD-15-5, 81 NRC 877-83 (2015)  
request for enforcement action based on support beam deficiencies, flood protection inadequacy, flood risks from upstream dams, and primary reactor containment electrical penetration seals containing Teflon

## LEGAL CITATIONS INDEX

### REGULATIONS

- is denied because petitioner's requests have been addressed through other actions; DD-15-4, 81 NRC 869-76 (2015)
- request for immediate action on flaws in the control rod drive mechanisms did not meet the criteria for review; DD-15-3, 81 NRC 714 (2015)
- request for immediate action on leakage from the safety injection refueling water tank did not meet the criteria for review; DD-15-3, 81 NRC 714 (2015)
- request for immediate action to prevent restart because a piece of primary coolant pump impeller was lodged between the reactor vessel and the flow skirt is denied; DD-15-3, 81 NRC 713-27 (2015)
- request that NRC order the immediate shutdown of all nuclear power reactors that are known to be located on or near an earthquake fault line is denied; DD-15-6, 81 NRC 884-93 (2015)
- request that NRC order the immediate suspension of the operating licenses of all General Electric boiling-water reactors that use the Mark I primary containment system citing the Fukushima Dai-ichi accident in Japan as its rationale basis is resolved; DD-15-1, 81 NRC 193-204 (2015)
- 10 C.F.R. 2.206(a)  
any person may file a request to institute a proceeding to modify, suspend, or revoke a license; CLI-15-14, 81 NRC 733 n.14 (2015)
- 10 C.F.R. 2.206(c)  
Commission on its own motion may review a decision that modifies, suspends, or revokes a license; CLI-15-14, 81 NRC 733 n.14 (2015)
- 10 C.F.R. 2.302(g)  
failure to comply with NRC's e-filing requirements without good cause or without obtaining an exemption from the requirements under this section can result in rejection of a pleading; LBP-15-4, 81 NRC 164 (2015)
- 10 C.F.R. 2.307  
"good cause" in this section does not share the same definition that is used for good cause in section 2.309(c); LBP-15-1, 81 NRC 30 n.73 (2015)
- if intervenor cannot meet the requirements for filing a contention under the new section 2.309(c)(1), he or she can still take advantage of an extension request if unanticipated events, such as a weather event or unexpected health issues, prevented participant from filing for a reasonable period of time after the deadline; LBP-15-1, 81 NRC 30 n.73 (2015)
- 10 C.F.R. 2.307(a)  
State intervenor provided good cause for its late E-filing submission because it submitted its petition to NRC by e-mail before the deadline lapsed and the delay was purely a matter of obtaining digital credentials for the system, not an attempt to gain extra time to prepare a pleading or otherwise to flout the NRC's procedural requirements; LBP-15-4, 81 NRC 163 (2015)
- 10 C.F.R. 2.309  
amendment of this section in 2012 was to simplify the rules, not fundamentally change the rationale boards use to admit new/amended contentions; LBP-15-11, 81 NRC 408 n.30 (2015)
- contents of the licensees' responses may lead to additional regulatory actions to update plants' licensing bases, such as orders, license amendments, or rulemakings, for which the public would have participation rights; CLI-15-14, 81 NRC 743 (2015)
- even if contentions are based on NRC Staff's FSEIS, intervenor still bears the responsibility of demonstrating that a new contention merits admission and meets all six admission requirements; LBP-15-16, 81 NRC 703 (2015)
- petitioner may file new contentions if there are data or conclusions in the NRC draft or final environmental impact statement or environmental assessment that differ significantly from data or conclusions in applicant's documents; LBP-15-11, 81 NRC 408 (2015)
- referral to licensing board includes threshold issues such as standing, timeliness, and satisfaction of contention admissibility standards; CLI-15-14, 81 NRC 735 (2015)
- to gain the admission of a new or amended contention, a party must meet the requirements of both paragraphs (c) and (f) of this section; LBP-15-16, 81 NRC 703 (2015)
- 10 C.F.R. 2.309(a)  
hearing request is granted where petitioners have submitted a timely petition, established representational standing, and proffered an admissible contention; LBP-15-20, 81 NRC 832 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- intervention petitioner must establish standing to intervene and submit at least one admissible contention that meets the requirements of 10 C.F.R. 2.309(f); LBP-15-5, 81 NRC 254 (2015); LBP-15-13, 81 NRC 463, 467 (2015); LBP-15-17, 81 NRC 777 (2015)
- to participate in NRC licensing proceedings, petitioner must establish standing to intervene; LBP-15-19, 81 NRC 819 (2015)
- 10 C.F.R. 2.309(a)-(f)
- admissible contention is required for grant of a hearing request; LBP-15-17, 81 NRC 758 (2015)
- intervention petitions must be timely, demonstrate standing, and proffer at least one admissible contention; CLI-15-5, 81 NRC 333 (2015)
- 10 C.F.R. 2.309(b)
- timeliness of an initial hearing petition in different situations is defined as being filed between 20 and 60 days after certain specified events; LBP-15-11, 81 NRC 408 n.28 (2015)
- 10 C.F.R. 2.309(b)(3)
- in proceedings for which a Federal Register notice of agency action is published, a hearing request must be filed not later than the time specified in the notice or if no notice is specified, 60 days from the date of publication of the notice; CLI-15-5, 81 NRC 332 n.13 (2015)
- 10 C.F.R. 2.309(b)(3)(i)
- contentions must be raised at the earliest possible opportunity; CLI-15-1, 81 NRC 7 (2015)
- intervention petition must be filed within the time specified in any notice of proposed action; LBP-15-13, 81 NRC 467 n.60 (2015)
- 10 C.F.R. 2.309(b)(4)
- in proceedings for which a notice of agency action is not published, a hearing request must be filed not later than the latest of 60 days after publication of notice on the NRC website or 60 days after the requestor receives actual notice of a pending application but not more than 60 days after agency action on the application; CLI-15-5, 81 NRC 332 n.13 (2015)
- 10 C.F.R. 2.309(c)
- contentions must be raised at the earliest possible opportunity; CLI-15-1, 81 NRC 7 (2015)
- if intervenors sought to introduce new issues, then they should have filed a new or amended contention; CLI-15-9, 81 NRC 529 (2015)
- if petitioner submits a proposed contention after the initial filing deadline announced in the applicable Federal Register notice for submitting a hearing petition, it will not be entertained absent a determination by the presiding officer that petitioner has demonstrated good cause; LBP-15-11, 81 NRC 407 (2015)
- material difference must exist between information on which a contention is based and information that was previously available, e.g., a difference between the environmental report and the draft EIS or the draft EIS and the final EIS; CLI-15-1, 81 NRC 7 (2015)
- motion to reopen that relates to a contention not previously in controversy must satisfy the requirements for new or amended contentions filed after the original hearing petition deadline; LBP-15-14, 81 NRC 595 n.29 (2015)
- petitioners who choose to wait to raise contentions that could have been raised earlier risk the possibility that there will not be a material difference between the application and the Staff's review documents, thus rendering any newly proposed contention on previously available information impermissibly late; CLI-15-1, 81 NRC 7 (2015)
- 10 C.F.R. 2.309(c)(1)
- contention submitted after the initial filing deadline for submitting a hearing request will not be entertained absent a determination by the presiding officer that petitioner has demonstrated good cause; LBP-15-15, 81 NRC 601 (2015)
- contention that draft EIS is deficient because its evaluation of the operation of the radial collector wells does not preclude the possibility that they will change the plume dynamics of the industrial wastewater facility/cooling canal contaminant plume is inadmissible; LBP-15-19, 81 NRC 824 (2015)
- contention that environmental review documents fail to identify source data of the chemical concentrations for ethylbenzene, heptachlor, tetrachloroethylene, and toluene in groundwater is inadmissible as untimely; LBP-15-19, 81 NRC 822 (2015)



## LEGAL CITATIONS INDEX

### REGULATIONS

- eight-factor test that allowed a board to consider new or amended contentions that did not meet the three requirements for admissibility of late-filed contentions under 10 C.F.R. 2.309(f)(2) is no longer available; LBP-15-1, 81 NRC 30 n.73 (2015)
- once the deadline for filing petitions to intervene has passed, a party may file new or amended contentions if it is able to demonstrate good cause by meeting the three requirements specified in this section; LBP-15-1, 81 NRC 29 (2015)
- when petitioner seeks leave to intervene after the initial deadline for the filing of contentions, it must demonstrate good cause for its belated filing; LBP-15-19, 81 NRC 819-20 (2015)
- 10 C.F.R. 2.309(c)(1)(i)  
new contentions cannot be based on previously available information; LBP-15-11, 81 NRC 418 (2015)
- 10 C.F.R. 2.309(c)(1)(i)-(iii)  
contention that DEIS must identify the percentage of radial collector well water drawn from underneath the industrial wastewater facility is inadmissible; LBP-15-19, 81 NRC 826 (2015)  
good cause for a newly proposed contention exists when information on which it is based was not previously available and is materially different than information previously available and has been submitted in a timely fashion based on the availability of the subsequent information; CLI-15-1, 81 NRC 7 n.29 (2015); LBP-15-1, 81 NRC 29-30 (2015); LBP-15-11, 81 NRC 407-08 (2015); LBP-15-15, 81 NRC 601 (2015)  
persons not currently a party may file timely petitions to intervene provided that they satisfy the good-cause criteria; LBP-15-6, 81 NRC 318 (2015)  
requirements for demonstrating good cause are the same as the requirements for filing late contentions previously available under section 2.309(f)(2)(i)-(iii); LBP-15-1, 81 NRC 30 n.72 (2015)
- 10 C.F.R. 2.309(c)(1)(iii)  
contentions relying on information and findings discussed in the notice of proposed rulemaking, as opposed to tentative rules or policy determinations, are not timely filed; LBP-15-15, 81 NRC 614 (2015)  
determination as to whether requests or petitions are filed in a timely manner shall be subject to a reasonableness standard and are not subject to the 30-day deadline applicable to motions by existing parties to add or amend contentions; LBP-15-6, 81 NRC 318 (2015)  
new or amended contention is considered timely if it is filed within 60 days of the date when the material information first became available to the moving party through service, publication, or any other means; LBP-15-1, 81 NRC 30 (2015)  
section does not stipulate what is considered timely, and the board looks to Commission precedent; LBP-15-11, 81 NRC 408 (2015)  
when a contention is considered to be timely filed is not specified in this rule; LBP-15-15, 81 NRC 601 (2015)
- 10 C.F.R. 2.309(c)(2)  
new contention is inadmissible because it relies on information that is not materially different from information previously available and already in the record; LBP-15-16, 81 NRC 704-05 (2015)
- 10 C.F.R. 2.309(c)(2)(i)  
State intervenor provided good cause for its late E-filing submission because it submitted its petition to NRC by e-mail before the deadline lapsed and the delay was purely a matter of obtaining digital credentials for the system, not an attempt to gain extra time to prepare a pleading or otherwise to flout the NRC's procedural requirements; LBP-15-4, 81 NRC 163 (2015)
- 10 C.F.R. 2.309(d)  
intervention petitioner must demonstrate standing and proffer at least one admissible contention; LBP-15-6, 81 NRC 317 (2015)
- 10 C.F.R. 2.309(d)(1)  
intervention petition must state the nature of petitioner's statutory right to be made a party to the proceeding, nature and extent of petitioner's property, financial, or other interest in the proceeding, and possible effect of any decision or order that may be issued on petitioner's interest; LBP-15-13, 81 NRC 463 (2015); LBP-15-19, 81 NRC 819 (2015)
- 10 C.F.R. 2.309(d)(1)(i)  
intervention petition must contain the name, address, and phone number of the requestor or petitioner; LBP-15-20, 81 NRC 837 n.40 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 2.309(d)(1)(ii)-(iv)  
licensing boards must consider the nature of petitioner's right under the AEA or the National Environmental Policy Act to be made a party to the proceeding, nature and extent of petitioner's property, financial, or other interest in the proceeding, and possible effect of any decision or order that may be issued in the proceeding on petitioner's interest; LBP-15-17, 81 NRC 770 (2015)
- 10 C.F.R. 2.309(d)(2)  
board is obliged to independently assess petitioners' standing, even if it is unchallenged; LBP-15-5, 81 NRC 256 (2015); LBP-15-17, 81 NRC 776 (2015)
- 10 C.F.R. 2.309(e)  
intervention as a matter of discretion is permitted only where at least one petitioner has established standing and at least one admissible contention has been admitted, and petitioner is required to address six factors in its initial petition; CLI-15-14, 81 NRC 738 n.41 (2015)
- 10 C.F.R. 2.309(f)  
intervention petitioner must demonstrate standing and proffer at least one admissible contention; LBP-15-6, 81 NRC 317 (2015)  
intervention petitions must set forth with particularity the contentions petitioner seeks to have litigated in a hearing; CLI-15-8, 81 NRC 504 (2015)
- 10 C.F.R. 2.309(f)(1)  
admissibility of contention that severe accident mitigation alternatives analysis fails to evaluate the impact that a severe accident at one unit would have on the operation of a proposed nearby unit is decided; LBP-15-5, 81 NRC 273 (2015)  
admissible contention is required for grant of a hearing request; LBP-15-17, 81 NRC 758 (2015)  
admissible contentions must meet all six pleading requirements; LBP-15-4, 81 NRC 164 (2015); LBP-15-5, 81 NRC 257 (2015); LBP-15-6, 81 NRC 320 n.36 (2015); LBP-15-13, 81 NRC 467 (2015); LBP-15-16, 81 NRC 703-04 (2015); LBP-15-17, 81 NRC 777 (2015); LBP-15-18, 81 NRC 798 (2015); LBP-15-20, 81 NRC 840 (2015)  
hearing request is granted where petitioners have submitted a timely petition, established representational standing, and proffered an admissible contention; LBP-15-20, 81 NRC 832 (2015)  
in addition to being timely, new contention must satisfy the six-factor admissibility standard; LBP-15-19, 81 NRC 820 (2015)  
new or amended contentions must satisfy the substantive contention admissibility standards and failure to meet any of them renders a contention inadmissible; LBP-15-11, 81 NRC 407 (2015); LBP-15-15, 81 NRC 500-01 (2015)  
petitioners have not raised an issue material to findings that the NRC must make to support final decisions and they are unable to satisfy contention admissibility standards or meet the criteria to reopen a closed record; CLI-15-4, 81 NRC 231 n.47 (2015)  
purpose of this section is to focus litigation on concrete issues and result in a clearer and more focused record for decision; LBP-15-5, 81 NRC 257-58 (2015)
- 10 C.F.R. 2.309(f)(1)(i)  
allegations of inadequacies and omissions in NRC Staff's environmental assessment satisfy the requirement to provide a specific statement of the issue of law or fact to be raised; LBP-15-13, 81 NRC 472 (2015)  
narrowed reformulation of contention regarding tribal hunting and fishing includes a specific statement of the issue of fact or law to be raised or controverted; LBP-15-5, 81 NRC 282 (2015)  
two issues in one contention are best evaluated as separate contentions; LBP-15-5, 81 NRC 268 (2015)
- 10 C.F.R. 2.309(f)(1)(i)-(ii)  
contention of omission on a matter related to the National Environmental Policy Act must describe the information that should have been included in applicant's environmental report and provide the legal basis that requires the omitted information to be included; LBP-15-5, 81 NRC 258 (2015)  
contention that population used for analysis might underestimate the exposed population in a severe accident and, in turn, underestimate the benefit achieved in implementing a severe accident mitigation alternatives analysis is admissible; LBP-15-5, 81 NRC 298 (2015)
- 10 C.F.R. 2.309(f)(1)(i)-(vi)  
contentions must meet the six pleading criteria of this regulation, and failure to meet any of them renders the contention inadmissible; LBP-15-1, 81 NRC 28-29 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- NRC rules of practice are designed to avoid unfocused inquiry in contested proceedings; CLI-15-1, 81 NRC 11 (2015)
- petitioners do not need to cite a specific portion of the application to support a contention of omission; LBP-15-5, 81 NRC 283 (2015)
- requirements for an admissible contention are provided; CLI-15-8, 81 NRC 504 (2015)
- 10 C.F.R. 2.309(f)(1)(ii)
- admissibility of contention that severe accident mitigation alternatives analysis fails to evaluate the impact that a severe accident at one unit would have on the operation of a proposed nearby unit is decided; LBP-15-5, 81 NRC 273 (2015)
- challenges to the admissibility of a contention on the ground that basis does not include sufficient facts, evidence, or supporting factual information are misguided; LBP-15-20, 81 NRC 849 (2015)
- contention alleging that environmental assessment has not adequately addressed environmental impacts associated with saltwater intrusion arising from saline water migration from the plant into surrounding waters, and applicant's use of aquifer withdrawals to lower salinity and temperature is admissible; LBP-15-13, 81 NRC 472-73 (2015)
- petitioner must explain the basis for each proffered contention by stating alleged facts or expert opinions that support petitioner's position and on which petitioner intends to rely in litigating the contention at hearing; CLI-15-8, 81 NRC 504 (2015)
- requirement for brief explanation of the basis for a contention merely requires an explanation of the rationale or theory of the contention; LBP-15-20, 81 NRC 849 (2015)
- 10 C.F.R. 2.309(f)(1)(iii)
- contention is material to the result of the proceeding because it concerns whether the LAR demonstrates equivalent margins of safety as required by regulation; LBP-15-20, 81 NRC (2015)
- contention is within the scope of license renewal proceeding because NRC regulations require that the environmental report include a severe accident mitigation alternatives analysis; LBP-15-5, 81 NRC 298 (2015)
- contention that license renewal application has failed to establish that the effects of aging on relay switches and snubbers will be adequately managed for the period of extended operation is not within the scope of the proceeding; LBP-15-6, 81 NRC 324 (2015)
- contention that operating license should not be renewed unless and until applicant establishes that the plant can withstand and be safely shut down following an earthquake is not within the scope of a license renewal proceeding; LBP-15-6, 81 NRC 321 (2015)
- contention that severe accident mitigation alternatives analysis fails to evaluate the impact that a severe accident at one unit would have on the operation of a proposed nearby unit is within the scope of a license renewal proceeding; LBP-15-5, 81 NRC 274 (2015)
- environmental justice is a Category 2 issue, within the scope of a license renewal proceeding; LBP-15-5, 81 NRC 282 (2015)
- licensing board lacks authority to hold a hearing on the adequacy of a different agency's regulations; LBP-15-5, 81 NRC 306 (2015)
- petitioner must demonstrate that a contention of omission is within the scope of the proceeding; LBP-15-5, 81 NRC 258 (2015)
- petitioner's issue of NRC Staff's compliance with its NEPA obligation to undertake a full evaluation of the environmental impacts associated with a proposed federal action is within the scope of an operating license amendment proceeding and material to the findings NRC must make; LBP-15-13, 81 NRC 472 (2015)
- 10 C.F.R. 2.309(f)(1)(iii)-(iv)
- to be admissible, an issue raised must fall within the scope of the proceeding and be material to the findings that NRC must make; CLI-15-8, 81 NRC 504 (2015)
- 10 C.F.R. 2.309(f)(1)(iv)
- adequacy of the equivalent margins analysis is material to the agency's decision to approve or deny the license amendment request; LBP-15-20, 81 NRC 850 (2015)
- because the shield building functions as a radiation and biological shield, failure or collapse of the shield building due to cracking propagation could lead to health and safety impacts and thus petitioner's contention concerns a matter that could impact the grant or denial of a pending license application; LBP-15-1, 81 NRC 39 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

contention that applicant has failed to establish in its aging management plan that the effects of aging will be adequately managed for the period of extended operation does not raise an issue that is material to findings NRC must make to support the proposed licensing action; LBP-15-6, 81 NRC 324-25 (2015)

contention that DEIS is deficient because its evaluation of the operation of the radial collector wells does not preclude the possibility that they will change the plume dynamics of the industrial wastewater facility/cooling canal contaminant plume is inadmissible; LBP-15-19, 81 NRC 824 (2015)

contention that DEIS must identify the percentage of radial collector well water drawn from underneath the industrial wastewater facility is inadmissible; LBP-15-19, 81 NRC 826-27 (2015)

contention that final environmental assessment fails to present relevant information in a clear and concise manner that is readily accessible to the public and other reviewers is inadmissible; LBP-15-11, 81 NRC 427 (2015)

contention that license renewal application has failed to establish that the effects of aging on relay switches and snubbers will be adequately managed for the period of extended operation is not material to findings NRC must make; LBP-15-6, 81 NRC 324 (2015)

contention that operating license should not be renewed unless and until applicant establishes that the plant can withstand and be safely shut down following an earthquake is not material a license renewal proceeding; LBP-15-6, 81 NRC 321-22 (2015)

contention that severe accident mitigation alternatives analysis fails to evaluate the impact that a severe accident at one unit would have on the operation of a proposed nearby unit is material to the license renewal proceeding; LBP-15-5, 81 NRC 274 (2015)

if a contention makes a prima facie allegation that the application omits information required by law, it necessarily presents a genuine dispute with applicant on a material issue and raises an issue plainly material to an essential finding of regulatory compliance needed for license issuance; LBP-15-5, 81 NRC 259 (2015)

inadequacy in the severe accident mitigation alternatives analysis is material if license renewal applicant failed to consider complete information without justifying why particular information was omitted; LBP-15-5, 81 NRC 298 (2015)

petitioner must demonstrate that a contention asserts an issue of law or fact that is material to the findings NRC must make to support the action that is involved in the proceeding; LBP-15-20, 81 NRC 850 (2015)

petitioner's issue of NRC Staff's compliance with its NEPA obligation to undertake a full evaluation of the environmental impacts associated with a proposed federal action is within the scope of an operating license amendment proceeding and material to the findings NRC must make; LBP-15-13, 81 NRC 472 (2015)

radiological claims that represent a direct challenge to prior license amendments authorizing extended power uprates are outside the scope of a license amendment proceeding; LBP-15-13, 81 NRC 478 (2015)

10 C.F.R. 2.309(f)(1)(v)

alleged facts and expert opinions in intervention petition and associated exhibits are sufficient to satisfy regulatory requirements; LBP-15-13, 81 NRC 472 (2015)

because of the need to provide specific support for a contention in order to raise a genuine dispute, the genuine dispute admissibility requirement is sometimes discussed together with the requirement for petitioners and intervenors to provide factual or expert support for their allegations; LBP-15-1, 81 NRC 38 (2015)

contention that draft EIS is deficient because its evaluation of the operation of the radial collector wells does not preclude the possibility that they will change the plume dynamics of the industrial wastewater facility/cooling canal contaminant plume is inadmissible; LBP-15-19, 81 NRC 824 (2015)

contention that draft EIS must identify the percentage of radial collector well water drawn from underneath the industrial wastewater facility is inadmissible; LBP-15-19, 81 NRC 826-27 (2015)

failure to reference specific sources showing that wind or other renewables are viable sources of baseload power within the service area, renders a contention inadmissible; LBP-15-5, 81 NRC 279 (2015)

petitioner must explain the basis for each proffered contention by stating alleged facts or expert opinions that support petitioner's position and on which petitioner intends to rely in litigating the contention at hearing; CLI-15-8, 81 NRC 504 (2015); LBP-15-1, 81 NRC 38 (2015); LBP-15-5, 81 NRC 258, 275 (2015); LBP-15-20, 81 NRC 851 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

pleading requirements calling for a recitation of facts or expert opinion supporting the issue raised are inapplicable to a contention of omission beyond identifying the regulatively required missing information; LBP-15-5, 81 NRC 258 (2015)

10 C.F.R. 2.309(f)(1)(v)-(vi)

petitioners are required to provide sufficient factual support to demonstrate a genuine dispute; LBP-15-20, 81 NRC 850 (2015)

10 C.F.R. 2.309(f)(1)(vi)

contention alleging that environmental assessment has not adequately addressed impacts associated with saltwater intrusion arising from saline water migration from the plant into surrounding waters, and applicant's use of aquifer withdrawals to lower salinity and temperature is admissible; LBP-15-13, 81 NRC 472-73 (2015)

contention bases that do not pertain specifically to the license renewal application do not provide sufficient information to demonstrate a genuine dispute with applicant on a material issue; CLI-15-11, 81 NRC 549 (2015)

contention of omission claims that the application fails to contain information on a relevant matter as required by law and provides the supporting reasons for petitioner's belief; LBP-15-5, 81 NRC 258 (2015)

contention quotes text from a notice of proposed rulemaking, but it never ties the statements from the NOPR to any specific section of the environmental assessment, and thus fails to raise a genuine dispute with the EA; LBP-15-15, 81 NRC 614 n.111, 617 (2015)

contention that applicant has failed to establish in its aging management plan that the effects of aging will be adequately managed for the period of extended operation fails to demonstrate the existence of a genuine dispute with applicant; LBP-15-6, 81 NRC 325 (2015)

contention that DEIS is deficient because its evaluation of the operation of the radial collector wells does not preclude the possibility that they will change the plume dynamics of the industrial wastewater facility/cooling canal contaminant plume is inadmissible; LBP-15-19, 81 NRC 824 (2015)

contention that DEIS must identify the percentage of radial collector well water drawn from underneath the industrial wastewater facility is inadmissible; LBP-15-19, 81 NRC 826-27 (2015)

contention that does not actually challenge any specific part of the integrated plant assessment or time-limited aging analyses fails to demonstrate the existence of a genuine dispute with the applicant; LBP-15-6, 81 NRC 322 (2015)

contention that does not dispute any specific portion of applicant's fuel handling accident analysis is inadmissible for lack of a genuine dispute; LBP-15-18, 81 NRC 801 (2015)

contention that license renewal application has failed to establish that the effects of aging on relay switches and snubbers will be adequately managed for the period of extended operation fails to demonstrate the existence of a genuine dispute with the applicant; LBP-15-6, 81 NRC 324 (2015)

contention that NRC Staff's environmental assessment fails to consider that applicant's use of copper sulfate to control algae blooms will increase reactor operating temperatures in relation to waste is inadmissible; LBP-15-13, 81 NRC 478 (2015)

contentions must provide sufficient information to show a genuine dispute with applicant on a material issue of law or fact; CLI-15-8, 81 NRC 504 (2015)

contentions should refer to portions of the application that petitioner disputes along with supporting reasons for each dispute, and if petitioner believes that an application fails altogether to contain information required by law, petitioner must identify each failure and provide supporting reasons for petitioner's belief; CLI-15-8, 81 NRC 504 (2015)

crux of the "genuine dispute" prong under this section is the requirement for specificity, that a contention must have more than general allegations; LBP-15-1, 81 NRC 37 (2015)

failure to provide a direct critique of the analysis in the environmental report discussing the potential for offshore power and interconnected wind farms is a failure to identify a genuine dispute with the applicant; LBP-15-5, 81 NRC 279 (2015)

if a contention makes a prima facie allegation that the application omits information required by law, it necessarily presents a genuine dispute with applicant on a material issue and raises an issue plainly material to an essential finding of regulatory compliance needed for license issuance; LBP-15-5, 81 NRC 259 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- petitioner must show that a genuine dispute exists on a material issue of law or fact relating to the application; LBP-15-19, 81 NRC 820 n.22 (2015)
- petitioner's burden on a contention of omission is to identify the omission and the supporting reasons for petitioners' belief that the application fails to contain information on a relevant matter as required by law; LBP-15-5, 81 NRC 258 (2015)
- petitioners allege a specific material error in applicant's SAMA analysis in its failure to consider the potential for a severe accident at one unit to negatively impact safe operation at a proposed unit, thereby potentially increasing the total damage that would result from a severe accident; LBP-15-5, 81 NRC 275 (2015)
- requirement that a contention refer to specific portions of the application ensures that the board will be able to determine whether the contention is within the scope of the proceeding and that applicant knows which portions of the application it must defend; LBP-15-20, 81 NRC 861-62 (2015)
- to raise a genuine dispute on a material issue of law or fact, a properly formulated contention must challenge specific portions of, or alleged omissions from, the application or the agency's environmental impact statement, and provide reasons in support; LBP-15-1, 81 NRC 37 (2015)
- 10 C.F.R. 2.309(f)(2)
- although environmental contentions are, in essence, challenges to NRC Staff's compliance with NEPA, those contentions must be raised, if possible, in response to applicant's environmental report; CLI-15-1, 81 NRC 7 (2015); LBP-15-19, 81 NRC 819 (2015)
- if there are data or conclusions in the NRC draft or final environmental impact statement that differ significantly from data or conclusions in applicant's documents, late-filing standards are no bar to the admission of properly supported contentions; LBP-15-11, 81 NRC 423 n.130 (2015)
- material difference must exist between information on which a contention is based and information that was previously available, e.g., a difference between the environmental report and the draft EIS or the draft EIS and the final EIS; CLI-15-1, 81 NRC 7 (2015)
- 10 C.F.R. 2.309(h)(2)
- state government has standing because the facility is located within the boundaries of the state and, accordingly, no further demonstration of standing is required; LBP-15-4, 81 NRC 163 (2015); LBP-15-18, 81 NRC 794 (2015)
- 10 C.F.R. 2.309(i)(2)
- petitioner has the right to file a reply; LBP-15-13, 81 NRC 461 (2015)
- 10 C.F.R. 2.311(c)
- appeal as of right from a licensing board ruling on an intervention petition is permitted only in two limited circumstances; LBP-15-1, 81 NRC 46 (2015)
- 10 C.F.R. 2.311(d)(1)
- appeal as of right from a licensing board ruling on an intervention petition is permitted only in two limited circumstances; LBP-15-1, 81 NRC 46 (2015)
- Commission affirmed the board's standing ruling, but declined to accept review of challenges to the board's admission of two contentions because petitioner had failed to perfect its appeal by challenging the validity of the board's admissibility rulings regarding other contentions; LBP-15-3, 81 NRC 77 (2015)
- 10 C.F.R. 2.315(c)
- boards may afford an interested state, local governmental body, and federally recognized Indian tribe that has not been admitted as a party under section 2.309 a reasonable opportunity to participate in a hearing; LBP-15-19, 81 NRC 828 (2015)
- governmental entity is permitted to participate in the proceeding as an interested local governmental body and will thus have the opportunity to support intervenors' already-admitted contention; LBP-15-19, 81 NRC 822 n.35 (2015)
- litigation opportunities available to an entity participating as a local governmental body are discussed; LBP-15-19, 81 NRC 818, 828 n.63 (2015)
- representative of a governmental entity that wishes to participate as a nonparty in the proceeding must identify those contentions on which it will participate in advance of any hearing held; LBP-15-11, 81 NRC 405 n.6 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 2.315(d)  
amicus curiae filings are allowed at the Commission's discretion or sua sponte; CLI-15-1, 81 NRC 5 n.19 (2015); CLI-15-4, 81 NRC 225 n.8 (2015); CLI-15-5, 81 NRC 333 n.19 (2015)  
persons who are not parties may file an amicus curiae brief; CLI-15-1, 81 NRC 5 n.19 (2015)  
state government may file an amicus brief within the time allowed to the party whose position the brief will support; CLI-15-2, 81 NRC 216 (2015)
- 10 C.F.R. 2.319  
although boards are accorded considerable discretion to manage proceedings before them, they need not exercise it; LBP-15-15, 81 NRC 615 n.114 (2015)  
boards are given broad discretion in the conduct of NRC adjudicatory proceedings, and the Commission generally defers to board case-management decisions; LBP-15-15, 81 NRC 615 n.114 (2015)  
boards have the power to take necessary and appropriate actions consistent with the Atomic Energy Act to conduct a fair hearing; LBP-15-15, 81 NRC 615 n.114 (2015)
- 10 C.F.R. 2.319(d), (e), and (g)  
board has ample authority to ensure that evidence offered concerning microcracking is limited to that specific material issue and does not stray into issues outside the scope of the license amendment proceeding; LBP-15-20, 81 NRC 859 (2015)
- 10 C.F.R. 2.323  
heightened showing is required to prevent overuse of sua sponte review, including a demonstration of extraordinary circumstances; CLI-15-1, 81 NRC 9 n.39 (2015)  
requests for action from the presiding officer in an NRC adjudicatory proceeding must come in the form of a motion; CLI-15-13, 81 NRC 569 n.86 (2015)
- 10 C.F.R. 2.323(c)  
evidentiary objections made for the first time after briefing has been completed unfairly deprive petitioners of the opportunity to file the response expressly provided in the NRC's procedural rules; LBP-15-5, 81 NRC 289 (2015); LBP-15-20, 81 NRC 859 (2015)
- 10 C.F.R. 2.323(f)  
referred rulings or certified questions must raise significant and novel legal or policy issues or issues whose early resolution would materially advance the orderly disposition of the proceeding; CLI-15-1, 81 NRC 9 n.39 (2015)
- 10 C.F.R. 2.325  
as proponent of the agency action at issue, applicant generally has the burden of proof in a licensing proceeding; LBP-15-3, 81 NRC 84 (2015); LBP-15-16, 81 NRC 641 (2015)  
unless the presiding officer otherwise orders, applicant or the proponent of an order has the burden of proof; LBP-15-2, 81 NRC 57 n.63 (2015)
- 10 C.F.R. 2.326  
petitioners have not raised an issue material to findings that the NRC must make to support final decisions in the captioned matters and they are unable to satisfy contention admissibility standards or meet the criteria to reopen a closed record; CLI-15-4, 81 NRC 231 n.47 (2015)
- 10 C.F.R. 2.326(a)  
motions to reopen must be timely, address a significant safety or environmental issue, and demonstrate that a materially different result would be or would have been likely had the newly proffered evidence been considered initially; LBP-15-14, 81 NRC 594 (2015)
- 10 C.F.R. 2.326(a)(1)  
board has discretion to consider an untimely motion to reopen if the motion presents an exceptionally grave issue; LBP-15-14, 81 NRC 594 (2015)
- 10 C.F.R. 2.326(a)(2)-(3)  
petitioner has not satisfied reopening standards because it has not raised a significant environmental issue and has not demonstrated that a materially different result would be likely if the contention had been considered initially; CLI-15-11, 81 NRC 549 (2015)
- 10 C.F.R. 2.326(b)  
affidavits accompanying motions to reopen must be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised; LBP-15-14, 81 NRC 594 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- evidence contained in affidavits accompanying motions to reopen must meet admissibility standards; LBP-15-14, 81 NRC 594 n.24 (2015)
- motions to reopen must also be accompanied by affidavits that set forth the factual and/or technical bases for movant's claim; LBP-15-14, 81 NRC 594, 596 (2015)
- 10 C.F.R. 2.326(d)
- motion to reopen that relates to a contention not previously in controversy must satisfy the section 2.309(c) requirements for new or amended contentions filed after the original hearing petition deadline; LBP-15-14, 81 NRC 595 n.29 (2015)
- 10 C.F.R. 2.332(d)
- hearing on environmental issues must await issuance of final environmental impact statement; LBP-15-3, 81 NRC 122 n.49 (2015)
- 10 C.F.R. 2.335
- board improperly allowed petitioner to challenge the generic environmental impact statement's finding regarding severe accident consequences; CLI-15-6, 81 NRC 379 (2015)
- boards cannot add a new requirement to a regulation; LBP-15-17, 81 NRC 788 (2015)
- boards cannot prohibit what regulations allow except under specific conditions; LBP-15-17, 81 NRC 780 (2015)
- contention is a challenge to section 50.61a itself, which is impermissible; LBP-15-17, 81 NRC 781 (2015)
- generic environmental analysis is incorporated into NRC regulations, and thus Category 1 generic findings may not be challenged in individual licensing proceedings unless accompanied by a petition for rule waiver; CLI-15-6, 81 NRC 350-51 (2015)
- 10 C.F.R. 2.335(a)
- challenge to use of an alternate concentration limit is an impermissible challenge to an NRC regulation; LBP-15-11, 81 NRC 434 n.213 (2015)
- contentions challenging applicable statutory requirements or Commission regulations are not admissible in agency adjudications; LBP-15-3, 81 NRC 106 (2015); LBP-15-5, 81 NRC 258 (2015)
- except as provided by the waiver provision in 10 C.F.R. 2.335(b) and (d), no rule or regulation of the Commission, or any provision thereof is subject to attack in any adjudicatory proceeding subject to 10 C.F.R. Subpart 2; LBP-15-4, 81 NRC 164 (2015); LBP-15-6, 81 NRC 325 (2015)
- litigants may not challenge a rule in NRC adjudicatory proceedings absent a showing of special circumstances; CLI-15-1, 81 NRC 10 (2015)
- no rule or regulation of the Commission, or any provision thereof, concerning the licensing of production and utilization facilities is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding; LBP-15-5, 81 NRC 272 n.128 (2015); LBP-15-17, 81 NRC 778 (2015)
- petitioners are not barred from contending that additional testing is necessary to show margins of safety equivalent to those of the ASME BPV Code, Section XI, Appendix G because petitioners allege noncompliance with 10 C.F.R. Part 50, Appendix G and not Appendix H; LBP-15-20, 81 NRC 845 (2015)
- regulations can be challenged only under extremely limited circumstances; LBP-15-5, 81 NRC 302 n.363 (2015)
- to the extent a contention would require licensee to maintain the ERDS link or to create another ERDS-like system after its reactor is permanently shut down and defueled, it is an impermissible collateral attack on a regulation; LBP-15-4, 81 NRC 167 (2015)
- 10 C.F.R. 2.335(a)-(b)
- petitioners cannot challenge an NRC regulation without first obtaining a waiver; LBP-15-20, 81 NRC 840 (2015)
- 10 C.F.R. 2.335(b)
- absent a waiver, contentions that raise a direct or indirect challenge to a Commission regulation are inadmissible; LBP-15-4, 81 NRC 164-65 (2015)
- it is a well-established principle that a petitioner in an adjudicatory proceeding cannot use one regulation to challenge another without first obtaining a waiver by showing special circumstances; LBP-15-4, 81 NRC 173 (2015)
- litigants may not challenge a rule in an NRC adjudicatory proceedings absent a showing of special circumstances; CLI-15-1, 81 NRC 10 (2015); LBP-15-5, 81 NRC 272 n.129 (2015)



## LEGAL CITATIONS INDEX

### REGULATIONS

- to obtain waiver of a rule, the allegation of special circumstances must be set forth with particularity and supported by an affidavit or other proof; LBP-15-5, 81 NRC 272 n.129 (2015)
- waiver of rule or regulation may be obtained upon a showing that applying provision at issue would not serve the purposes for which the rule or regulation was adopted; CLI-15-6, 81 NRC 379 n.204 (2015); LBP-15-3, 81 NRC 96 n.22 (2015); LBP-15-17, 81 NRC 778 n.156 (2015)
- 10 C.F.R. 2.335(b)-(d)  
conditions necessary for grant of a rule waiver are outlined; LBP-15-6, 81 NRC 325 (2015)
- 10 C.F.R. 2.336(d)  
if a board issues a scheduling order before the effective date of the final rule that incorporates this section, which currently requires parties to update their disclosures every 14 days, that obligation would change to every month on a day specified by the board, unless the parties agree otherwise, once the effective date of the rule is reached; LBP-15-1, 81 NRC 31 n.75 (2015)
- 10 C.F.R. 2.337(f)  
licensing board takes official notice of NRC-issued licenses; LBP-15-3, 81 NRC 140 n.64 (2015)  
licensing board takes official notice of NRC regulatory guide; LBP-15-3, 81 NRC 83 n.11 (2015)
- 10 C.F.R. 2.340(a)(2)(ii)  
when an adjudicatory proceeding has been initiated with respect to a license amendment issued with a no significant hazards determination, once the presiding officer's initial decision becomes effective, the appropriate official shall take action with respect to that amendment in accordance with the initial decision; LBP-15-13, 81 NRC 474 n.114 (2015)
- 10 C.F.R. 2.340(b)  
adequacy of NRC Staff's review of transmission-corridor impacts might be appropriate for the board's consideration sua sponte; CLI-15-1, 81 NRC 4 (2015)  
boards must request Commission approval to undertake sua sponte review; CLI-15-1, 81 NRC 4-5 (2015)  
with Commission's express approval, a licensing board may make findings on a serious safety, environmental, or common defense and security matter not put into controversy by the parties; CLI-15-1, 81 NRC 8-9 (2015)
- 10 C.F.R. 2.341  
amicus curiae filings are allowed at the Commission's discretion or sua sponte; CLI-15-4, 81 NRC 225 n.8 (2015); CLI-15-10, 81 NRC 537-38 n.5 (2015)  
heightened showing is required to prevent overuse of sua sponte review, including a demonstration of extraordinary circumstances; CLI-15-1, 81 NRC 9 n.39 (2015)
- 10 C.F.R. 2.341(a)(4)(iii) & (iv)  
review is granted where petitions for review raise substantial questions of law and procedure; CLI-15-6, 81 NRC 369 (2015)
- 10 C.F.R. 2.341(b)(3)  
although rules do not provide for filing of reply briefs, as a matter of discretion the Commission reviews a reply brief; CLI-15-7, 81 NRC 492 n.68 (2015)  
any other party to the proceeding may file an answer supporting or opposing Commission review; CLI-15-6, 81 NRC 368 n.149 (2015)  
only the petitioning party may file reply briefs; CLI-15-7, 81 NRC 492 n.68 (2015)
- 10 C.F.R. 2.341(b)(4)  
Commission may, as a matter of discretion, grant review of a full or partial initial decision, giving due weight to the existence of a substantial question with respect to any of the considerations outlined in this regulation; CLI-15-2, 81 NRC 214 (2015)  
standard for discretionary review is described; CLI-15-7, 81 NRC 493 (2015)
- 10 C.F.R. 2.341(b)(4)(i)  
grant of discretionary review requires that intervenors raise a substantial question that the board's findings of fact are clearly erroneous; CLI-15-7, 81 NRC 497 (2015)  
important questions of law and material fact merit Commission review; CLI-15-6, 81 NRC 351 (2015)
- 10 C.F.R. 2.341(b)(4)(i)-(v)  
petition for review will be granted at Commission discretion upon a showing that petitioner has raised a substantial question as to any of the five factors of this regulation; CLI-15-1, 81 NRC 6 (2015); CLI-15-9, 81 NRC 519 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 2.341(b)(4)(ii)  
petition for review must raise a substantial question with respect to whether a necessary legal conclusion is without governing precedent or is contrary to established law; CLI-15-7, 81 NRC 494, 496 (2015)
- 10 C.F.R. 2.341(b)(4)(iii)  
important questions of law and material fact merit Commission review; CLI-15-6, 81 NRC 351 (2015)  
intervention petitioner may not attack generic NRC requirements or regulations or express generalized grievances about NRC policies; CLI-15-9, 81 NRC 527-28 & n.98 (2015)
- 10 C.F.R. 2.341(f)(1)  
referred rulings or certified questions must raise significant and novel legal or policy issues or issues whose early resolution would materially advance the orderly disposition of the proceeding; CLI-15-1, 81 NRC 9 n.39 (2015)
- 10 C.F.R. 2.342(e)  
irreparable injury is the most important of the factors for grant or denial of a stay; LBP-15-2, 81 NRC 53-54 (2015)
- 10 C.F.R. 2.390  
flooding hazard reevaluation report contains security-related information, and so a portion of the document is not publicly available; DD-15-4, 81 NRC 872 (2015); DD-15-5, 81 NRC 880 (2015)
- 10 C.F.R. 2.802  
if intervenor wishes to effect a substantive change to Part 50, Appendix E, § VI.2, it may petition for rulemaking; LBP-15-4, 81 NRC 175 (2015)
- 10 C.F.R. 2.805  
contents of the licensees' responses may lead to additional regulatory actions to update plants' licensing bases, such as orders, license amendments, or rulemakings, for which the public would have participation rights; CLI-15-14, 81 NRC 743 (2015)
- 10 C.F.R. 2.1202(a)  
"prompt" issuance is not defined as an immediate one; LBP-15-2, 81 NRC 53 n.33 (2015)  
timing of license issuance is informed by instruction for NRC Staff to promptly issue its approval or denial of the application consistent with its findings, and despite the pendency of a hearing; LBP-15-2, 81 NRC 53 n.33 (2015); LBP-15-16, 81 NRC 638 n.104 (2015)
- 10 C.F.R. 2.1213  
notification of renewal of source materials license triggers the 5-day filing deadline to apply for a stay of the license; LBP-15-2, 81 NRC 49-50 (2015)
- 10 C.F.R. 2.1213(a)  
intervenors may seek a stay of NRC Staff's immediately effective license issuance; LBP-15-3, 81 NRC 78 n.3 (2015)
- 10 C.F.R. 2.1213(d)  
in determining whether to grant or deny an application for a stay, a board must balance four separate interests; LBP-15-2, 81 NRC 53 (2015)  
movant has the burden of persuasion on the four stay factors; LBP-15-2, 81 NRC 53 (2015)
- 10 C.F.R. 2.1300  
provisions of 10 C.F.R. Part 2, Subpart M, together with the generally applicable intervention provisions in 10 C.F.R. Part 2, Subpart C, govern adjudicatory proceedings on license transfer applications; CLI-15-8, 81 NRC 504 n.20 (2015)
- 10 C.F.R. Part 2, Appendix B, § II  
board is directed to rule within 140 days of the date of the referral on whether the hearing request should be granted; CLI-15-14, 81 NRC 735 n.28 (2015)
- 10 C.F.R. 30.4  
"byproduct material" refers to the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed for its source material content; LBP-15-16, 81 NRC 626 n.2 (2015)
- 10 C.F.R. 40.4  
"byproduct material" refers to the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed for its source material content; LBP-15-16, 81 NRC 626 n.2 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- “construction” does not include site exploration, including preconstruction monitoring to establish background information related to the environmental impacts of construction or operation, or the protection of environmental values; LBP-15-3, 81 NRC 91 (2015)
- definition of byproduct material was clarified by adding the clause “including discrete surface wastes resulting from uranium solution extraction processes”; LBP-15-16, 81 NRC 636 n.92 (2015)
- nothing in the definition of “construction” precludes the installation of wells or the use of monitoring protocols as needed to provide those background data; LBP-15-3, 81 NRC 91 (2015)
- “source material” is defined as uranium being extracted through the ISL process; LBP-15-16, 81 NRC 626 n.1 (2015)
- 10 C.F.R. 40.9
- licensee or applicant must inform the NRC of information that applicant or licensee has identified as having a significant implication for public health and safety or common defense and security; LBP-15-15, 81 NRC 616 n.120 (2015)
- materials license application must provide analyses that are adequate, accurate, and complete in all material respects to demonstrate that cultural and historic resources are identified and protected; LBP-15-16, 81 NRC 643 n.141 (2015)
- 10 C.F.R. 40.31(f)
- applicant for a license to possess and use source and AEA § 11e(2) byproduct material for the purpose of in situ uranium recovery must submit an environmental report with its application; LBP-15-3, 81 NRC 82 (2015)
- 10 C.F.R. 40.31(i)
- admissibility of contention that environmental documents lack an adequate description of financial assurances sufficient to ensure the payment of the costs of restoration and long-term monitoring of up to 30 years is decided; LBP-15-15, 81 NRC 6002-03 (2015)
- 10 C.F.R. 40.32(c)
- water balance in the final supplemental environmental impact statement is appropriate and in accordance with NRC regulatory guidance and federal regulations; LBP-15-16, 81 NRC 683 n.404 (2015)
- 10 C.F.R. 40.32(e)
- commencement of construction is prohibited prior to a NEPA determination; LBP-15-16, 81 NRC 660 n.250 (2015)
- in situ recovery license applicant is barred from installing a complete wellfield and associated monitor well networks until after a license is issued; LBP-15-3, 81 NRC 91 (2015)
- 10 C.F.R. 40.41(c)
- water balance in the final supplemental environmental impact statement is appropriate and in accordance with NRC regulatory guidance and federal regulations; LBP-15-16, 81 NRC 683 n.404 (2015)
- 10 C.F.R. 40.41(e)(2)
- issued licenses can be revoked, conditioned, modified, or affirmed based on the evidence reviewed at the evidentiary hearing; LBP-15-16, 81 NRC 638 n.104 (2015)
- 10 C.F.R. 40.42(a)
- timing of source materials license renewal application enables licensee to operate under NRC’s timely renewal provision until the agency renews the license; LBP-15-2, 81 NRC 50, 57 n.66 (2015)
- when licensee has made timely and sufficient application for a renewal, a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency; LBP-15-11, 81 NRC 404 n.2 (2015)
- 10 C.F.R. 40.42(d), (e), 40.42(g)(4)(v)
- admissibility of contention that applicant submit a decommissioning plan and related updated financial plans is decided; LBP-15-15, 81 NRC 603 (2015)
- 10 C.F.R. Part 40, Appendix A
- contention that final supplemental environmental impact statement fails to comply with NRC regulations and NEPA because it lacks an adequate description of the present baseline (i.e., original or premining) groundwater quality and fails to demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies is decided; LBP-15-3, 81 NRC 85 (2015)
- intervenors fail to establish the validity of their various challenges to the adequacy of the FSEIS description of the baseline water quality at the ISR site; LBP-15-3, 81 NRC 111 (2015)
- neither “baseline” nor “background” is explicitly defined; LBP-15-16, 81 NRC 659 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- requirements in Part 40, such as many of the provisions in Appendix A, that, by their own terms, apply only to conventional uranium milling activities, cannot sensibly govern in situ leach mining; LBP-15-16, 81 NRC 637 n.94 (2015)
- 10 C.F.R. Part 40, Appendix A, Criterion 5B  
nothing in this criterion precludes an inquiry, based on a well-pleaded contention, into whether the particular measures used in applicant's precicensing program were adequate to provide the necessary information to properly characterize the environmental impacts of employing an ISR mining process in the aquifers below a proposed site; LBP-15-3, 81 NRC 92 (2015)  
post-licensing, preoperational activities conducted to comply with Part 40, Appendix A, Criterion 7 are associated with compliance with the dictates of this regulation; LBP-15-3, 81 NRC 75 n.2 (2015)
- 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)  
background water quality data are used to establish existing hazardous constituent concentrations in an aquifer, which can then be used to set post-operational concentration limits; LBP-15-16, 81 NRC 659 (2015)  
Commission-approved background cannot be established until after an ISR license has been issued; LBP-15-3, 81 NRC 91 (2015)  
requirements for groundwater restoration standards for ISR mining operations are set forth; LBP-15-3, 81 NRC 113 (2015)
- 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)(a)  
no in situ recovery facility has ever requested that all OZ aquifer groundwater hazardous constituents be restored to CAB concentrations or Criterion 5B(5)(b) MCLs, as those are currently defined; LBP-15-3, 81 NRC 129 n.58 (2015)  
"primary groundwater restoration" is to return the constituent to background levels; LBP-15-3, 81 NRC 114 (2015)  
subset of the production and injection wells to be drilled within the boundaries of the ISR wellfield is to be used to sample groundwater from the aquifer prior to the commencement of operations to establish hazardous constituent Commission-approved background concentrations; LBP-15-3, 81 NRC 76 (2015)
- 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)(a)-(c)  
bounding analysis provided in the final supplemental environmental impact statement, as supplemented in the record, provides sufficient information about a reasonable range of hazardous constituent concentration values associated with potential post-operational alternate concentration limits so as to provide an appropriate NEPA assessment of the environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits; LBP-15-3, 81 NRC 153 (2015)
- 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)(b)  
EPA drinking water maximum contaminant levels continue to be an accepted groundwater restoration standard; LBP-15-3, 81 NRC 116 n.46 (2015)  
"secondary groundwater restoration" is restoration of constituent levels to the drinking water limits enumerated in Appendix A, Table 5C; LBP-15-3, 81 NRC 114 (2015)
- 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)(c)  
contention that FSEIS fails to analyze environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits is decided; LBP-15-3, 81 NRC 111 (2015)  
NRC regulations explicitly allow the use of alternate concentration limits for hazardous constituents; LBP-15-11, 81 NRC 434 n.212 (2015)  
restoration to an alternate concentration limit is permitted only when restoration to a primary or the secondary Table 5C standard is not practically achievable; LBP-15-3, 81 NRC 114 (2015)
- 10 C.F.R. Part 40, Appendix A, Criterion 5B(6)  
restoration to an alternate concentration limit is permitted only when restoration to a primary or the secondary Table 5C standard is not practically achievable; LBP-15-3, 81 NRC 114 (2015)  
to have an alternate concentration limit approved, licensee must demonstrate that the hazardous constituent value is as low as reasonably achievable, after considering practicable corrective actions, and that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the ACL is not exceeded; LBP-15-3, 81 NRC 114 (2015)
- 10 C.F.R. Part 40, Appendix A, Criteria 5B(6)(a)(i)-(x)  
nineteen factors must be considered in making the "present and potential hazard" finding requisite to Commission approval of an alternate concentration limit; LBP-15-3, 81 NRC 114 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. Part 40, Appendix A, Criterion 5C  
EPA drinking water maximum contaminant levels continue to be an accepted groundwater restoration standard; LBP-15-3, 81 NRC 116 n.46 (2015)
- 10 C.F.R. Part 40, Appendix A, Criterion 7  
activities associated with, and the data coming from, precensuring groundwater monitoring activities are associated with compliance with the dictates of this regulation; LBP-15-3, 81 NRC 75 n.2 (2015)  
applicant must establish a precensuring monitoring program that is used to provide complete baseline data on the in situ recovery site and its environs; LBP-15-3, 81 NRC 89 (2015); LBP-15-16, 81 NRC 659 (2015)  
applicant must provide complete baseline data on a milling site and its environs; LBP-15-16, 81 NRC 660 (2015)  
applicant's monitoring program for establishing existing site characterization baseline values for certain site groundwater constituents prior to issuance of a source materials license for ISR facility construction and operation need not, to comply with NEPA and NRC's Part 51 implementing regulations, be conducted so as to also provide background information needed to set Appendix A, Criterion 5B groundwater protection standards; LBP-15-3, 81 NRC 111 (2015)  
contention alleging that final supplemental environmental impact statement fails to provide an adequate baseline groundwater characterization or demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies is decided; LBP-15-16, 81 NRC 659-60 (2015)  
nothing in this criterion precludes an inquiry, based on a well-pleaded contention, into whether the particular measures used in an applicant's precensuring program were adequate to provide the necessary information to properly characterize the environmental impacts of employing an ISR mining process in the aquifers below a proposed site; LBP-15-3, 81 NRC 92 (2015)  
to comply with NEPA and Part 51 implementing regulations, applicant's precensuring monitoring program for site characterization is not required to be conducted so as to provide information needed to set Appendix A, Criterion 5B groundwater protection standards, in accord with an Appendix A, Criterion 7A preoperational license condition-based monitoring program; LBP-15-3, 81 NRC 153 (2015)
- 10 C.F.R. Part 40, Appendix A, Criterion 7A  
licensee shall establish a detection monitoring program needed for NRC to set the site-specific groundwater protection standards in paragraph 5B(1) of this appendix, and the monitoring program must be in place when specified by NRC in license conditions; LBP-15-3, 81 NRC 91 (2015)  
nothing in this criterion precludes an inquiry, based on a well-pleaded contention, into whether the particular measures used in applicant's precensuring program were adequate to provide the necessary information to properly characterize the environmental impacts of employing an ISR mining process in the aquifers below a proposed site; LBP-15-3, 81 NRC 92 (2015)  
post-licensing, preoperational activities conducted to comply with this Criterion are associated with compliance with the dictates of this regulation; LBP-15-3, 81 NRC 75 n.2 (2015)
- 10 C.F.R. Part 40, Appendix A, Criterion 9  
financial surety arrangements must be established by each mill operator before the commencement of operations to ensure that sufficient funds will be available to carry out the decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas; LBP-15-15, 81 NRC 615 n.116 (2015)
- 10 C.F.R. Part 50  
stringent safety requirements apply to the construction and operation of reactor spent fuel pools and independent spent fuel storage installations; CLI-15-4, 81 NRC 240 (2015)
- 10 C.F.R. 50.2  
"permanent cessation of operations" for a nuclear power reactor facility is defined as a certification by a licensee to the NRC that it has permanently ceased or will permanently cease reactor operations; LBP-15-4, 81 NRC 170 n.77 (2015)  
"permanent fuel removal" from a nuclear power reactor facility is defined as a certification by the licensee to the NRC that it has permanently removed all fuel assemblies from the reactor vessel; LBP-15-4, 81 NRC 170 n.77 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 50.10(a)(2)(vii)  
Limited Work Authorization Rule expressly excludes transmission lines from the delineated construction activities that would require NRC approval before being undertaken; CLI-15-1, 81 NRC 10 n.48 (2015)
- 10 C.F.R. 50.12(a)(2)(ii)  
because current levels of emergency planning are required by regulation, licensee cannot make changes contemplated in its license amendment request without first receiving certain regulatory exemptions; LBP-15-18, 81 NRC 795 (2015)
- 10 C.F.R. 50.33(f)(2)  
applicant must submit information that demonstrates that it possesses or has reasonable assurance of obtaining funds necessary to cover estimated operating costs for the period of the license; CLI-15-8, 81 NRC 506 n.48, 508-09 (2015)  
license transfer applicant must submit estimates for total annual operating costs for each of the first 5 years of facility operation; CLI-15-8, 81 NRC 509 n.65 (2015)
- 10 C.F.R. 50.33(k)(1)  
license transfer applicant must show reasonable assurance of sufficient funds to decommission the facility; CLI-15-8, 81 NRC 505 (2015)
- 10 C.F.R. 50.34(b)(4)  
contention that final safety analysis report is deficient because it does not include information provided in applicant's seismic evaluation process report is rejected; LBP-15-14, 81 NRC 593 (2015)  
final safety analysis report must take into account any pertinent information developed since the submittal of the preliminary safety analysis report; LBP-15-14, 81 NRC 593 (2015)
- 10 C.F.R. 50.38  
any alien or any corporation or other entity that the Commission knows or has reason to believe is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government is ineligible to apply for and obtain a license; CLI-15-7, 81 NRC 482, 485, 486 n.29, 491 (2015)
- 10 C.F.R. 50.40  
considerations that NRC should review for grant of a license amendment are defined in this regulation; LBP-15-17, 81 NRC 778 (2015)  
in determining whether a license amendment, construction permit, or early site permit will be issued to applicant, common standards of this regulation are applied; LBP-15-20, 81 NRC 841 (2015)
- 10 C.F.R. 50.47  
emergency plans are approved by the NRC and FEMA and are updated on an ongoing basis; CLI-15-6, 81 NRC 378 (2015)
- 10 C.F.R. 50.47(a)(1)(i)  
no finding on emergency planning is necessary for issuance of a renewed nuclear power reactor operating license; CLI-15-6, 81 NRC 377 (2015)
- 10 C.F.R. 50.47(a)(2)  
in any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation ability of state and local emergency plans; LBP-15-4, 81 NRC 175 n.107 (2015)  
offsite emergency plans are reviewed biennially by NRC and the Federal Emergency Management Agency in a comprehensive emergency preparedness exercise; CLI-15-6, 81 NRC 377 (2015)
- 10 C.F.R. 50.47(b)  
licensee is prohibited from simply disconnecting its ERDS when the reactor is powered down during decommissioning; LBP-15-4, 81 NRC 178-79 (2015)
- 10 C.F.R. 50.47(b)(2), (4), (5)  
licensee's obligation to provide emergency planning data is discussed; LBP-15-4, 81 NRC 180 (2015)
- 10 C.F.R. 50.47(b)(6)  
adequate provisions must exist for prompt communications among principal response organizations to emergency personnel and to the public; LBP-15-4, 81 NRC 180 (2015)  
licensee's obligation to provide emergency planning data is discussed; LBP-15-4, 81 NRC 180 (2015)
- 10 C.F.R. 50.47(b)(9)  
licensee's obligation to provide emergency planning data is discussed; LBP-15-4, 81 NRC 180 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 50.47(e)  
holder of a combined license for a newly built reactor may not load fuel or operate except as provided in accordance with Appendix E; LBP-15-4, 81 NRC 171 (2015)
- 10 C.F.R. 50.54(bb)  
licensees must submit for NRC approval their plans to manage spent fuel after the permanent cessation of reactor operation; CLI-15-4, 81 NRC 240 (2015)
- 10 C.F.R. 50.54(f)  
as part of the NRC post-Fukushima lessons-learned activities, NRC is requiring all licensees to reevaluate seismic hazards at their sites, and to this end, issued a request for information; DD-15-1, 81 NRC 197 (2015)  
flood hazard reevaluations being performed pursuant to a request for information are beyond the current design/licensing basis of operating plants; DD-15-4, 81 NRC 872 (2015)  
NRC addressed concerns about flooding at GE Mark I and II boiling water reactors through a request for information; DD-15-1, 81 NRC 200 (2015)  
petitioner's request that the NRC take escalated enforcement action against licensee concerning flooding protection is being addressed by NRC's request for information; DD-15-5, 81 NRC 879-80, 881 (2015)  
request for information instructed all licensees to reevaluate seismic hazards at their sites using updated seismic hazard information, present-day guidance and methodologies, and a risk evaluation; DD-15-6, 81 NRC 888 (2015)  
request under this section is to enable the Commission to determine whether or not the license should be modified, suspended, or revoked; CLI-15-14, 81 NRC 737 (2015)
- 10 C.F.R. 50.54(q)  
licensee must maintain an emergency plan, review it annually through an independent reviewer, and conduct periodic exercises to measure the plan's effectiveness; CLI-15-6, 81 NRC 377 (2015)
- 10 C.F.R. 50.54(q)(2)  
all Part 50 licensees must meet emergency planning requirements, regardless of whether the facility is operating or has been permanently shut down and defueled; LBP-15-18, 81 NRC 796 n.16 (2015)  
holder of a license under Part 50, or a combined license under Part 52, shall follow and maintain the effectiveness of an emergency plan that meets the requirements in Appendix E to Part 50; LBP-15-4, 81 NRC 171 n.87 (2015)
- 10 C.F.R. 50.54(q)(3)  
to discontinue the ERDS link, analysis showing that such a change does not reduce the plan's effectiveness is required; LBP-15-4, 81 NRC 173, 174 n.101 (2015)
- 10 C.F.R. 50.55a  
NRC Staff is incorporating the 2012 edition of the ASME code by reference into the regulation; CLI-15-13, 81 NRC 578-79 (2015)
- 10 C.F.R. 50.55a(b)(2)  
latest edition and addenda of the ASME Boiler and Pressure Vessel Code has been incorporated by reference; LBP-15-20, 81 NRC 834 n.8 (2015)
- 10 C.F.R. 50.55a(f)(4)(i)  
after the rulemaking is completed, licensees for new reactors will be required to comply with the ASME code preservice and inservice surveillance provisions for squib valves; CLI-15-13, 81 NRC 579 (2015)
- 10 C.F.R. 50.57(a)(3)  
Commission must find that activities authorized by a license amendment can be conducted without endangering the health and safety of the public and will be in compliance with Commission regulations; LBP-15-20, 81 NRC 841 (2015)  
contention about a matter not covered by a specific rule need only allege that the matter poses a significant safety problem; LBP-15-17, 81 NRC 787 (2015); LBP-15-20, 81 NRC 847-48, 854 n.151 (2015)  
licensee is prohibited from simply disconnecting its ERDS when the reactor is powered down during decommissioning; LBP-15-4, 81 NRC 178-79 (2015)
- 10 C.F.R. 50.58(b)(6)  
no significant hazards consideration determination is a procedural decision barred from litigation; LBP-15-13, 81 NRC 477 (2015); LBP-15-17, 81 NRC 790 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 50.59  
admissibility of contention that a license amendment will be required for licensee to update and maintain accurate design basis documents is decided; CLI-15-5, 81 NRC 336-37 (2015)  
admissibility of contention that licensee is undertaking modifications for protection against severe flooding in the event of upstream dam failures that will require a license amendment is decided; CLI-15-5, 81 NRC 335 (2015)  
challenges to licensee actions taken under this regulation may only be taken by means of a petition for enforcement action under 10 C.F.R. 2.206; CLI-15-5, 81 NRC 337 (2015)  
licensee will determine whether any proposed changes to the plant, procedures, license, or licensing basis associated with its design reconstitution effort require a license amendment; CLI-15-5, 81 NRC (2015)  
petitioners' argument that power reactor is being operated as a test reactor reflects a misreading of the regulations; LBP-15-20, 81 NRC 863 (2015)  
request that NRC immediately revoke prior preapproval of the hardened vent system or direct torus vent system at each GE BWR Mark I unit has been addressed by an order modifying licenses with regard to reliable hardened containment vents capable for operation under severe accident conditions; DD-15-1, 81 NRC 198-99 (2015)
- 10 C.F.R. 50.59(c)  
types of changes, tests, or experiments that may be undertaken without prior NRC approval as well as those that would require a license amendment are outlined; CLI-15-14, 81 NRC 732 n.11 (2015)
- 10 C.F.R. 50.59(c)(1)  
activities the licensee may pursue without submitting a license amendment request, including certain tests or experiments, are defined; LBP-15-17, 81 NRC 791 (2015)
- 10 C.F.R. 50.61  
neutron radiation embrittlement of reactor pressure vessel walls, decreasing their fracture toughness, is discussed; LBP-15-17, 81 NRC 759, 762 (2015)  
surveillance data are continuously integrated into future embrittlement projections; LBP-15-17, 81 NRC 765 (2015)
- 10 C.F.R. 50.61(a)(7)  
if reference values projected at specific areas of the reactor pressure vessel for the end of life of the plant surpass the current screening criteria, licensee must submit a safety analysis and obtain NRC approval to continue to operate; LBP-15-17, 81 NRC 763 n.37 (2015)
- 10 C.F.R. 50.61(b)(2)  
pressurized thermal shock screening criterion is given for plates, forgings, and axial and circumferential weld materials; LBP-15-17, 81 NRC 763 (2015)  
when the reference temperature of a reactor pressure vessel is above the screening limit, the RPV is considered to have an unreasonably high risk of fracture from a pressurized thermal shock event; LBP-15-17, 81 NRC 763 (2015)
- 10 C.F.R. 50.61(b)(6)  
if NRC does not approve continued operation based on licensee's safety analysis, licensee must request an opportunity to modify the reactor pressure vessel or related reactor systems to reduce the potential for failure of the reactor vessel due to pressurized thermal shock events; LBP-15-17, 81 NRC 763-64 (2015)
- 10 C.F.R. 50.61(c)(2)(i)  
plant-specific surveillance data must be integrated into the transition fracture toughness reference temperature estimate; LBP-15-17, 81 NRC 762 n.27, 765 n.54 (2015)
- 10 C.F.R. 50.61a  
applicant requests an operating license amendment to implement alternate fracture toughness requirements for protection against pressurized thermal shock events; LBP-15-17, 81 NRC 758 (2015)  
probabilistic embrittlement model is used to predict future reference temperatures across the reactor pressure vessel, which is then verified by existing surveillance data in a process called the consistency check; LBP-15-17, 81 NRC 765 (2015)
- 10 C.F.R. 50.61a, equations 1, 5  
reference temperature shift is the difference in reference temperature from the unirradiated to the post-irradiated states; LBP-15-17, 81 NRC 769 n.87 (2015)



## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 50.61a, equations 5-7  
consistency check does not rely on information that is unique to a particular reactor pressure vessel, but instead on the chemical properties and fluence of the material samples; LBP-15-17, 81 NRC 788 (2015)
- 10 C.F.R. 50.61a(a)(10)  
surveillance data include any data that demonstrate embrittlement trends for the beltline materials; LBP-15-17, 81 NRC 783 (2015)  
surveillance data need not be obtained from the same reactor pressure vessel that is the subject of the license amendment; LBP-15-17, 81 NRC 767 (2015)  
use of a material sample in the consistency check is not dependent on its location inside a reactor pressure vessel or which RPV it comes from; LBP-15-17, 81 NRC 788 (2015)
- 10 C.F.R. 50.61a(c)(1)-(2)  
application to use Alternate PTS Rule must contain the projected embrittlement reference temperatures along various portions of the reactor pressure vessel, from the present to a future point, compared to the Alternate Screening Criteria and assessment of flaws in the reactor pressure vessel; LBP-15-17, 81 NRC 766 (2015)
- 10 C.F.R. 50.61a(c)(2)  
licensee must separately examine for flaws in the reactor vessel; LBP-15-17, 81 NRC 766 n.58 (2015)
- 10 C.F.R. 50.61a(c)(3)  
reference temperature values are compared to the alternate screening criteria to determine whether the reactor pressure vessel is safe to operate; LBP-15-17, 81 NRC 766 (2015)
- 10 C.F.R. 50.61a(d)(1)  
alternate pressurized thermal shock rule provides measures for ongoing reporting; LBP-15-17, 81 NRC 765 n.49 (2015)
- 10 C.F.R. 50.61a(d)(2)-(7)  
alternate pressurized thermal shock rule specifies mitigation processes for licensees if they project they will exceed (or they do exceed) the rules' screening criteria; LBP-15-17, 81 NRC 765 n.49 (2015)
- 10 C.F.R. 50.61a(e)  
application to use Alternate PTS Rule must contain an assessment of flaws in the reactor pressure vessel; LBP-15-17, 81 NRC 766 (2015)
- 10 C.F.R. 50.61a(f)  
alternate pressurized thermal shock rule changes how licensees derive projected reference temperatures for the components of their reactor pressure vessels; LBP-15-17, 81 NRC 765 (2015)  
application to use Alternate PTS Rule must contain the projected embrittlement reference temperatures along various portions of the reactor pressure vessel, from the present to a future point, compared to the Alternate Screening Criteria and assessment of flaws in the reactor pressure vessel; LBP-15-17, 81 NRC 766 (2015)  
in calculating embrittlement reference temperatures, licensee must calculate neutron flux through the reactor pressure vessel using a methodology that has been benchmarked to experimental measurements and with quantified uncertainties and possible biases; LBP-15-17, 81 NRC 766 (2015)
- 10 C.F.R. 50.61a(f)(1)-(3)  
embrittlement model projects the reference temperatures for various parts of the reactor pressure vessel at the end of life of the plant; LBP-15-17, 81 NRC 766 n.61 (2015)
- 10 C.F.R. 50.61a(f)(4)  
licensee must establish the nil-ductility reference temperature for the reactor pressure vessel material in the annealed state, before the reactor was operational for various key points along the RPV; LBP-15-17, 81 NRC 766 (2015)
- 10 C.F.R. 50.61a(f)(4)(i), (ii)  
licensee can use a set of generic mean nil-ductility reference temperature values if measured values are not available; LBP-15-17, 81 NRC 766 n.60 (2015)
- 10 C.F.R. 50.61a(f)(6)  
if three or more surveillance data points measured at three or more different neutron fluences exist for a specific material, licensee shall determine if the surveillance data show a significantly different trend than the embrittlement model predicts; LBP-15-17, 81 NRC 784 (2015)  
licensees have some discretion in considering other plant-specific information that may be helpful in aligning their embrittlement models with the surveillance data; LBP-15-17, 81 NRC 768 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 50.61a(f)(6), equations 5-7  
differing amounts of copper, nickel, phosphorus, and manganese between material samples for the consistency check are accounted for; LBP-15-17, 81 NRC 792 n.256 (2015)
- 10 C.F.R. 50.61a(f)(6)(i)  
alternate pressurized thermal shock rule is designed to enable all commercial pressurized water reactor licensees to assess the state of their reactor pressure vessels relative to a new criterion without the need to make new material property measurements, instead using only information that is currently available; LBP-15-17, 81 NRC 765 (2015)  
licensee must perform a consistency check of its embrittlement model against available surveillance data; LBP-15-17, 81 NRC 765 (2015)  
licensees have to verify that their reference temperature calculations at the time of the application match up with surveillance data; LBP-15-17, 81 NRC 766-67 (2015)
- 10 C.F.R. 50.61a(f)(6)(i)(A)  
material samples that are to be used for the consistency check must be of the same heat-specific match; LBP-15-17, 81 NRC 791 (2015)  
surveillance data must consist of material samples that are the same composition, or heat, as the materials being evaluated by the model; LBP-15-17, 81 NRC 767 (2015)
- 10 C.F.R. 50.61a(f)(6)(i)(A), (B)  
surveillance data must be used in the consistency check when it is a heat-specific match for one or more of the materials for which the reference temperature is being calculated and three or more different neutron fluences exist for a specific material; LBP-15-17, 81 NRC 788 (2015)
- 10 C.F.R. 50.61a(f)(6)(i)(B)  
consistency check is required if three or more surveillance data points measured at three or more different neutron fluences exist for a specific material; LBP-15-17, 81 NRC 767 (2015)  
consistency check seeks to compare, for a specific material type, the model's projected embrittlement with the actual embrittlement values at the same fluence provided by material samples; LBP-15-17, 81 NRC 788 (2015)  
if fewer than three surveillance data points exist for a specific material, then the embrittlement model must be used without performing the consistency check; LBP-15-17, 81 NRC 767 (2015)  
purpose of the consistency check is to determine if the surveillance data show a significantly different trend than the embrittlement model predicts; LBP-15-17, 81 NRC 767 (2015)  
three or more samples are required to conduct a consistency check; LBP-15-17, 81 NRC 769 n.84 (2015)
- 10 C.F.R. 50.61a(f)(6)(i)(B)(ii)  
alternate pressurized thermal shock rule changes how licensees derive projected reference temperatures for the components of their reactor pressure vessels; LBP-15-17, 81 NRC 765 (2015)
- 10 C.F.R. 50.61a(f)(6)(ii)-(v)  
consistency check compares mean and slope of the embrittlement model curve against surveillance data and checks to confirm that outliers fall within acceptable residual values provided in the regulation; LBP-15-17, 81 NRC 767 n.67 (2015)
- 10 C.F.R. 50.61a(f)(6)(vi)  
if the embrittlement model deviates from the physical samples over the limits specified in the regulation, licensee must submit additional evaluations and seek approval for the deviations from the Director of the Office of Nuclear Reactor Regulation; LBP-15-17, 81 NRC 767-68 (2015)
- 10 C.F.R. 50.61a(g), tbl. 1  
alternate screening criteria consist of eighteen different reference temperature limits that depend on reactor pressure vessel wall thickness and the part of the RPV under consideration; LBP-15-17, 81 NRC 765 (2015)
- 10 C.F.R. 50.65  
active components are excluded from aging management review on the basis of existing regulatory requirements for maintenance and monitoring of structures, systems, and components; CLI-15-6, 81 NRC 348 (2015)  
licensees must monitor structures, systems, and components in a manner sufficient to provide reasonable assurance that the SSCs are capable of supporting their intended function; CLI-15-6, 81 NRC 348 n.30 (2015); DD-15-3, 81 NRC 724 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- relay switches and snubbers do not rely on time-limited assumptions based on the plant's operating term, but rather are subject to ongoing maintenance programs; LBP-15-6, 81 NRC 323 (2015)
- 10 C.F.R. 50.65(a)(1)  
Maintenance Rule requires monitoring of a component's performance or condition; CLI-15-6, 81 NRC 364 n.120 (2015)
- 10 C.F.R. 50.65(b)  
all structures and components that are important to safety must be maintained to manage the effects of aging, but most systems, structures, and components are adequately maintained under existing programs as required by the Maintenance Rule; CLI-15-6, 81 NRC 352 (2015)
- 10 C.F.R. 50.71(e)  
licensees must periodically provide updated final safety analysis reports; CLI-15-14, 81 NRC 742 n.8 (2015)  
licensees must periodically submit an updated FSAR to the agency, but NRC does not review the submittals for accuracy or otherwise approve the analyses therein; CLI-15-14, 81 NRC 746 (2015)  
updates to the UFSAR are controlled by the requirements of 10 C.F.R. 50.90 and 50.59; CLI-15-14, 81 NRC 746 n.37 (2015)
- 10 C.F.R. 50.71(e)(4)  
licensees must update their final safety analysis reports every 2 years; CLI-15-14, 81 NRC 747 (2015)
- 10 C.F.R. 50.72  
ERDS activation requirement applies only to operating nuclear power reactors; LBP-15-4, 81 NRC 170, 172 (2015)  
exception provision is most reasonably interpreted as exempting from the ERDS program all nuclear reactors that have permanently ceased operations and defueled, i.e., that are permanently shut down; LBP-15-4, 81 NRC 167 (2015)  
licensee of a permanently shutdown reactor is never required to activate the ERDS link, and thus it follows that such a licensee need not maintain the ERDS link; LBP-15-4, 81 NRC 167 (2015)
- 10 C.F.R. 50.72(a)(4)  
licensees must activate the ERDS as soon as possible but not later than 1 hour after declaring an Emergency Class of alert, site area emergency, or general emergency; LBP-15-4, 81 NRC 170 (2015)  
provision directing licensees to activate ERDS during exigent circumstances applies only to operating nuclear power reactors; LBP-15-4, 81 NRC 161 (2015)  
this section describes implementation, maintenance and activation of the ERDS system in the event of an emergency; LBP-15-4, 81 NRC 184 n.36 (2015)
- 10 C.F.R. 50.75  
license transfer applicant must show reasonable assurance of sufficient funds to decommission the facility; CLI-15-8, 81 NRC 505 (2015)
- 10 C.F.R. 50.75(c)  
decommissioning funding requirements encompass costs of low-level waste burial; CLI-15-8, 81 NRC 511 (2015)  
formulas, based on reactor type and power level, are provided for determining minimum dollar amounts required to demonstrate reasonable assurance of decommissioning funding; CLI-15-8, 81 NRC 505 (2015)
- 10 C.F.R. 50.75(e)(1)(i)  
financial assurance for decommissioning may be based on the prepayment method; CLI-15-8, 81 NRC 505 (2015)
- 10 C.F.R. 50.80(a)  
written consent from NRC is required for all license transfers; CLI-15-8, 81 NRC 502 (2015)
- 10 C.F.R. 50.80(b)(1)(i)  
license transfer applicant must show reasonable assurance of sufficient funds to decommission the facility; CLI-15-8, 81 NRC 505 (2015)  
subject areas that license transfer applications must address are outlined; CLI-15-8, 81 NRC 511 (2015)
- 10 C.F.R. 50.80(b)(2)  
subject areas that license transfer applications must address are outlined; CLI-15-8, 81 NRC 511 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 50.82(a)(1)(i) & (ii)  
licensee must provide certifications when a nuclear power station has permanently ceased power operations and all fuel has been permanently removed from the reactor vessel and placed in the spent fuel pool; DD-15-1, 81 NRC 203 (2015)
- 10 C.F.R. 50.82(a)(2)  
when licensees certify permanent cessation of operations and permanent removal of fuel from the reactor vessel, the license no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel, and physically the reactor can't be operated; LBP-15-4, 81 NRC 170 n.80 (2015)
- 10 C.F.R. 50.82(a)(3)  
nuclear power facility arguably exists until final decommissioning, which may take up to 60 years, or longer if approved by the Commission; LBP-15-4, 81 NRC 169 n.76 (2015)
- 10 C.F.R. 50.90  
to take advantage of the Alternate PTS Rule, licensee must request approval from the Office of Nuclear Reactor Regulation, in accordance with the procedures for submitting a license amendment; LBP-15-17, 81 NRC 766 (2015)  
when licensee wants to amend a license, application for an amendment must be filed with the Commission; CLI-15-5, 81 NRC 334 (2015); CLI-15-14, 81 NRC 741 (2015)
- 10 C.F.R. 50.91(a)(1)  
when licensee submits its license amendment application to NRC, it must provide the agency its analysis about the issue of no significant hazards consideration using the standards in 10 C.F.R. 50.92; LBP-15-17, 81 NRC 790 n.238 (2015)
- 10 C.F.R. 50.91(a)(4)  
final no significant hazards consideration determination allows the Commission to issue the challenged license amendment before the petitioner's request for a hearing is adjudicated; LBP-15-17, 81 NRC 790 n.238 (2015)  
license amendment will be effective on issuance, even if adverse public comments have been received and even if an interested person meeting the provisions for intervention has filed a request for a hearing; LBP-15-17, 81 NRC 790 n.238 (2015)
- 10 C.F.R. 50.91(a)(5)  
"exigent circumstances" determination seems compelled by the fact that violation of the technical specifications limit for the plant, whatever the cause of the temperature increase, requires a dual unit shutdown; LBP-15-13, 81 NRC 477 (2015)  
where the Commission finds that an emergency situation exists, in that failure to act in a timely way would result in derating or shutdown of a nuclear power plant, it may issue a license amendment involving no significant hazards consideration without prior notice and opportunity for a hearing or for public comment; LBP-15-13, 81 NRC 477 (2015)
- 10 C.F.R. 50.91(a)(6)  
NRC Staff may determine that exigent circumstances exist such that there is insufficient time for a full 30-day public comment period on a license amendment request; LBP-15-13, 81 NRC 476 (2015)
- 10 C.F.R. 50.92  
licensee is prohibited from simply disconnecting its ERDS when the reactor is powered down during decommissioning; LBP-15-4, 81 NRC 178-79 (2015)
- 10 C.F.R. 50.92(a)  
in determining whether a license amendment, construction permit, or early site permit will be issued to applicant, the Commission is guided by the considerations that govern issuance of initial licenses, construction permits, or early site permits to the extent applicable and appropriate; LBP-15-17, 81 NRC 778 (2015); LBP-15-20, 81 NRC 840-41 (2015)
- 10 C.F.R. 50.109  
Commission requests briefing from NRC Staff on the circumstances, if any, NRC Staff would judge a potentially cost-beneficial mitigation alternative to warrant further NRC consideration outside of the license renewal review, either via a backfit analysis or as part of another process; CLI-15-3, 81 NRC 219 (2015)
- 10 C.F.R. Part 50, Appendix A, Criterion 44  
plants must employ an ultimate heat sink to transfer heat from structures, systems, and components that are important to safety; LBP-15-13, 81 NRC 459 n.5 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. Part 50, Appendix A, Criterion 61  
spent fuel storage systems must be designed to ensure adequate safety under normal and postulated accident conditions; CLI-15-4, 81 NRC 240 (2015)
- 10 C.F.R. Part 50, Appendix B  
“quality assurance” comprises all those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service; DD-15-2, 81 NRC 207-08 (2015)
- 10 C.F.R. Part 50, Appendix B, Criterion III  
licensee’s operation of primary coolant pumps contrary to plant licensing and the FSAR is a violation of this criterion; DD-15-3, 81 NRC 725 (2015)
- 10 C.F.R. Part 50, Appendix E, § IV.F.2  
offsite emergency plans are reviewed biennially by NRC and the Federal Emergency Management Agency in a comprehensive emergency preparedness exercise; CLI-15-6, 81 NRC 377 (2015)
- 10 C.F.R. Part 50, Appendix E, § V  
activities that the closed plants in 1991 are exempt from performing are limited to only implementation and maintenance of the ERDS; LBP-15-4, 81 NRC 184 (2015)
- 10 C.F.R. Part 50, Appendix E, § VI  
any alleged ambiguity in the exception provision is eliminated when the regulatory language is examined in light of the regulatory history and framework; LBP-15-4, 81 NRC 174 n.100 (2015)  
ERDS is a direct electronic data link between licensees of operating reactors and the NRC Operations Center, and its objective is to allow NRC to monitor critical parameters during an emergency; LBP-15-4, 81 NRC 160-61 (2015)  
if this section were a one-time requirement that applied only to units existing in 1991, that would mean it was not intended to apply prospectively to newly built reactors; LBP-15-4, 81 NRC 171 (2015)  
regulatory history, like the regulation itself, is focused entirely on implementation and maintenance of the ERDS operations with not one word about decommissioning the system; LBP-15-4, 81 NRC 182 (2015)
- 10 C.F.R. Part 50, Appendix E, § VI.2  
all nuclear power facilities that are shut down permanently or indefinitely are exempted from participating in the ERDS program; LBP-15-4, 81 NRC 161, 167 (2015)  
any facility with an operating reactor unit is required to provide ERDS for that unit, regardless of the status of other reactors at the facility; LBP-15-4, 81 NRC 168 (2015)  
except for Big Rock Point and all nuclear power facilities that are shut down permanently or indefinitely, onsite ERDS hardware shall be provided at each unit by the licensee to interface with the NRC receiving system; LBP-15-4, 81 NRC 161, 172 (2015)  
if licensee of a permanently shutdown reactor is never required to activate the ERDS link, it must be concluded that such a licensee is exempt from the ERDS program; LBP-15-4, 81 NRC 170 (2015)  
nuclear power facility has shut down permanently within the meaning of this regulation when it has permanently ceased reactor operations, and permanently removed fuel from the reactor vessel, as those terms are defined in 10 C.F.R. 50.2; LBP-15-4, 81 NRC 169-70 (2015)  
plants that are shut down do not have to provide the ERDS hardware, or assemble and transmit data; LBP-15-4, 81 NRC 181 (2015)  
scope of the ERDS exception is informed by the regulatory history, which states that ERDS is to be used by licensees of operating reactors; LBP-15-4, 81 NRC 167 (2015)
- 10 C.F.R. Part 50, Appendix E, § VI.2.a(ii)  
parameters from which ERDS transmits data points for boiling water reactors are identified; LBP-15-4, 81 NRC 169 n.73 (2015)
- 10 C.F.R. Part 50, Appendix E, § VI.4.d  
each licensee is required to complete implementation of the ERDS by February 13, 1993, or before initial escalation to full power, whichever comes later; LBP-15-4, 81 NRC 161, 171 n.87, 189 (2015)
- 10 C.F.R. Part 50, Appendix G  
licensees may follow regulatory guides to determine equivalent safety margins, or may use any other methods, procedures, or selection of materials data and transients to demonstrate compliance with this regulation; LBP-15-20, 81 NRC 835 n.20 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- materials in a reactor vessel must maintain a minimum level of 50 ft-lb of Charpy upper-shelf energy, which is a measurement of the amount of energy the material can absorb at high temperatures before it fractures and fails; LBP-15-20, 81 NRC 833 (2015)
- 10 C.F.R. Part 50, Appendix G, § IV.1.a  
licensees have the option of demonstrating that values of Charpy upper-shelf energy below 50 ft-lb will provide margins of safety against fracture equivalent to those required by Appendix G of Section XI of the ASME BPV Code; LBP-15-20, 81 NRC 833-34, 842 (2015)
- 10 C.F.R. Part 50, Appendix H  
contention contesting adequacy of licensee's equivalent margins analysis is not a challenge to NRC regulations; LBP-15-20, 81 NRC 841-42 (2015)  
licensees must attach a particular number of surveillance capsules to specified areas within the reactor vessel, typically near the inside vessel wall at the beltline; LBP-15-20, 81 NRC 838 (2015)  
surveillance program to monitor pressurized water reactor pressure vessel is described; LBP-15-17, 81 NRC 761 (2015)
- 10 C.F.R. Part 50, Appendix H, § I  
minimum frequency with which surveillance capsules must be tested is set by ASTM Standard E 185 (1982 version), which is incorporated into Appendix H; LBP-15-20, 81 NRC 842 (2015)  
pressurized water reactor pressure vessel surveillance program relies on physical material samples, also known as specimens, capsules, or coupons, which are withdrawn periodically from the reactor vessel; LBP-15-17, 81 NRC 761 (2015)
- 10 C.F.R. Part 50, Appendix H, § III.A  
exemption from the surveillance program is allowed if a reactor's lifetime irradiation levels are below a certain threshold; LBP-15-17, 81 NRC 761 n.25 (2015)
- 10 C.F.R. Part 50, Appendix H, § III.B.2  
physical specimens must come from near the inside vessel wall in the beltline region so that the specimen irradiation history duplicates the neutron spectrum, temperature history, and maximum neutron fluence experienced by the reactor vessel inner surface; LBP-15-17, 81 NRC 761 n.24 (2015)
- 10 C.F.R. Part 50, Appendix H, § III.B.3  
NRC must preapprove the schedule for removing material samples from the reactor vessel; LBP-15-17, 81 NRC 761 (2015)  
surveillance capsule withdrawal schedule is not part of the plant's license; LBP-15-20, 81 NRC 842 (2015)
- 10 C.F.R. Part 50, Appendix H, § III.C  
integrated surveillance program among similar reactors is allowed if the reactors have sufficiently similar design and operating features to permit accurate comparisons of the predicted amount of radiation damage; LBP-15-17, 81 NRC 761 n.25 (2015)
- 10 C.F.R. 51.1  
regulations in Part 51 implement National Environmental Policy Act § 102(2); LBP-15-5, 81 NRC 264 (2015)
- 10 C.F.R. 51.4  
Limited Work Authorization Rule expressly excludes transmission lines from the delineated construction activities that would require NRC approval before being undertaken; CLI-15-1, 81 NRC 10 n.48 (2015)
- 10 C.F.R. 51.10  
admissibility of contention that environmental assessment fails to adequately describe or analyze proposed mitigation measures is decided; LBP-15-11, 81 NRC 430 (2015)  
admissibility of contention that environmental assessment fails to conduct the required hard look at impacts of the proposed mine and fails to consult with the U.S. Fish & Wildlife Service is decided; LBP-15-11, 81 NRC 443 (2015)  
admissibility of contention that environmental assessment fails to provide an analysis of the impacts on the project from earthquakes, especially concerning secondary porosity and adequate confinement is decided; LBP-15-11, 81 NRC 447 (2015)  
admissibility of contention that final environmental assessment fails to adequately analyze cumulative impacts is decided; LBP-15-11, 81 NRC 432 (2015)  
admissibility of contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with restoration standards and difficulty and cost in achieving

## LEGAL CITATIONS INDEX

### REGULATIONS

- the them and the use of the alternative standards permitted under the proposed rules is decided; LBP-15-15, 81 NRC 607, 608 (2015)
- admissibility of contention that NRC Staff must conduct a new baseline groundwater characterization study of the license renewal area rather than relying on the baseline study conducted during the original license application is decided; LBP-15-11, 81 NRC 418 (2015)
- agency is required to consider all reasonable alternatives under the National Environmental Policy Act; LBP-15-15, 81 NRC 607-08 (2015)
- contention alleging that final supplemental environmental impact statement fails to provide an adequate baseline groundwater characterization or demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies, is decided; LBP-15-16, 81 NRC 659-60 (2015)
- contention that environmental assessment fails to adequately describe air quality impacts is inadmissible as untimely; LBP-15-11, 81 NRC 428 (2015)
- contention that environmental assessment violates the National Environmental Policy Act in its failure to provide an analysis of the groundwater quantity impacts of the project is decided; LBP-15-11, 81 NRC 424 (2015)
- contention that final environmental assessment fails to adequately analyze all reasonable alternatives is inadmissible; LBP-15-11, 81 NRC 434 (2015)
- contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with air emissions and liquid waste disposal is admissible in part; LBP-15-11, 81 NRC 434-35 (2015)
- mitigation measures must be discussed in the final supplemental environmental impact statement; LBP-15-16, 81 NRC 687 (2015)
- 10 C.F.R. 51.10(a)  
although NRC regulations do not require NRC Staff to analyze the environmental impacts of NRC licensing actions on the environment of foreign nations, Staff extended its outreach to international organizations to inform its analysis of the potential environmental impacts of the project; CLI-15-13, 81 NRC 581 (2015)
- 10 C.F.R. 51.14(b)  
when drafting an environmental impact statement, agency's scope of review must include analysis of any connected or cumulative actions to the central proposed action; LBP-15-16, 81 NRC 697 (2015)
- 10 C.F.R. 51.20(a)(1)  
environmental impact statement is required when the proposed project is a major federal action significantly affecting the quality of the human environment; LBP-15-15, 81 NRC 616 (2015)
- 10 C.F.R. 51.20(b)(8)  
issuing a license to possess and use source material to a uranium milling facility is identified as a major federal action; LBP-15-16, 81 NRC 641 n.123 (2015)  
NRC Staff must prepare an environmental impact statement in connection with a license to possess and use source and AEA § 11e(2) byproduct material for the purpose of in situ uranium recovery; LBP-15-3, 81 NRC 83 (2015)
- 10 C.F.R. 51.22(b)  
admissibility of contention that final environmental assessment fails to satisfy NRC's requirement for an environmental impact statement when there are unresolved conflicts concerning reasonable alternatives is decided; LBP-15-15, 81 NRC 604, 616 (2015)
- 10 C.F.R. 51.22(c)(21)  
license transfer applications need not include an environmental analysis under NEPA; CLI-15-8, 81 NRC 510 (2015)
- 10 C.F.R. 51.23  
no additional procedural steps are necessary to add the impacts of continued storage to existing environmental impact statements because this regulation, by its terms, has already done so; CLI-15-10, 81 NRC 542 (2015)  
Temporary Storage Rule was vacated; LBP-15-1, 81 NRC 21 (2015)  
when considering continued storage in licensing reviews with previously completed final environmental impact statements, NRC Staff is expected to use a consistent and transparent process to ensure that all

## LEGAL CITATIONS INDEX

### REGULATIONS

- stakeholders are aware of how the environmental impacts of continued storage are considered in each licensing action affected by this regulation; CLI-15-10, 81 NRC 544 (2015)
- 10 C.F.R. 51.23(b)  
absent a rule waiver, NRC Staff is not expected to revisit the impact determinations made in the Continued Storage GEIS as part of its site-specific NEPA reviews; CLI-15-10, 81 NRC 539 n.13 (2015)  
because this regulation prescribes a specific procedure for incorporating the environmental impacts of continued storage into a site-specific analysis, this procedure, rather than a procedure set forth in the general provisions of Part 51, governs NRC environmental review; CLI-15-10, 81 NRC 540 (2015)  
“deemed incorporated” function of this regulation provides administrative efficiency by adding the environmental impacts of continued storage to site-specific environmental impact statements without additional work by NRC Staff; CLI-15-10, 81 NRC 539 (2015)  
environmental impacts of at-reactor and away-from-reactor storage of spent fuel are considered for 60 years after the end of a reactor’s licensed life for operation, an additional 100 years of storage, and the indefinite storage of spent nuclear fuel and incorporated into site-specific environmental impact statements; CLI-15-10, 81 NRC 541 (2015)  
environmental impacts of continued storage have been incorporated into the environmental impact statements at issue in the proceedings by operation of law; CLI-15-10, 81 NRC 539 (2015)  
impact determinations in the Continued Storage generic environmental impact statement shall be deemed incorporated into the environmental impact statements associated with combined license and license renewal applications; CLI-15-10, 81 NRC 537 (2015)
- 10 C.F.R. 51.28(a)(5)  
applicant has no duty to invite affected Indian tribes to participate in the environmental scoping process; LBP-15-5, 81 NRC 280 (2015)  
NRC Staff has a duty to invite any affected Indian tribe to participate in the environmental scoping process; LBP-15-5, 81 NRC 279-80 (2015)
- 10 C.F.R. 51.30(a)(1), 51.31(a)  
environmental assessment, and associated finding of no significant impact, must contain sufficient discussion of environmental impacts and the reasons why the proposed action will not have a significant effect on the quality of the human environment; LBP-15-13, 81 NRC 471 (2015)
- 10 C.F.R. 51.32  
issuance of an environmental assessment is appropriate where NRC Staff determines that the proposed project will result in no significant impacts; LBP-15-11, 81 NRC 415 (2015)
- 10 C.F.R. 51.32(a)(3)  
environmental assessment, and associated finding of no significant impact, must contain sufficient discussion of environmental impacts and the reasons why the proposed action will not have a significant effect on the quality of the human environment; LBP-15-13, 81 NRC 471 (2015)
- 10 C.F.R. 51.45  
materials license application must provide analyses that are adequate, accurate, and complete in all material respects to demonstrate that cultural and historic resources are identified and protected; LBP-15-16, 81 NRC 643 n.141 (2015)  
NRC must prepare an environmental impact statement that adequately evaluates the environmental impacts of relicensing, including impacts to tribal hunting and fishing rights and subsistence consumption; LBP-15-5, 81 NRC 282 (2015)
- 10 C.F.R. 51.45(b)  
applicant for a uranium ISR license is required to provide data from a groundwater monitoring program that are sufficient to establish a prelicensing site characterization baseline for assessing the potential effects of facility operations on local groundwater quality; LBP-15-3, 81 NRC 88 (2015)  
“baseline” data describe results of applicant’s preoperational or baseline groundwater quality sampling program providing data on project-wide groundwater conditions; LBP-15-16, 81 NRC 660-61 (2015)  
environmental reports must contain a description of the proposed action, a statement of its purposes, and a description of the environment affected; LBP-15-3, 81 NRC 83 (2015)  
final supplemental environmental impact statement must include an analysis of cultural impacts; LBP-15-16, 81 NRC 650 (2015)
- 10 C.F.R. 51.45(b)(1)-(5)  
environmental reports must discuss the five elements of this regulation; LBP-15-3, 81 NRC 83 (2015)



## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 51.45(c)  
contention that environmental report does not satisfy NEPA because it does not consider a range of mitigation measures to mitigate the risk of catastrophic fires in densely packed, closed-frame spent fuel storage pools is decided; LBP-15-5, 81 NRC 265 (2015)  
environmental report must contain a consideration of alternatives for reducing adverse impacts for all Category 2 license renewal issues in 10 C.F.R. Part 51, Subpart A, Appendix B; LBP-15-5, 81 NRC 260 (2015)
- 10 C.F.R. 51.53(c)  
license renewal applicant's environmental report may adopt the findings of the generic environmental impact statement, but must also include site-specific analyses of Category 2 issues; CLI-15-6, 81 NRC 351 (2015)
- 10 C.F.R. 51.53(c)(3)(i)  
environmental report for the license renewal stage need not contain environmental analysis of Category 1 issues identified in 10 C.F.R. Part 51, Subpart A, Appendix B; LBP-15-5, 81 NRC 260 (2015)
- 10 C.F.R. 51.53(c)(3)(ii)  
environmental report must analyze environmental impacts of a license renewal on matters identified as Category 2 issues in 10 C.F.R. Part 51, Subpart A, Appendix B; LBP-15-5, 81 NRC 260 (2015)
- 10 C.F.R. 51.53(c)(3)(ii)(L)  
contention is within the scope of license renewal proceeding because NRC regulations require that the environmental report include a severe accident mitigation alternatives analysis; LBP-15-5, 81 NRC 298 (2015)  
severe accident mitigation alternatives analysis must be considered as part of the environmental report and, ultimately, as part of NRC Staff's supplemental environmental impact statement for a power reactor license renewal; LBP-15-5, 81 NRC 260 (2015)
- 10 C.F.R. 51.53(c)(3)(iii)  
environmental report must contain a consideration of alternatives for reducing adverse impacts for all Category 2 license renewal issues in 10 C.F.R. Part 51, Subpart A, Appendix B; LBP-15-5, 81 NRC 260 (2015)
- 10 C.F.R. 51.60(b)  
applicant for a license to possess and use source and AEA § 11e(2) byproduct material for the purpose of in situ uranium recovery must submit an environmental report with its application; LBP-15-3, 81 NRC 82 (2015)
- 10 C.F.R. 51.70  
admissibility of contention that environmental assessment fails to adequately describe or analyze proposed mitigation measures is decided; LBP-15-11, 81 NRC 430 (2015)  
admissibility of contention that environmental assessment fails to conduct the required hard look at impacts of the proposed mine and fails to consult with the U.S. Fish & Wildlife Service is decided; LBP-15-11, 81 NRC 443 (2015)  
admissibility of contention that environmental assessment fails to provide an analysis of the impacts on the project from earthquakes, especially concerning secondary porosity and adequate confinement is decided; LBP-15-11, 81 NRC 447 (2015)  
admissibility of contention that final environmental assessment fails to adequately analyze cumulative impacts is decided; LBP-15-11, 81 NRC 432 (2015)  
admissibility of contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with restoration standards and difficulty and cost in achieving the them and the use of the alternative standards permitted under the proposed rules is decided; LBP-15-15, 81 NRC 607 (2015)  
admissibility of contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with restoration standards and schedules, including delays, resulting from the proposed rules, and failure to describe such impacts in the final EA is decided; LBP-15-15, 81 NRC 608 (2015)  
admissibility of contention that NRC Staff must conduct a new baseline groundwater characterization study of the license renewal area rather than relying on the baseline study conducted during the original license application is decided; LBP-15-11, 81 NRC 418 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- agency is required to consider all reasonable alternatives under the National Environmental Policy Act; LBP-15-15, 81 NRC 607-08 (2015)
- although NRC has issued a generic environmental impact statement for in situ uranium recovery facilities that assesses potential ISR facility construction/operation/decommissioning impacts, for the initial licensing of each individual ISR facility, NRC Staff will first prepare a draft supplemental environmental impact statement; LBP-15-3, 81 NRC 83 (2015)
- contention alleging that final supplemental environmental impact statement fails to provide an adequate baseline groundwater characterization or demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies, is decided; LBP-15-16, 81 NRC 659-60 (2015)
- contention that environmental assessment fails to adequately describe air quality impacts is inadmissible as untimely; LBP-15-11, 81 NRC 428 (2015)
- contention that environmental assessment violates the National Environmental Policy Act in its failure to provide an analysis of the groundwater quantity impacts of the project is decided; LBP-15-11, 81 NRC 424 (2015)
- contention that final environmental assessment fails to adequately analyze all reasonable alternatives is inadmissible; LBP-15-11, 81 NRC 434 (2015)
- contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with air emissions and liquid waste disposal is admissible in part; LBP-15-11, 81 NRC 434-35 (2015)
- mitigation measures must be discussed in the final supplemental environmental impact statement; LBP-15-16, 81 NRC 687 (2015)
- 10 C.F.R. 51.70(b)
- contention that final environmental assessment fails to present relevant information in a clear and concise manner that is readily accessible to the public and other reviewers is inadmissible; LBP-15-11, 81 NRC 427 (2015)
- 10 C.F.R. 51.71
- admissibility of contention that environmental assessment fails to adequately describe or analyze proposed mitigation measures is decided; LBP-15-11, 81 NRC 430 (2015)
- admissibility of contention that environmental assessment fails to conduct the required hard look at impacts of the proposed mine and fails to consult with the U.S. Fish & Wildlife Service is decided; LBP-15-11, 81 NRC 443 (2015)
- admissibility of contention that environmental assessment fails to provide an analysis of the impacts on the project from earthquakes, especially concerning secondary porosity and adequate confinement is decided; LBP-15-11, 81 NRC 447 (2015)
- admissibility of contention that final environmental assessment fails to adequately analyze cumulative impacts is decided; LBP-15-11, 81 NRC 432 (2015)
- admissibility of contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with restoration standards and difficulty and cost in achieving the them and the use of the alternative standards permitted under the proposed rules is decided; LBP-15-15, 81 NRC 607 (2015)
- admissibility of contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with restoration standards and schedules, including delays, resulting from the proposed rules, and failure to describe such impacts in the final EA is decided; LBP-15-15, 81 NRC 608 (2015)
- admissibility of contention that NRC Staff must conduct a new baseline groundwater characterization study of the license renewal area rather than relying on the baseline study conducted during the original license application is decided; LBP-15-11, 81 NRC 418 (2015)
- agency is required to consider all reasonable alternatives under the National Environmental Policy Act; LBP-15-15, 81 NRC 607-08 (2015)
- contention that environmental assessment fails to adequately describe air quality impacts is inadmissible as untimely; LBP-15-11, 81 NRC 428 (2015)
- contention that environmental assessment violates the National Environmental Policy Act in its failure to provide an analysis of the groundwater quantity impacts of the project is decided; LBP-15-11, 81 NRC 424 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- contention that final environmental assessment fails to adequately analyze all reasonable alternatives is inadmissible; LBP-15-11, 81 NRC 434 (2015)
- contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with air emissions and liquid waste disposal is admissible in part; LBP-15-11, 81 NRC 434-35 (2015)
- contention that final supplemental environmental impact statement fails to provide an adequate baseline groundwater characterization or demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies, is decided; LBP-15-16, 81 NRC 659-60 (2015)
- environmental impacts will be considered irrespective of whether a certification or license from the appropriate authority has been obtained; LBP-15-16, 81 NRC 699 (2015)
- mitigation measures must be discussed in the final supplemental environmental impact statement; LBP-15-16, 81 NRC 687 (2015)
- 10 C.F.R. 51.71(a)
- generic environmental impact statement for in-situ leach uranium milling facilities addresses, among other topics, matters specified in section 51.45; LBP-15-3, 81 NRC 83-84 (2015)
- 10 C.F.R. 51.71(b)
- although a draft supplemental environmental impact statement may rely in part on applicant's environmental report, NRC Staff must independently evaluate and be responsible for the reliability of all information used in the DSEIS; LBP-15-3, 81 NRC 84 (2015)
- NRC Staff must include in the final supplemental environmental impact statement an analysis of significant problems and objections raised by any affected Indian tribes, and by other interested persons; LBP-15-16, 81 NRC 650, 655 (2015)
- 10 C.F.R. 51.71(d)
- although license requirements and other environmental quality standards are to be considered in assessing environmental impacts, they do not negate NRC Staff's responsibility to consider all environmental effects; LBP-15-3, 81 NRC 115 (2015)
- analysis for all draft and final environmental impact statements, by virtue of section 51.90, will, to the fullest extent practicable, quantify the various factors considered; LBP-15-3, 81 NRC 115 (2015)
- final supplemental environmental impact statement must include an analysis of cultural impacts; LBP-15-16, 81 NRC 650 (2015)
- petitioners question applicant's failure to consider the qualitative benefits of installing engineered filters; LBP-15-5, 81 NRC 264 (2015)
- to the extent that there are important qualitative considerations or factors that cannot be quantified in the environmental impact statement, those considerations or factors will be discussed in qualitative terms; LBP-15-3, 81 NRC 115 (2015); LBP-15-5, 81 NRC 263 (2015)
- when connected actions have been identified, the agency must evaluate any potential effects in the environmental impact statement; LBP-15-16, 81 NRC 697 (2015)
- where environmental impacts are practically quantifiable, NRC has a duty to discuss them in those terms in the final supplemental environmental impact statement; LBP-15-3, 81 NRC 115 (2015)
- 10 C.F.R. 51.71(d) n.3
- compliance with the environmental quality standards and requirements of the Federal Water Pollution Control Act is not a substitute for, and does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality; LBP-15-11, 81 NRC 439 (2015)
- 10 C.F.R. 51.90
- legal requirements applicable to a draft environmental impact statement, as specified in sections 51.70(b) and 51.71, are imposed on a final EIS; LBP-15-3, 81 NRC 115 (2015)
- when connected actions have been identified, the agency must evaluate any potential effects in the environmental impact statement; LBP-15-16, 81 NRC 697 (2015)
- 10 C.F.R. 51.90-94
- contention that final supplemental environmental impact statement fails to comply with NRC regulations and NEPA because it lacks an adequate description of the present baseline (i.e., original or premining) groundwater quality and fails to demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies is decided; LBP-15-3, 81 NRC 85 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- contention that FSEIS fails to analyze environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits is decided; LBP-15-3, 81 NRC 111 (2015)
- intervenor fails to establish the validity of their various challenges to the adequacy of the FSEIS description of the baseline water quality at the ISR site; LBP-15-3, 81 NRC 111 (2015)
- 10 C.F.R. 51.91  
additional content is required in a final environmental impact statement compared to a draft EIS; LBP-15-3, 81 NRC 115 n.44 (2015)
- 10 C.F.R. 51.92  
when a supplement to a final environmental impact statement is required and what it must contain are outlined; LBP-15-3, 81 NRC 115 n.44 (2015)
- with respect to the need to supplement an issued final EIS, the party offering the new contention has the burden of presenting information sufficient to show that there is a genuine issue regarding whether the NRC Staff should supplement its document; LBP-15-16, 81 NRC 704 (2015)
- 10 C.F.R. 51.92(a)(2)  
importing analysis from a previously completed environmental assessment while disregarding intervening events would render meaningless NEPA's requirement to supplement an environmental impact statement or EA; LBP-15-13, 81 NRC 471 n.89 (2015)
- supplementation of a final environmental impact statement is required when a final action has not been taken and there are new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; CLI-15-10, 81 NRC 542 (2015)
- 10 C.F.R. 51.93  
distribution requirements for a final environmental impact statement (and a supplement thereto) are imposed; LBP-15-3, 81 NRC 115 n.44 (2015)
- 10 C.F.R. 51.94  
final environmental impact statement (or supplement thereto) must be considered in the agency's decisionmaking; LBP-15-3, 81 NRC 115 n.44 (2015)
- 10 C.F.R. 51.95(c)  
NRC Staff uses applicant's environmental report as a starting point for its own environmental review of a license renewal application, the results of which are published as a supplement to the generic environmental impact statement; CLI-15-6, 81 NRC 351 (2015)
- 10 C.F.R. 51.102(c)  
final supplemental environmental impact statement is merged with any relevant licensing board decision; CLI-15-6, 81 NRC 387 (2015)
- initial decision of the presiding officer or final decision of the Commissioners acting as a collegial body will constitute the record of decision; CLI-15-6, 81 NRC 387 (2015)
- this provision replaced a previous version that expressly permitted licensing boards to modify the content of an environmental impact statement; CLI-15-6, 81 NRC 387-88 (2015)
- 10 C.F.R. 51.107(a)  
Commission concludes that NRC Staff's review has been adequate to support the findings set forth in this regulation; CLI-15-13, 81 NRC 557, 589 (2015)
- environmental issues that the Commission must consider in the mandatory portion of a combined license proceeding are outlined; CLI-15-13, 81 NRC 560 (2015)
- in uncontested hearings, it is NRC's duty to ensure, among other things, that it has adhered to its obligations under the National Environmental Policy Act; CLI-15-1, 81 NRC 11 n.54 (2015)
- NRC Staff must weigh unavoidable adverse environmental impacts and resource commitments (costs) against the project's benefits; CLI-15-13, 81 NRC 588 (2015)
- 10 C.F.R. 51.120  
contention that final environmental assessment fails to present relevant information in a clear and concise manner that is readily accessible to the public and other reviewers is inadmissible; LBP-15-11, 81 NRC 427 (2015)
- 10 C.F.R. Part 51, Subpart A, Appendix A  
contention that final environmental assessment fails to present relevant information in a clear and concise manner that is readily accessible to the public and other reviewers is inadmissible; LBP-15-11, 81 NRC 427 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. Part 51, Subpart A, Appendix A, § 5  
alternatives analysis is the heart of the environmental impact statement; CLI-15-13, 81 NRC 587 (2015)
- 10 C.F.R. Part 51, Subpart A, Appendix B  
severe accidents in the spent fuel pools are Category 1 issues that do not need to be included in the  
severe accident mitigation alternatives analysis; LBP-15-5, 81 NRC 307 (2015)  
to challenge a Category 1 issue such as public health, petitioner must request a waiver and show that  
unique circumstances warrant a site-specific determination; LBP-15-5, 81 NRC 302 (2015)
- 10 C.F.R. Part 51, Subpart A, Appendix B, n.2  
Category 2 issues are reviewed on a site-specific basis because they have not been determined to be  
essentially similar for all plants; LBP-15-5, 81 NRC 260 (2015)
- 10 C.F.R. Part 51, Subpart A, Appendix B, tbl. B-1  
environmental justice is a Category 2 issue, within the scope of a license renewal proceeding; CLI-15-6,  
81 NRC 371 (2015); LBP-15-5, 81 NRC 282 (2015)  
environmental report for license renewal must consider alternatives to mitigate severe accidents for all  
plants that have not considered such alternatives; LBP-15-5, 81 NRC 274 n.137 (2015)  
impacts to subsistence consumption must be evaluated as part of the site-specific environmental justice  
analysis; LBP-15-5, 81 NRC 384, 285 (2015)  
probability-weighted environmental consequences of severe accidents are small; CLI-15-6, 81 NRC 379  
(2015)  
severe accident mitigation alternatives fall within Category 2 and must therefore be addressed on a  
site-specific basis; LBP-15-5, 81 NRC 260 (2015)
- 10 C.F.R. Part 51, Subpart A, Appendix B, tbl. B-1, n.3  
relative to an individual ISR facility, when NRC Staff formulates its draft and final supplemental  
environmental impact statement conclusions regarding the environmental impacts of a proposed action or  
alternative actions, it uses as guidance a standard scheme to categorize or quantify the impacts;  
LBP-15-3, 81 NRC 84 (2015)
- 10 C.F.R. Part 51, Subpart A, Appendix B, tbl. B-1, n.4  
shared transmission corridor is an offsite transmission line excluded from environmental impact analysis;  
LBP-15-5, 81 NRC 269 (2015)
- 10 C.F.R. Part 52  
stringent safety requirements apply to the construction and operation of reactor spent fuel pools and  
independent spent fuel storage installations; CLI-15-4, 81 NRC 240 (2015)
- 10 C.F.R. Part 52, Subpart A  
if applicant did not pursue an early site permit, all relevant site characteristics, including site geology,  
hydrology, seismology, and man-made hazards, as well as potential environmental impacts of the  
project, were studied as part of NRC Staff's combined license review and are within the scope of the  
Commission decision; CLI-15-13, 81 NRC 559 (2015)
- 10 C.F.R. 52.79(d)(1)  
applicants referencing a certified design must provide sufficient information for NRC Staff to determine  
whether the site's characteristics fall within the design's parameters; CLI-15-13, 81 NRC 570 n.89  
(2015)
- 10 C.F.R. 52.87  
independent assessment of the safety aspects of the combined license application is required; CLI-15-13,  
81 NRC 559 (2015)
- 10 C.F.R. 52.97(a)  
Commission concludes that NRC Staff's review has been adequate to support the findings set forth in this  
regulation; CLI-15-13, 81 NRC 557, 589 (2015)  
safety issues that the Commission must consider in the mandatory portion of a combined license  
proceeding are outlined; CLI-15-13, 81 NRC 560 (2015)
- 10 C.F.R. 52.102, 52.103  
decision of the board or Commission becomes the record of decision, which may also incorporate the  
final supplemental environmental impact statement; CLI-15-6, 81 NRC 376 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. Part 52, Appendix E  
under its certified design, the Economic Simplified Boiling Water Reactor could maintain circulation long enough to permit safe shutdown of the reactor even if it were to lose offsite power and all of its backup generators failed to operate; LBP-15-5, 81 NRC 271 (2015)
- 10 C.F.R. 54.3  
applicants must reassess any time-limited aging analyses to show either that the analyses will remain valid throughout the period of extended operation or that the effects of aging on the subject component will be managed during that time period; CLI-15-6, 81 NRC 349 n.34 (2015)
- 10 C.F.R. 54.3(a)  
NRC's ongoing regulatory process ensures that the current licensing basis of an operating plant remains acceptably safe; LBP-15-5, 81 NRC 259 (2015)  
scope of reactor's licensing basis is defined; CLI-15-14, 81 NRC 744 n.19 (2015)
- 10 C.F.R. 54.4  
applicant for a renewed license must first identify all structures, systems, and components that serve a function relating directly or indirectly to safety, as defined by this regulation; CLI-15-6, 81 NRC 347 (2015)  
safety significance of a structure, system, or component is defined in terms of its safety-related functions, and within the scope of license renewal are included those SSCs whose failure could prevent satisfactory accomplishment of the safety-related function; CLI-15-6, 81 NRC 347 n.25 (2015)  
scope of a license renewal safety review is limited to plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses; LBP-15-6, 81 NRC 321 (2015)
- 10 C.F.R. 54.4(a)(2)  
plant systems, structures, and components within the scope of license renewal are all non-safety-related systems, structures, and components whose failure could prevent satisfactory accomplishment of the capability to shut down the reactor and maintain it in a safe shutdown condition; LBP-15-6, 81 NRC 322 n.46 (2015)
- 10 C.F.R. 54.21(a)  
license renewal applicant must perform an integrated plant assessment to identify structures and components that are subject to aging management review; CLI-15-6, 81 NRC 347-48 (2015)  
scope of a license renewal safety review is limited to plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses; LBP-15-6, 81 NRC 321 (2015)
- 10 C.F.R. 54.21(a)(1)  
with respect to the definition of "reasonable assurance," applicant is required to show that safety features will fulfill their intended function, not that every structure will maintain its current licensing basis throughout the renewal period; LBP-15-5, 81 NRC 294 (2015)
- 10 C.F.R. 54.21(a)(1)(i)  
aging management review is required for components that function without moving parts and without a change in configuration or properties, and includes a non-exhaustive list of components that either do or do not fit this description; CLI-15-6, 81 NRC 352 (2015); LBP-15-6, 81 NRC 322 (2015)  
board compared transformers with other types of components listed in this regulation as expressly subject to aging management review or expressly excluded from aging management review; CLI-15-6, 81 NRC 354 (2015)  
board examined how a transformer performs its intended function to determine whether it undergoes a change in configuration or properties; CLI-15-6, 81 NRC 354 (2015)  
relay switches and snubbers are not subject to an aging management review; LBP-15-6, 81 NRC 322 (2015)  
static components such as transistors and battery chargers are specifically excluded from aging management review; CLI-15-6, 81 NRC 360 n.97 (2015)  
structures and components are subject to aging management review if they perform an intended function without moving parts or without a change in configuration or properties; CLI-15-6, 81 NRC 348 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- transformer is an active component because it undergoes a change in properties when it performs its intended function; CLI-15-6, 81 NRC 359, 361 (2015)
- transformers perform their intended function through a change in state similar to switchgear, power supplies, battery chargers, and power inverters which have been excluded from aging management review; CLI-15-6, 81 NRC 357 (2015)
- 10 C.F.R. 54.21(a)(1)(ii)  
structures and components are subject to aging management review if they are not subject to routine replacement; CLI-15-6, 81 NRC 348 (2015)
- 10 C.F.R. 54.21(a)(3)  
contention that applicant has failed to establish in its aging management plan that the effects of aging will be adequately managed for the period of extended operation is inadmissible; LBP-15-6, 81 NRC 324 (2015)  
effects of aging must be adequately managed so that intended functions will be maintained consistent with the current licensing basis for the period of extended operation; LBP-15-6, 81 NRC 322-23 (2015)  
integrated plant assessment must demonstrate that effects of aging for each structure and component will be managed so that the intended functions will be maintained consistent with the current licensing basis for the period of extended operation; CLI-15-6, 81 NRC 348 n.31 (2015)  
license renewal application must demonstrate that licensee will adequately manage effects of aging on passive, long-lived components so that their intended functions will be maintained consistent with the current licensing basis for the period of extended operation; CLI-15-6, 81 NRC 352 (2015)
- 10 C.F.R. 54.21(c)  
applicants must reassess any time-limited aging analyses to show either that the analyses will remain valid throughout the period of extended operation or that the effects of aging on the subject component will be managed during that time period; CLI-15-6, 81 NRC 349 n.34 (2015)  
contention that license renewal application has failed to establish that the effects of aging on relay switches and snubbers will be adequately managed for the period of extended operation is inadmissible; LBP-15-6, 81 NRC 322 (2015)  
scope of a license renewal safety review is limited to plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses; LBP-15-6, 81 NRC 321 (2015)
- 10 C.F.R. 54.29  
to grant a license renewal, NRC Staff must find that there is reasonable assurance that the effects of aging on relevant systems, structures, and components will be managed during the period of extended operation, that time-limited aging analyses have been identified for review, and that applicable environmental requirements have been met; LBP-15-6, 81 NRC 324 (2015)
- 10 C.F.R. 54.30(b)  
allegations of noncompliance with already-issued, existing and open Commission orders are part of the current licensing basis and therefore cannot be challenged in a license renewal proceeding; LBP-15-5, 81 NRC 291 (2015)  
compliance with orders issued as part of NRC's ongoing oversight program are enforcement issues that are not within the scope of a license renewal proceeding; LBP-15-5, 81 NRC 291 (2015)  
enforcement orders are outside the scope of the license renewal proceeding; LBP-15-5, 81 NRC 292 (2015)
- 10 C.F.R. Part 72  
stringent safety requirements apply to the construction and operation of reactor spent fuel pools and independent spent fuel storage installations; CLI-15-4, 81 NRC 240 (2015)
- 10 C.F.R. 72.50(a)  
written consent from NRC is required for all license transfers; CLI-15-8, 81 NRC 502 (2015)
- 10 C.F.R. Part 72, Subpart K  
general license may be granted to all Part 50 and Part 52 reactor licensees to store spent fuel in an independent spent fuel storage installation; CLI-15-4, 81 NRC 226 n.16 (2015)
- 10 C.F.R. 74.4  
"Category IA" material means any strategic special nuclear material directly usable in the manufacture of a nuclear explosive device; CLI-15-9, 81 NRC 516 n.20 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- “Category IB” material refers to all strategic special nuclear material other than Category IA material; CLI-15-9, 81 NRC 516 n.20 (2015)
- “controlled access area” is any temporarily or permanently established area that is clearly demarcated, access to which is controlled, and which affords isolation of the material or persons within it; CLI-15-9, 81 NRC 517 n.20 (2015)
- “formula kilogram” means strategic special nuclear material in any combination in a quantity of 1000 grams computed by the formula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium); CLI-15-9, 81 NRC 516 n.16 (2015)
- “material access area” is any location that contains special nuclear material, within a vault or a building, the roof, walls, and floor of which constitute a physical barrier; CLI-15-9, 81 NRC 517 n.20 (2015)
- “power of detection” means the probability that the critical value of a statistical test will be exceeded when there is an actual loss of a specific quantity of strategic special nuclear material; CLI-15-9, 81 NRC 517 n.20 (2015)
- special nuclear material “item” is any discrete quantity or container of special nuclear material or source material, not undergoing processing, having a unique identity, and also having an assigned element and isotope quantity; CLI-15-9, 81 NRC 516 n.20 (2015)
- “strategic special nuclear material” means uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium; CLI-15-9, 81 NRC 515 n.15 (2015)
- “tamper-safing” refers to use of devices on containers or vaults in a manner and at a time that ensures a clear indication of any violation of the integrity of previously made measurements of special nuclear material within the container or vault; CLI-15-9, 81 NRC 518 n.29 (2015)
- “unit process” means an identifiable segment or segments of processing activities for which the amounts of input and output strategic special nuclear material are based on measurements; CLI-15-9, 81 NRC 516 n.16 (2015)
- “vault” is a windowless enclosure with walls, floor, roof, and door(s) designed and constructed to delay penetration from forced entry; CLI-15-9, 81 NRC 516 n.20 (2015)
- 10 C.F.R. 74.51(a)(1)-(5)
- applicant for a license to possess and use strategic special nuclear material must establish, implement, and maintain an NRC-approved material control and accounting system that will address the loss or theft of such material; CLI-15-9, 81 NRC 515 (2015)
- 10 C.F.R. 74.55(b)
- licensees must verify on a statistical sampling basis, the presence and integrity of strategic special nuclear material items; CLI-15-9, 81 NRC 516 (2015)
- meaning of “verify” in the context of item presence verification is discussed; CLI-15-9, 81 NRC 520 (2015)
- 10 C.F.R. 74.55(b)(1)
- any statistical sampling plan for verifying the presence and integrity of strategic special nuclear material items must have at least 99% power of detecting item losses; CLI-15-9, 81 NRC 516 (2015)
- contention that applicant’s revised material control and accounting plan is deficient because its item monitoring program does not have the capability to verify, on a statistical sampling basis, the presence and integrity of strategic special nuclear material losses that total 5 formula kilograms of plutonium or more, plantwide, within the time frames specified by the regulation is inadmissible; CLI-15-9, 81 NRC 514 (2015)
- 10 C.F.R. 74.57(b)
- contention that applicant’s revised material control and accounting plan is inadequate to satisfy the alarm resolution requirements is inadmissible; CLI-15-9, 81 NRC 514 (2015)
- licensee must provide reasonable assurance that it can achieve the performance objectives set out in this regulation; CLI-15-9, 81 NRC 526 (2015)
- 10 C.F.R. 74.57(e)
- contention that applicant’s revised material control and accounting plan fails to show how confirmation and verification of theft of plutonium will be carried out in the specified timelines is inadmissible; CLI-15-9, 81 NRC 514-15 (2015)
- licensee must be able to rapidly assess the validity of alleged thefts; CLI-15-9, 81 NRC 525 (2015)



## LEGAL CITATIONS INDEX

### REGULATIONS

- 10 C.F.R. 75.55(b)  
accuracy is an integral component of the portion of the regulatory requirement that addresses item presence verification; CLI-15-9, 81 NRC 524 n.73 (2015)
- 36 C.F.R. 60.4  
federal agency must determine whether identified properties are eligible for listing on the National Register based on the criteria in this regulation; LBP-15-16, 81 NRC 638-39 (2015)
- 36 C.F.R. 800.2(c)(2)(ii)(A)  
consultation must provide an Indian tribe with a reasonable opportunity to identify its concerns about historic properties, advise on their identification and evaluation, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects; LBP-15-16, 81 NRC 639, 640, 651 (2015)
- 36 C.F.R. 800.2(c)(2)(ii)(C)  
consultation with Indian tribes must recognize the government-to-government relationship between the federal government and Indian tribes; LBP-15-16, 81 NRC 639, 651 (2015)
- 36 C.F.R. 800.4(b)  
federal agency must make a reasonable and good-faith effort to identify historic properties; LBP-15-16, 81 NRC (2015)
- 36 C.F.R. 800.4(b)(2)  
though the materials license has already been issued, the land disturbance in the project area will proceed in stages in compliance with National Historic Preservation Act § 106; LBP-15-16, 81 NRC 657 n.231 (2015)
- 36 C.F.R. 800.4(c), 800.5  
federal agency must assess the effects of the undertaking on any eligible historic properties found; LBP-15-16, 81 NRC 639 (2015)
- 36 C.F.R. 800.5(c)  
under National Historic Preservation Act, federal agency must avoid or mitigate any adverse effects of its undertaking; LBP-15-16, 81 NRC 639 (2015)  
under National Historic Preservation Act, federal agency must determine whether the effect of its undertaking will be adverse; LBP-15-16, 81 NRC 639 (2015)
- 36 C.F.R. 800.8(c)(1)(v)  
in consultation with identified parties, agency must develop alternatives and proposed measures that might avoid, minimize, or mitigate any adverse effects of the undertaking on historic properties and describe them in the [environmental assessment or draft environmental impact statement; LBP-15-16, 81 NRC 639 n.110 (2015)
- 36 C.F.R. 800.9(a)  
federal agency must assess the effects of the undertaking on any eligible historic properties found; LBP-15-16, 81 NRC 639 (2015)
- 36 C.F.R. 800.9(b)  
under National Historic Preservation Act, federal agency must determine whether the effect of its undertaking will be adverse; LBP-15-16, 81 NRC 639 (2015)
- 36 C.F.R. 800.9(c)  
under National Historic Preservation Act, federal agency must avoid or mitigate any adverse effects of its undertaking; LBP-15-16, 81 NRC 639 (2015)
- 36 C.F.R. 800.13, 800.14(b)(1)  
programmatic agreement may be used to implement the NHPA § 106 process in situations where the effects to historic properties cannot be fully determined prior to the approval of an undertaking, such as where an applicant proposes a phased approach to developing its project; LBP-15-16, 81 NRC 640 (2015)
- 40 C.F.R. Part 61, Subpart W  
radon emissions are regulated by EPA; LBP-15-16, 81 NRC 702 (2015)
- 40 C.F.R. 146.4(b)(1)  
in exempting an aquifer from MCLs, EPA has to find that the aquifer cannot and will not serve as a source of drinking water because it is mineral producing and can be demonstrated to contain minerals that, considering their quantity and location, are expected to be commercially producible; LBP-15-3, 81 NRC 119 n.47 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 40 C.F.R. 264.97(a)(1)(i)  
determination of background groundwater quality to include sampling of wells that are hydraulically upgradient of the waste management area is not required if non-upgradient well sampling will provide an indication of background groundwater quality that is representative, or more representative, than that provided by upgradient wells; LBP-15-3, 81 NRC 95-96 (2015)  
water samples taken from one well located hydrologically upgradient are part of the groundwater sampling protocol; LBP-15-3, 81 NRC 95 (2015)
- 40 C.F.R. 1501.7  
under NEPA, defining the scope of effects of a project requires engagement with governments of affected tribes through an early and open process aimed at identifying concerns, potential impacts, relevant effects of past actions, and possible alternative actions; LBP-15-16, 81 NRC 650 (2015)
- 40 C.F.R. 1502.9(c)(1)(ii)  
agencies shall prepare supplements to either draft or final environmental impact statements if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; LBP-15-13, 81 NRC 471 n.89 (2015)  
importing analysis from a previously completed environmental assessment while disregarding intervening events would render meaningless NEPA's requirement to supplement an environmental impact statement or EA; LBP-15-13, 81 NRC 471 n.89 (2015)
- 40 C.F.R. 1502.14  
agency violates NEPA by failing to rigorously explore and objectively evaluate all reasonable alternatives to the proposed action; LBP-15-15, 81 NRC 607 n.57 (2015)  
environmental impacts of the proposal and the alternatives shall include appropriate mitigation measures; LBP-15-16, 81 NRC 687 n.434 (2015)
- 40 C.F.R. 1502.16  
NEPA requires acknowledgment of tribal hunting and fishing rights, as well as an analysis of how the project will affect those rights; LBP-15-5, 81 NRC 282 (2015)
- 40 C.F.R. 1502.16(h)  
mitigation discussion is required only in environmental impact statements; LBP-15-11, 81 NRC 431 n.190 (2015)  
scientific and analytical section backing up the proposal and alternatives section of NEPA document must discuss any means to mitigate adverse environmental impacts not previously covered; LBP-15-16, 81 NRC 687 n.434 (2015)
- 40 C.F.R. 1502.22  
inadequacy in the severe accident mitigation alternatives analysis is material if license renewal applicant failed to consider complete information without justifying why particular information was omitted; LBP-15-5, 81 NRC 298 (2015)
- 40 C.F.R. 1505.2  
at the time of its decision, each agency shall prepare a concise public record of decision; LBP-15-16, 81 NRC 694 n.486 (2015)
- 40 C.F.R. 1505.2(c)  
agency's record of decision must include a concise discussion of mitigation measures; LBP-15-16, 81 NRC 687 n.434 (2015)  
monitoring and enforcement program must be adopted where applicable for any mitigation; LBP-15-16, 81 NRC 695 n.496, 696 (2015)
- 40 C.F.R. 1505.3  
agencies may provide for monitoring to ensure that their decisions are carried out and should do so in important cases; LBP-15-16, 81 NRC 696 (2015)
- 40 C.F.R. 1505.3(c)  
lead agency must make available to the public the results of relevant monitoring of mitigation measures; LBP-15-16, 81 NRC 695 n.497 (2015)
- 40 C.F.R. 1506.2(a)  
NEPA encourages state participation when appropriate and authorized; LBP-15-11, 81 NRC 439 n.248 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

- 40 C.F.R. 1506.2(b)  
coordination between a federal agency and a state requires active involvement between the two in order for the federal agency to meet its independent review burden; LBP-15-11, 81 NRC 439 n.248 (2015)
- 40 C.F.R. 1506.5  
agency conducting a NEPA review shall independently evaluate the information submitted and shall be responsible for its accuracy; LBP-15-11, 81 NRC 439 n.248 (2015)
- 40 C.F.R. 1506.6  
NRC must make a diligent effort to involve the public in implementation of NEPA procedures; LBP-15-16, 81 NRC 695 n.497 (2015)
- 40 C.F.R. 1508.7  
“cumulative impacts” result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions; LBP-15-16, 81 NRC 697 (2015)
- 40 C.F.R. 1508.8(b)  
adverse environmental effects that must be assessed under NEPA include aesthetic, historic, cultural, economic, social, or health effects; LBP-15-16, 81 NRC 637 (2015)
- 40 C.F.R. 1508.9, 1508.10, 1508.11, 1508.13  
“environmental document” includes environmental assessment, environmental impact statement, finding of no significant impact, and notice of intent; LBP-15-16, 81 NRC 650 n.184 (2015)
- 40 C.F.R. 1508.20  
mitigation under NEPA is defined; LBP-15-16, 81 NRC 687 (2015)
- 40 C.F.R. 1508.22  
“environmental document” includes environmental assessment, environmental impact statement, finding of no significant impact, and notice of intent; LBP-15-16, 81 NRC 650 n.184 (2015)
- 40 C.F.R. 1508.25  
non-NRC permits are interdependent parts of applicant’s proposed action and thus are connected actions; LBP-15-16, 81 NRC 700 (2015)  
when drafting an environmental impact statement, agency’s scope of review must include analysis of any connected or cumulative actions to the central proposed action; LBP-15-16, 81 NRC 697 (2015)
- 40 C.F.R. 1508.25(a)(1)  
when connected actions have been identified, the agency must evaluate any potential effects in the environmental impact statement; LBP-15-16, 81 NRC 697 (2015)
- 40 C.F.R. 1508.25(a)(1)(i)-(iii)  
scope of an environmental impact statement includes connected actions, which means that they are closely related and therefore should be discussed in the same impact statement; LBP-15-16, 81 NRC 697 (2015)
- 44 C.F.R. Part 350  
radiological emergency response plan was developed by the State and approved by the Federal Emergency Management Agency to ensure that the State is prepared to handle the offsite effects of a radiological emergency; LBP-15-4, 81 NRC 165 (2015)
- 50 C.F.R. 17.11  
whooping crane and black-footed ferret are listed as threatened or endangered under the Endangered Species Act; LBP-15-11, 81 NRC 445 (2015)
- 50 C.F.R. 402.13  
“informal” consultation is an optional process that includes all discussions, correspondence, etc., between the U.S. Fish and Wildlife Service and the federal agency designed to assist the federal agency in determining whether formal consultation or a conference is required with the Service under section 402.13; LBP-15-11, 81 NRC 445 n.298 (2015)
- 50 C.F.R. 402.13(a)  
when engaging in informal consultation, an agency must provide its determination as to whether the proposed action will affect threatened and endangered species to U.S. Fish & Wildlife Service and request FWS concurrence; LBP-15-11, 81 NRC 444 (2015)
- 50 C.F.R. 402.14  
consultation with U.S. Fish & Wildlife Service is legally mandated for any agency action that may affect listed species or critical habitat; LBP-15-11, 81 NRC 445 (2015)

## LEGAL CITATIONS INDEX

### REGULATIONS

50 C.F.R. 402.14(a)

only species listed as threatened or endangered under the Endangered Species Act are covered by the act's formal consultation requirements; LBP-15-11, 81 NRC 445 (2015)

50 C.F.R. 402.14(b)(1)

concurrence by U.S. Fish and Wildlife Service discharges NRC's consultation responsibilities; LBP-15-11, 81 NRC 445 (2015)

federal agency need not initiate formal consultation if, as a result of the preparation of a biological assessment under section 402.12 or as a result of informal consultation with the FWS under section 402.13, the federal agency determines, with the written concurrence of the U.S. Fish and Wildlife Service Director, that the proposed action is not likely to adversely affect any listed species or critical habitat; LBP-15-11, 81 NRC 445 (2015)



## LEGAL CITATIONS INDEX STATUTES

- Administrative Procedure Act, 5 U.S.C. § 552(b)  
purpose of notice of proposed rulemaking is not to set binding law or policy, but instead to provide interested members of the public an opportunity to comment in a meaningful way on the agency's proposal; LBP-15-15, 81 NRC 611 (2015)
- Administrative Procedure Act, 5 U.S.C. § 553  
Continued Storage Rule and supporting generic environmental impact statement to assess the environmental impacts of spent fuel storage after the end of a reactor's license term were approved; CLI-15-10, 81 NRC 537 (2015)
- Administrative Procedure Act, 5 U.S.C. § 553(b)(3)  
agency need not submit a full draft of a rule in a notice of proposed rulemaking; LBP-15-15, 81 NRC 611 (2015)  
even a statement of the subjects and issues involved in a proposed rulemaking can suffice as long as it provides notice to the public; LBP-15-15, 81 NRC 611 (2015)
- Administrative Procedure Act, 5 U.S.C. § 556(d)  
proponent of a rule or order has the burden of proof; LBP-15-2, 81 NRC 57 n.63 (2015)
- Administrative Procedure Act, 5 U.S.C. § 558(c)  
when licensee has made timely and sufficient application for a license renewal, a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency; LBP-15-2, 81 NRC 50 n.10, 57 n.66 (2015); LBP-15-11, 81 NRC 404 n.2 (2015)
- Administrative Procedure Act, 5 U.S.C. § 706(2)  
agency's failure to adequately validate a quantitative model on which it relies may lead the reviewing court to conclude that the agency's decision is arbitrary, capricious, or contrary to law; LBP-15-20, 81 NRC 854 n.151 (2015)
- American Indian Religious Freedom Act, Pub. L. No. 95-341, 92 Stat. 469 (1978) (codified at 42 U.S.C. § 1996 (2012))  
federal policy supports special consideration where tribal religious exercise is threatened; LBP-15-16, 81 NRC 640-41 (2015)
- Archaeological Resources Protection Act, 16 U.S.C. § 470aa et seq.  
historic properties may be protected under this statute; LBP-15-2, 81 NRC 52 (2015)
- Atomic Energy Act, 42 U.S.C. §§ 2011-2297h-13 (2012)  
basis for NRC authority to regulate the use of special nuclear material in facilities such as nuclear power reactors is established; CLI-15-4, 81 NRC 231 n.47 (2015)
- Atomic Energy Act, 11e(2), 42 U.S.C. § 2014(e)(2)  
"byproduct material" is categorized as tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content; LBP-15-11, 81 NRC 435 n.218 (2015); LBP-15-16, 81 NRC 626 n.2 (2015)
- Atomic Energy Act, 11z, 42 U.S.C. § 2014(z)  
"source material" is defined; LBP-15-16, 81 NRC 626 (2015)
- Atomic Energy Act, 57c(2), 42 U.S.C. § 2077(c)(2)  
licensee must show with reasonable assurance that its proposed methodology for material control and accounting will not be inimical to the common defense and security and will not constitute an unreasonable risk to the health and safety of the public; CLI-15-9, 81 NRC 517 (2015)

## LEGAL CITATIONS INDEX

### STATUTES

Atomic Energy Act, 103, 42 U.S.C. § 2133 (2012)

NRC is prohibited from issuing a license if doing so would be inimical to the common defense and security or the health and safety of the public; CLI-15-4, 81 NRC 233 (2015)  
statutory findings required by this section apply specifically to the proposed activities and activities under such licenses, but do not apply to disposal activities that might result from the operation of a licensed facility; CLI-15-4, 81 NRC 233 (2015)

Atomic Energy Act, 42 U.S.C. § 2133(b)

NRC is authorized to accord protection from radiological injury to both health and property interests; LBP-15-17, 81 NRC 776 (2015)

Atomic Energy Act, 103d, 42 U.S.C. § 2133(d)

NRC is prohibited from issuing a utilization or production facility license to any alien or any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government; CLI-15-7, 81 NRC 482, 485, 486 n.29, 491, 495 n.83 (2015)

Atomic Energy Act, 104d, 42 U.S.C. § 2134(d)

NRC is prohibited from issuing licenses for medical therapy and research and development facilities to any alien or any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government; CLI-15-7, 81 NRC 482 (2015)

Atomic Energy Act, 161, 42 U.S.C. § 2201 (2012)

general scope of the NRC's authority is established, but it does not discuss spent fuel disposal; CLI-15-4, 81 NRC 233 (2015)

Atomic Energy Act, 42 U.S.C. § 2201(b)

NRC is authorized to accord protection from radiological injury to both health and property interests; LBP-15-17, 81 NRC 776 (2015)

Atomic Energy Act, 182, 42 U.S.C. § 2232 (2012)

information is specified that must be provided by an applicant for a license and it has no reference to spent fuel disposal; CLI-15-4, 81 NRC 233-34 (2015)

Atomic Energy Act, 182a, 42 U.S.C. § 2232 (2012)

NRC can issue nuclear power reactor licenses to applicants only upon a finding that utilization of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public; CLI-15-4, 81 NRC 231 (2015)

Atomic Energy Act, 184, 42 U.S.C. § 2234

written consent from NRC is required for all direct or indirect license transfers; CLI-15-8, 81 NRC 502 (2015)

Atomic Energy Act, 189a, 42 U.S.C. § 2239(a)

Commission refers a limited portion of the hearing request to the licensing board to determine whether petitioner has identified an NRC activity that requires an opportunity to request an adjudicatory hearing; CLI-15-14, 81 NRC 730 (2015)

hearing must be held on each application to construct a nuclear power plant, regardless of whether an interested member of the public requests a hearing on the application; CLI-15-13, 81 NRC 559-60 (2015)

Atomic Energy Act, 189a(1)(A), 42 U.S.C. § 2239(a)(1)(A)

Congress intentionally limited the opportunity for a hearing to certain designated agency actions which do not include exemptions; LBP-15-18, 81 NRC 797 n.20 (2015)

NRC must afford interested persons an opportunity for a hearing on the granting, suspending, revoking, or amending of any license; CLI-15-5, 81 NRC 334 (2015); LBP-15-16, 81 NRC 636 (2015); LBP-15-18, 81 NRC 797 n.19 (2015)

NRC must provide a hearing upon the request of any person whose interest may be affected by the proceeding; LBP-15-17, 81 NRC 770 (2015)

participation in a licensing proceeding requires a demonstration of standing; LBP-15-17, 81 NRC 769-70 (2015)

petitioner must address its hearing request to a matter that triggers a hearing opportunity; CLI-15-5, 81 NRC 333 (2015)

## LEGAL CITATIONS INDEX

### STATUTES

- requirement to demonstrate standing is derived from instruction to NRC to provide a hearing upon the request of any person whose interest may be affected by the proceeding; LBP-15-5, 81 NRC 255 (2015)
- Comprehensive Environmental Compensation and Liabilities Act, 42 U.S.C. §§ 9601, 9675
- proper sampling plan for establishing baseline values is described; LBP-15-3, 81 NRC 92 (2015)
- Endangered Species Act, 7(a)(2), 16 U.S.C. § 1536(a)(2)
- agency must ensure that any action that it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of critical habitat of such species; CLI-15-13, 81 NRC 584 (2015)
- consultation with Fish and Wildlife Service is legally mandated for any agency action that may affect listed species or critical habitat; LBP-15-11, 81 NRC 443 (2015)
- Energy Policy Act of 2005, Pub. L. 109-58, 119 Stat. 594 (2005)
- Congress has left intact both NRC's and the court's interpretation of the Atomic Energy Act with respect to a spent fuel disposal safety finding at the time of reactor licensing; CLI-15-4, 81 NRC 228, 234 (2015)
- Energy Reorganization Act of 1974, 42 U.S.C. §§ 5801-5891 (2012)
- basis for NRC authority to regulate the use of special nuclear material in facilities such as nuclear power reactors is established; CLI-15-4, 81 NRC 231 n.47 (2015)
- Exec. Order No. 12898
- NRC Staff examined special pathways of exposure that could lead to a higher level of radiation exposure in minority and low-income populations in the area, including subsistence consumption of fish, native vegetation, surface waters, sediments, and local produce; CLI-15-6, 81 NRC 373 (2015)
- order did not, in itself, create new substantive authority for federal agencies and thus NRC determined that it would endeavor to carry out the environmental justice principles as part of the agency's responsibilities under NEPA; CLI-15-6, 81 NRC 369 (2015)
- Exec. Order No. 13007, 61 Fed. Reg. 26,771 (May 24, 1996), *reprinted in* 42 U.S.C. § 1996 (2012)
- federal policy supports special consideration where tribal religious exercise is threatened; LBP-15-16, 81 NRC 640-41 (2015)
- Exec. Order No. 13175, 65 Fed. Reg. 67,249, 67,250 (Nov. 6, 2000)
- regular and meaningful consultation and collaboration with tribal officials is to take place through an accountable process at each agency; LBP-15-16, 81 NRC 640 (2015)
- Federal Register Act, 44 U.S.C. § 1507
- publication in the Federal Register is legally sufficient notice to all affected people; LBP-15-5, 81 NRC 280 n.181 (2015)
- National Environmental Policy Act, 42 U.S.C. § 4331(b)(4)
- agencies must take a hard look at preserving important historic and cultural aspects of our national heritage; LBP-15-16, 81 NRC 655 n.218 (2015)
- National Environmental Policy Act, 102, 42 U.S.C. § 4332 (2012)
- Continued Storage Rule and supporting generic environmental impact statement to assess the environmental impacts of spent fuel storage after the end of a reactor's license term were approved; CLI-15-10, 81 NRC 537 (2015)
- National Environmental Policy Act, 102(2)(A), 42 U.S.C. § 4332(2)(A)
- agencies must use a systematic, interdisciplinary approach that will ensure the integrated use of the natural and social sciences and the environmental design arts in decisionmaking that may impact the environment; CLI-15-13, 81 NRC 586 (2015)
- National Environmental Policy Act, 42 U.S.C. § 4332(2)(C)
- federal agencies must prepare a detailed environmental impact statement for proposed actions significantly affecting the quality of the human environment; LBP-15-16, 81 NRC 637 (2015)
- National Environmental Policy Act, 42 U.S.C. § 4332(2)(C)(ii)
- environmental documents must include a detailed statement by the responsible official on any adverse environmental effects that cannot be avoided should the proposal be implemented; LBP-15-16, 81 NRC 687 n.433 (2015)
- National Environmental Policy Act, 102(2)(C)(ii)-(v), 42 U.S.C. § 4332(2)(C)(ii)-(v)
- NRC Staff must assess the relationship between local short-term uses and long-term productivity of the environment, consider alternatives, and describe the unavoidable adverse environmental impacts and the



## LEGAL CITATIONS INDEX

### STATUTES

- irreversible and irretrievable commitments of resources associated with the proposed action; CLI-15-13, 81 NRC 587 (2015)
- National Environmental Policy Act, 42 U.S.C. § 4332(2)(C)(iii)  
alternatives discussion need not include every possible alternative, but rather every reasonable alternative; LBP-15-3, 81 NRC 104 (2015)
- National Environmental Policy Act, 42 U.S.C. § 4332(2)(D)  
non-NEPA document, let alone one prepared and adopted by a state government, cannot satisfy a federal agency's obligations under NEPA; LBP-15-11, 81 NRC 430 (2015)
- National Environmental Policy Act, 42 U.S.C. § 4332(2)(D)(ii)  
NEPA encourages state participation when appropriate and authorized, but coordination between a federal agency and a state requires active involvement between the two in order for the federal agency to meet its independent review burden; LBP-15-11, 81 NRC 439 n.248 (2015)
- National Environmental Policy Act, 102(2)(E), 42 U.S.C. § 4332(2)(E)  
agencies must study, develop, and describe appropriate alternatives to proposed actions; CLI-15-13, 81 NRC 587 (2015)
- National Historic Preservation Act, 16 U.S.C. § 470 *et seq.*  
NRC Staff must take steps necessary to identify the presence of historic properties within the area encompassed by the source materials license renewal application; LBP-15-2, 81 NRC 52 (2015)
- National Historic Preservation Act, 16 U.S.C. § 470a(d)(6)(B)  
federal agencies must consult with any Indian tribe that attaches religious and cultural significance to the sites; LBP-15-16, 81 NRC 639, 651 (2015)
- National Historic Preservation Act, 106, 16 U.S.C. § 470f  
demolition of a historic unit to build a new unit will result in a finding of adverse effect under applicable criteria in 36 C.F.R. 800.5; CLI-15-13, 81 NRC 580-81 (2015)
- prior to approving any undertaking, federal agencies must take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register; LBP-15-16, 81 NRC 639 (2015)
- Native American Graves Protection and Repatriation Act, 25 U.S.C. § 3001 *et seq.*  
historic properties may be protected under this statute; LBP-15-2, 81 NRC 52 (2015)
- Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425, 96 Stat. 2201 (1982)  
Congress has left intact both NRC's and the court's interpretation of the Atomic Energy Act with respect to a spent fuel disposal safety finding at the time of reactor licensing; CLI-15-4, 81 NRC 228, 234 (2015)
- Nuclear Waste Policy Act of 1982, 114, 42 U.S.C. § 10134 (2012)  
responsibility for constructing and operating a waste repository was assigned to the Department of Energy, not the NRC; CLI-15-4, 81 NRC 241-42 (2015)
- Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*,  
admissibility of contention that environmental assessment fails to adequately describe and analyze the impacts of maintaining post-operational wellfields as long-term hazardous waste facilities is decided; LBP-15-15, 81 NRC 606 (2015)
- proper sampling plan for establishing baseline groundwater values is described; LBP-15-3, 81 NRC 92 (2015)
- Treaty of Fort Laramie with Sioux, Etc., Sept. 17, 1851, 11 Stat. 749  
Indian tribe's treaty-based claims of ownership of mining site and international treaty-based claims cannot support admission of environmental assessment contention; LBP-15-11, 81 NRC 411 (2015)
- Treaty with the Sioux — Brule, Oglala, Miniconjou, Yanktonai, Hunkpapa, Blackfeet, Cuthead, Two Kettle, Sans Arcs, and Santee — and Arapaho, Apr. 29, 1868, 15 Stat. 635  
Indian tribe's treaty-based claims of ownership of mining site and international treaty-based claims cannot support admission of environmental assessment contention; LBP-15-11, 81 NRC 411 (2015)

## LEGAL CITATIONS INDEX OTHERS

- Council on Environmental Quality and California Governor's Office of Planning and Research, *NEPA Handbook, NEPA and CEQA: Integrating Federal and State Environmental Reviews* 17 (Feb. 2014), available at <http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/handbooks>
- agencies can, consistent with NEPA regulations, incorporate by reference analyses and information from existing documents into an environmental assessment or environmental impact statement provided the material has been appropriately cited and described; LBP-15-11, 81 NRC 440 n.258 (2015)
- Fed. R. Evid. 103(a)(1)
- board considered evidence submitted with petitioner's reply to which opposing parties didn't object; LBP-15-5, 81 NRC 289 n.252 (2015)
- objection not timely made is waived; LBP-15-20, 81 NRC 859 n.184 (2015)
- Memorandum on Government-to-Government Relations with Native American Tribal Governments, 30 Weekly Comp. Pres. Doc. 936 (May 2, 1994)
- agencies are to ensure that the federal government operates within a government-to-government relationship with federally recognized Native American tribes, reflecting respect for the rights of self-government due the sovereign tribal governments; LBP-15-16, 81 NRC 639-40 (2015)
- Office of the Federal Register, *A Guide to the Rulemaking Process*, at 3-4 (2011), available at [https://www.federalregister.gov/uploads/2011/01/the\\_rulemaking\\_process.pdf](https://www.federalregister.gov/uploads/2011/01/the_rulemaking_process.pdf)
- advance notice of proposed rulemaking is a formal invitation to participate in shaping the proposed rule; LBP-15-15, 81 NRC 612 n.100 (2015)
- Pierce, Richard J., Jr., *Administrative Law* § 7.3 (5th Ed. 2010)
- purpose of notice of proposed rulemaking is not to set binding law or policy, but instead to provide interested members of the public an opportunity to comment in a meaningful way on the agency's proposal; LBP-15-15, 81 NRC 611 & n.94 (2015)
- requirement for a notice of proposed rulemaking is to sufficiently and fairly apprise interested parties of the issues involved, rather than to specify every precise proposal that the agency may ultimately adopt; LBP-15-15, 81 NRC 611 n.94 (2015)
- Sen. Doc. No. 248, 79 Cong. 200, 248 (1946)
- legislative history of the Administrative Procedure Act emphasized the notice requirement for proposed rulemaking in order to fairly apprise the public of the agency's potential action; LBP-15-15, 81 NRC 611 n.92 (2015)
- 1 Wigmore, J., *Evidence* 18 (3d ed. 1940)
- in absence of objection, hearsay evidence is treated as being properly admitted and may be given such probative effect and value to which it is entitled; LBP-15-20, 81 NRC 859 n.184 (2015)



## SUBJECT INDEX

### ABEYANCE OF CONTENTION

Commission directed all licensing boards to reject pending waste confidence contentions that had been held in abeyance, because the generic impact determinations have been the subject of extensive public participation in the rulemaking process and therefore are excluded from litigation in individual proceedings; LBP-15-1, 81 NRC 15 (2015)

Commission directed that all spent fuel storage contentions be held in abeyance; CLI-15-6, 81 NRC 340 (2015); LBP-15-1, 81 NRC 15 (2015)

### ABEYANCE OF PROCEEDING

in NEPA context, path that licensee and NRC Staff must follow relative to a license condition is sufficiently clear that continuing to hold the hearing open while it is completed would be an unnecessary extension of the adjudicatory process; LBP-15-3, 81 NRC 65 (2015)

### ACCIDENTS

contention that does not dispute any specific portion of applicant's fuel handling accident analysis is inadmissible for lack of a genuine dispute; LBP-15-18, 81 NRC 793 (2015)

### ACCIDENTS, SEVERE

agency conducting a NEPA analysis must examine both the probability of a given harm occurring and the consequences of that harm if it does occur; CLI-15-6, 81 NRC 340 (2015)

because the probability of a spent fuel pool accident causing significant harm is remote, there is no need for applicants to assess mitigation alternatives as part of license renewal; LBP-15-5, 81 NRC 249 (2015)

board improperly allowed petitioner to challenge the generic environmental impact statement's finding regarding severe accident consequences; CLI-15-6, 81 NRC 340 (2015)

even if a site would not be totally evacuated, a fission product release from one unit would likely contaminate the entire site, with the result that both units could be out of operation for years; LBP-15-5, 81 NRC 249 (2015)

generic environmental impact statement findings with respect to severe accident consequences are not subject to challenge in individual license renewal proceedings; CLI-15-6, 81 NRC 340 (2015)

in the event of a severe accident in an AP1000, squib valves, which are explosively activated, reduce pressure and inject water as needed into the reactor vessel; CLI-15-13, 81 NRC 555 (2015)

license renewal provisions cover environmental issues relating to onsite spent fuel storage generically, and all such issues, including accident risk, fall outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

licensees of boiling water reactors with Mark I and II containments are required to design and install a venting system that provides venting capability from the wetwell during severe accident conditions; DD-15-1, 81 NRC 193 (2015)

NRC guidance documents outline the process licensees use to define and deploy strategies to enhance their ability to cope with beyond-design-basis external events, including station blackout; DD-15-5, 81 NRC 877 (2015)

NRC has addressed pressure suppression containment system vulnerability to early failure under severe accident conditions, including overpressurization, in NUREG-0474; DD-15-1, 81 NRC 193 (2015)

NRC imposed requirements to provide makeup water independent of offsite power and the normal emergency a.c. power sources to maintain or restore spent fuel pool cooling capability in the event of an accident; DD-15-1, 81 NRC 193 (2015)

## SUBJECT INDEX

only if the probability of a severe accident is so small as to be effectively zero could NRC Staff dispense with the consequences portion of the analysis; CLI-15-6, 81 NRC 340 (2015)

post-Fukushima spent fuel pool concerns are being addressed through rulemaking on mitigation of beyond-design-basis events; DD-15-1, 81 NRC 193 (2015)

probability-weighted environmental consequences of severe accidents are small; CLI-15-6, 81 NRC 340 (2015)

request that NRC immediately revoke prior preapproval of the hardened vent system or direct torus vent system at each GE BWR Mark I unit has been addressed by an order modifying licenses; DD-15-1, 81 NRC 193 (2015)

spent fuel pool accidents are Category 1 issues that do not need to be included in the severe accident mitigation alternatives analysis; LBP-15-5, 81 NRC 249 (2015)

See also Fukushima Accident; Severe Accident Mitigation Alternatives; Severe Accident Mitigation Alternatives Analysis

### ACCOUNTABILITY

regular and meaningful consultation and collaboration with tribal officials is to take place through an accountable process at each agency; LBP-15-16, 81 NRC 618 (2015)

### ACTIVE COMPONENTS

board examined how a transformer performs its intended function to determine whether it undergoes a change in configuration or properties; CLI-15-6, 81 NRC 340 (2015)

such components are excluded from aging management review on the basis of existing regulatory requirements for maintenance and monitoring of structures, systems, and components; CLI-15-6, 81 NRC 340 (2015)

transformer is an active component because it undergoes a change in properties when it performs its intended function; CLI-15-6, 81 NRC 340 (2015)

### ADJUDICATORY HEARINGS

debating compliance with another agency's proposed policies before they have been finalized would subject administrative agencies to needless and repetitive litigation; LBP-15-15, 81 NRC 598 (2015)

final no significant hazards consideration determination allows the Commission to issue the challenged license amendment before the petitioner's request for a hearing is adjudicated; LBP-15-17, 81 NRC 753 (2015)

final no significant hazards consideration determination does not either prevent the adjudication from proceeding or restrict the licensing board's substantive determination on public health and safety issues; LBP-15-17, 81 NRC 753 (2015)

### ADJUDICATORY PROCEEDINGS

agency has discretion to choose between rulemaking and adjudication; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

hearing on environmental issues focus entirely on the adequacy of NRC Staff's work; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

hearing on environmental issues must await issuance of final environmental impact statement; LBP-15-3, 81 NRC 65 (2015)

NRC licensing proceedings are limited to the scope of admitted contentions; CLI-15-9, 81 NRC 512 (2015)

objectives of the NRC adjudicatory procedures and policies include producing an informed adjudicatory record that supports agency decisionmaking on public health and safety, the common defense and security, and the environment; LBP-15-20, 81 NRC 829 (2015)

precedence requires a licensing board to let EPA's rulemaking run its course, allowing intelligent resolution of any remaining claims instead of piecemeal and repetitive litigation; LBP-15-15, 81 NRC 598 (2015)

See also Combined License Proceedings; Evidentiary Hearings; Materials License Amendment Proceedings; Operating License Amendment Proceedings; Operating License Proceedings; Operating License Renewal Proceedings; Subpart L Proceedings; Suspension of Proceeding; Termination Of Proceeding

## SUBJECT INDEX

### ADMINISTRATIVE PROCEDURE ACT

Continued Storage Rule and supporting generic environmental impact statement to assess the environmental impacts of spent fuel storage after the end of a reactor's license term were approved; CLI-15-10, 81 NRC 535 (2015)

legislative history of the Act emphasized the notice requirement for proposed rulemaking in order to fairly apprise the public of the agency's potential action; LBP-15-15, 81 NRC 598 (2015)

no more than a description of the subjects and issues involved in a notice of proposed rulemaking is required; LBP-15-15, 81 NRC 598 (2015)

proponent of a rule or order has the burden of proof; LBP-15-2, 81 NRC 48 (2015)

"rule" is broadly defined to include nearly every statement an agency may make; LBP-15-15, 81 NRC 598 (2015)

when licensee has made timely and sufficient application for a renewal, a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency; LBP-15-2, 81 NRC 48 (2015); LBP-15-11, 81 NRC 401 (2015)

### ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

independent assessment by ACRS of the safety aspects of a combined license application is required; CLI-15-13, 81 NRC 555 (2015)

### ADVISORY COUNCIL ON HISTORIC PRESERVATION

Council on Environmental Quality and the ACHP regulations provide guidance on agency compliance with NEPA and are not binding on NRC when the agency has not expressly adopted them, but are entitled to considerable deference; LBP-15-16, 81 NRC 618 (2015)

### AFFIDAVITS

evidence accompanying motions to reopen must be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised; LBP-15-14, 81 NRC 591 (2015)

evidence contained in affidavits accompanying motions to reopen must meet admissibility standards; LBP-15-14, 81 NRC 591 (2015)

factual support is not necessary at the contention filing stage to show that a genuine dispute exists and need not be in affidavit or formal evidentiary form or of the quality necessary to withstand a summary disposition motion; LBP-15-11, 81 NRC 401 (2015)

failure of organization member to provide an exact address in her affidavit is not a limiting concern; LBP-15-17, 81 NRC 753 (2015)

motions to reopen must also be accompanied by affidavits that set forth the factual and/or technical bases for movant's claim; LBP-15-14, 81 NRC 591 (2015)

petitioning member's affidavit must be sufficiently specific to show frequent contact within 50 miles of the plant; LBP-15-17, 81 NRC 753 (2015)

to obtain waiver of a rule, the allegation of special circumstances must be set forth with particularity and supported by an affidavit or other proof; LBP-15-5, 81 NRC 249 (2015)

### AGING MANAGEMENT

active components are excluded from aging management review on the basis of existing regulatory requirements for maintenance and monitoring of structures, systems, and components; CLI-15-6, 81 NRC 340 (2015)

aging management review is required for components that function without moving parts and without a change in configuration or properties, and includes a non-exhaustive list of components that either do or do not fit this description; CLI-15-6, 81 NRC 340 (2015)

applicants must reassess any time-limited aging analyses to show either that the analyses will remain valid throughout the period of extended operation or that the effects of aging on the subject component will be managed during that time period; CLI-15-6, 81 NRC 340 (2015)

attempts by petitioners to challenge aspects of an aging management plan that they could have challenged earlier were rejected; LBP-15-1, 81 NRC 15 (2015)

because petitioner has not shown how a proposed plan would fail to ensure that buried pipes continue to fulfill their intended safety purposes, the contention is inadmissible; LBP-15-5, 81 NRC 249 (2015)

board compared transformers with other types of components listed in 10 C.F.R. 54.21(a)(1)(i) as expressly subject to or excluded from aging management review; CLI-15-6, 81 NRC 340 (2015)

## SUBJECT INDEX

Commission distinguishes between aging management issues, reviewed at the time of license renewal, and operational issues, reviewed at all times as part of the current licensing basis; LBP-15-5, 81 NRC 249 (2015)

effects of aging must be adequately managed so that intended functions will be maintained consistent with the current licensing basis for the period of extended operation; LBP-15-6, 81 NRC 314 (2015)

focus of the license renewal regulations in 10 C.F.R. Part 54 is to ensure that licensee can manage the effects of aging on certain long-lived, passive components that are important to safety; CLI-15-6, 81 NRC 340 (2015)

goal of NRC's license renewal safety review is to ensure that licensee can successfully manage the detrimental effects of aging; CLI-15-6, 81 NRC 340 (2015)

integrated plant assessment must demonstrate that effects of aging for each structure and component will be managed so that the intended functions will be maintained consistent with the current licensing basis for the period of extended operation; CLI-15-6, 81 NRC 340 (2015)

intervenors' requests for more testing, more methods of testing, and more information, without an explanation of why the current program is inadequate, do not create a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 15 (2015)

it makes no sense to spend the parties' and NRC's own valuable resources litigating allegations of current deficiencies in a proceeding that is directed to future-oriented issues of aging; LBP-15-6, 81 NRC 314 (2015)

license renewal applicant must perform an integrated plant assessment to identify structures and components that are subject to aging management review; CLI-15-6, 81 NRC 340 (2015)

license renewal applicants must demonstrate how their programs will be effective in managing the effects of aging during the proposed period of extended operation, at a detailed component and structure level, rather than at a more generalized system level; LBP-15-5, 81 NRC 249 (2015)

license renewal application must demonstrate that licensee will adequately manage effects of aging on passive, long-lived components so that their intended functions will be maintained consistent with the current licensing basis for the period of extended operation; CLI-15-6, 81 NRC 340 (2015)

licensee commitment to develop a program by the time the 20-year extension begins does not demonstrate that the effects of aging will be adequately managed; LBP-15-1, 81 NRC 15 (2015)

petitioners have the burden of going forward, which requires them to provide factual allegations or expert testimony to show a potential deficiency in applicant's aging management plan; LBP-15-5, 81 NRC 249 (2015)

plant systems, structures, and components within the scope of license renewal are all non-safety-related SSCs whose failure could prevent the capability to shut down the reactor and maintain it in a safe shutdown condition; LBP-15-6, 81 NRC 314 (2015)

scope of a license renewal safety review is limited to plant structures and components that will require an aging management review for the period of extended operation and the plant's systems, structures, and components that are subject to an evaluation of time-limited aging analyses; LBP-15-6, 81 NRC 314 (2015)

static components such as transistors and battery chargers are specifically excluded from aging management review; CLI-15-6, 81 NRC 340 (2015)

structures and components are subject to aging management review if they are not subject to routine replacement; CLI-15-6, 81 NRC 340 (2015)

structures and components are subject to aging management review if they perform an intended function without moving parts or without a change in configuration or properties; CLI-15-6, 81 NRC 340 (2015)

to evaluate a power reactor license renewal application, NRC reviews management of aging effects and time-limited aging analysis of particular safety-related functions of the plant's systems, structures, and components and environmental impacts and alternatives to the proposed action; LBP-15-5, 81 NRC 249 (2015)

to grant a license renewal, NRC Staff must find that there is reasonable assurance that the effects of aging on relevant systems, structures, and components will be managed during the period of extended operation, that time-limited aging analyses have been identified for review, and that applicable environmental requirements have been met; LBP-15-6, 81 NRC 314 (2015)

transformer is an active component because it undergoes a change in properties when it performs its intended function; CLI-15-6, 81 NRC 340 (2015)

## SUBJECT INDEX

transformers perform their intended function through a change in state similar to switchgears, power supplies, battery chargers, and power inverters which have been excluded from aging management review; CLI-15-6, 81 NRC 340 (2015)

See also Time Limited Aging Analyses

### AGREEMENT STATE PROGRAMS

NRC's transfer of regulatory authority to the State of New Jersey is now final and the licensing board no longer has the jurisdiction it had retained over the proceeding, and the board terminates the proceeding; LBP-15-10, 81 NRC 399 (2015)

### AGREEMENTS

arrangements for requesting and effectively using assistance resources should be identified and supported by appropriate letters of agreement; LBP-15-18, 81 NRC 793 (2015)

programmatic agreement may be used to implement the NHPA § 106 process in situations where the effects on historic properties cannot be fully determined prior to approval of an undertaking, such as where an applicant proposes a phased approach to developing its project; LBP-15-16, 81 NRC 618 (2015)

### AIR POLLUTION

contention that environmental assessment fails to adequately describe air quality impacts is inadmissible as untimely; LBP-15-11, 81 NRC 401 (2015)

contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with air emissions and liquid waste disposal is admissible in part; LBP-15-11, 81 NRC 401 (2015)

### ALARA

to have an alternate concentration limit approved, licensee must demonstrate that the hazardous constituent value is as low as reasonably achievable, after considering practicable corrective actions, and that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the ACL is not exceeded; LBP-15-3, 81 NRC 65 (2015)

### ALGAL BLOOMS

contention that environmental report failed to explain whether a discharge pipe with phosphoric acid as a corrosion inhibitor would increase algae production and potential for toxic algal blooms is admissible; LBP-15-5, 81 NRC 249 (2015)

contention that NRC Staff's environmental assessment fails to consider that applicant's use of copper sulfate to control algae blooms will increase reactor operating temperatures in relation to waste is inadmissible; LBP-15-13, 81 NRC 456 (2015)

harmful algae blooms from *Lyngbya wollei* are unlikely to form in unsheltered areas; LBP-15-5, 81 NRC 249 (2015)

### ALTERNATE CONCENTRATION LIMITS

admissibility of contention that environmental assessment fails to adequately describe and analyze aquifer restoration goals in light of new standards for determining ACLs is decided; LBP-15-15, 81 NRC 598 (2015)

bounding analysis provided in final supplemental environmental impact statement, as supplemented in the record, provides sufficient information about a reasonable range of hazardous constituent concentration values associated with potential post-operational ACLs so as to provide an appropriate NEPA assessment of the environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits; LBP-15-3, 81 NRC 65 (2015)

challenge to use of ACL is an impermissible challenge to an NRC regulation, which is not subject to attack in any adjudicatory proceeding; LBP-15-11, 81 NRC 401 (2015)

nineteen factors must be considered in making the "present and potential hazard" finding requisite to Commission approval of an ACL; LBP-15-3, 81 NRC 65 (2015)

NRC regulations explicitly allow the use of ACLs for hazardous constituents; LBP-15-11, 81 NRC 401 (2015)

restoration to an ACL is permitted only when restoration to a primary or the secondary Table 5C standard is not practically achievable; LBP-15-3, 81 NRC 65 (2015)

to have an ACL approved, licensee must demonstrate that the hazardous constituent value is as low as reasonably achievable, after considering practicable corrective actions, and that the constituent will not



## SUBJECT INDEX

pose a substantial present or potential hazard to human health or the environment as long as the ACL is not exceeded; LBP-15-3, 81 NRC 65 (2015)

### AMENDMENT OF CONTENTIONS

eight-factor test that allowed a board to consider new or amended contentions that did not meet the three requirements for admissibility of late-filed contentions available under 10 C.F.R. 2.309(f)(2) is no longer available; LBP-15-1, 81 NRC 15 (2015)

new or amended contention is considered timely if it is filed within 60 days of the date when the material information first became available to the moving party through service, publication, or any other means; LBP-15-1, 81 NRC 15 (2015)

new or amended contentions must satisfy the substantive contention admissibility standards, and failure to meet any of them renders contentions inadmissible; LBP-15-11, 81 NRC 401 (2015); LBP-15-15, 81 NRC 598 (2015)

once the deadline for filing petitions to intervene has passed, a party may file new or amended contentions if it is able to demonstrate good cause by meeting three requirements; LBP-15-1, 81 NRC 15 (2015)

proponents of new or amended contentions are required to demonstrate good cause for their filing, which includes a demonstration that the information on which the new or amended contention is based is materially different from information previously available; CLI-15-1, 81 NRC 1 (2015)

### AMENDMENT OF REGULATIONS

amended regulations apply to obligations and disputes that arise after the effective date of the regulation; LBP-15-1, 81 NRC 15 (2015)

amendment of 10 C.F.R. 2.309 in 2012 was to simplify the rules, not fundamentally change the rationale boards use to admit new/amended contentions; LBP-15-11, 81 NRC 401 (2015)

contentions proposed after the filing deadline, which would have been allowable under the previous 10 C.F.R. 2.309(f)(2) requirements, will also be allowable under the current section 2.309(c)(1) requirements; LBP-15-11, 81 NRC 401 (2015)

definition of byproduct material in 10 C.F.R. 40.4 was clarified by adding the clause “including discrete surface wastes resulting from uranium solution extraction processes”; LBP-15-16, 81 NRC 618 (2015)

if a board issues a scheduling order before the effective date of the final rule that incorporates 10 C.F.R. 2.336(d), which currently requires parties to update their disclosures every 14 days, that obligation would change to every month on a day specified by the board, unless the parties agree otherwise, once the effective date of the rule is reached; LBP-15-1, 81 NRC 15 (2015)

it is for the Commission, not licensing boards, to revise its rulings; LBP-15-18, 81 NRC 793 (2015)

### AMENDMENTS

See Operating License Amendments

### AMICUS CURIAE

it is within Commission discretion to grant leave for participation as amicus curiae; CLI-15-1, 81 NRC 1 (2015)

state government may file an amicus brief within the time allowed to the party whose position the brief will support; CLI-15-2, 81 NRC 213 (2015)

### AMICUS PLEADINGS

although NRC rules do not provide for filing of amicus briefs in this circumstance, as a matter of discretion the Commission has reviewed the brief; CLI-15-5, 81 NRC 329 (2015)

briefs may be filed for matters taken up at Commission discretion or sua sponte; CLI-15-4, 81 NRC 221 (2015); CLI-15-10, 81 NRC 535 (2015)

nonparties may file a brief if a matter is taken up by the Commission under 10 C.F.R. 2.341 or sua sponte; CLI-15-1, 81 NRC 1 (2015); CLI-15-5, 81 NRC 329 (2015)

### APPEALS

any other party to the proceeding may file an answer supporting or opposing Commission review; CLI-15-6, 81 NRC 340 (2015)

appeal as of right from a licensing board ruling on an intervention petition is permitted only in two limited circumstances; LBP-15-1, 81 NRC 15 (2015)

Commission affirmed board’s standing ruling, but declined to accept review of challenges to the board’s admission of two contentions because petitioner had failed to perfect its appeal by challenging the validity of the board’s admissibility rulings regarding other contentions; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

### APPEALS, INTERLOCUTORY

limited appeal right attaches only when the board has fully ruled on the initial intervention petition, i.e., when it has admitted or rejected all proposed contentions; LBP-15-1, 81 NRC 15 (2015)

### APPELLATE BRIEFS

arguments not raised before the board or not clearly articulated in the petition for review are deemed waived; LBP-15-5, 81 NRC 249 (2015)

Commission requests briefing from NRC Staff on the circumstances, if any, NRC Staff would judge a potentially cost-beneficial mitigation alternative to warrant further NRC consideration outside of the license renewal review, either via a backfit analysis or as part of another process; CLI-15-3, 81 NRC 217 (2015)

Commission requests briefing from NRC Staff on whether it has a process in place to follow up with licensee to determine which potentially cost-beneficial mitigation alternatives ultimately were found by licensee to be cost-beneficial, if any, and which alternatives, if any, licensee implemented; CLI-15-3, 81 NRC 217 (2015)

parties are directed to provide further briefing on questions relating to severe accident decontamination time values and costs used in the SAMA analysis; CLI-15-2, 81 NRC 213 (2015)

### APPELLATE REVIEW

although contention ultimately was resolved in NRC Staff's favor, Commission takes review as a matter of discretion because the board's ruling raises substantial questions of precedential importance; CLI-15-6, 81 NRC 340 (2015)

Commission affords substantial deference to licensing boards' contention admission decisions; CLI-15-6, 81 NRC 340 (2015)

Commission defers to board's factual findings unless they are clearly erroneous and generally steps in only to correct factual findings not even plausible in light of the record reviewed in its entirety, e.g., where it appears that the board has overlooked or misunderstood important evidence; CLI-15-6, 81 NRC 340 (2015)

Commission gives substantial deference to licensing board findings of fact, and will not overturn a board's factual findings unless they are not even plausible in light of the record viewed in its entirety; CLI-15-9, 81 NRC 512 (2015)

Commission reviews board's legal rulings de novo and will reverse those rulings if they are contrary to established law; CLI-15-6, 81 NRC 340 (2015)

Commission reviews questions of law de novo, but defers to a board's findings with respect to the underlying facts unless they are clearly erroneous; CLI-15-9, 81 NRC 512 (2015)

important questions of law and material fact merit Commission review; CLI-15-6, 81 NRC 340 (2015)

petition for review will be granted at Commission discretion upon a showing that petitioner has raised a substantial question as to any of the five factors of 10 C.F.R. 2.341(b)(4)(i)-(v); CLI-15-2, 81 NRC 213 (2015); CLI-15-9, 81 NRC 512 (2015)

review is granted where petitions for review raise substantial questions of law and procedure; CLI-15-6, 81 NRC 340 (2015)

standard for showing clear error is difficult to meet, requiring that intervenors demonstrate that the board's determination is not even plausible in light of the record as a whole; CLI-15-9, 81 NRC 512 (2015)

### APPLICANTS

as proponent of the agency action at issue, applicant generally has the burden of proof in a licensing proceeding; LBP-15-3, 81 NRC 65 (2015)

boards cannot assume that applicants will not comply with its regulatory responsibilities, including its license conditions; LBP-15-3, 81 NRC 65 (2015)

burden of providing reasonable assurance that the current licensing basis will be maintained throughout the renewal period falls on applicant; LBP-15-5, 81 NRC 249 (2015)

in assessing whether applicant/licensee adequately carries out a licensing directive, boards are to assume that NRC Staff will be fair and judge the matter of applicant/licensee's compliance on the merits; LBP-15-3, 81 NRC 65 (2015)

in the absence of some showing of substantial prior misdeeds, applicant/licensee will be presumed to follow the agency's regulatory requirements, including the directives in its license; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

it is the duty of NRC Staff, not applicant, to consult with interested tribes concerning the proposed site in the context of a National Historic Preservation Act contention; LBP-15-5, 81 NRC 249 (2015)  
proponent of the agency action, applicant generally has the burden of proof in a licensing proceeding; LBP-15-16, 81 NRC 618 (2015)

relative to factual matters, to carry burden of proof, NRC Staff and/or applicant must establish that its position is supported by a preponderance of the evidence; LBP-15-3, 81 NRC 65 (2015)  
there is nothing in the record to suggest that applicant or NRC Staff will not act in good faith to ensure that applicant's regulatory responsibilities, including its license conditions, are honored, and the board cannot assume noncompliance; LBP-15-11, 81 NRC 401 (2015)  
unless the presiding officer otherwise orders, applicant or the proponent of an order has the burden of proof; LBP-15-2, 81 NRC 48 (2015)

### APPROVAL OF LICENSE

final no significant hazards consideration determination allows the Commission to issue the challenged license amendment before the petitioner's request for a hearing is adjudicated; LBP-15-17, 81 NRC 753 (2015)

NEPA requires that agencies take a hard look at the environmental effects of actions even after a proposal has received initial approval; LBP-15-16, 81 NRC 618 (2015)

NRC Staff is instructed to promptly issue its approval or denial of an application consistent with its findings, despite the pendency of a hearing; LBP-15-16, 81 NRC 618 (2015)

though the materials license has already been issued, the land disturbance in the project area will proceed in stages in compliance with National Historic Preservation Act § 106; LBP-15-16, 81 NRC 618 (2015)

### ARCHAEOLOGICAL RESOURCES PROTECTION ACT

NRC Staff must take steps necessary to identify the presence of historic properties within the area encompassed by the source materials license renewal application; LBP-15-2, 81 NRC 48 (2015)

### ASME CODE

after the rulemaking is completed, licensees for new reactors will be required to comply with the ASME code preservice and inservice surveillance provisions for squib valves; CLI-15-13, 81 NRC 555 (2015)

if part of a reactor pressure vessel is expected to fall below the 50 ft-lb standard, licensee must demonstrate that lower values of Charpy upper-shelf energy will provide margins of safety against fracture equivalent to those required by the ASME Boiler and Pressure Vessel Code; LBP-15-20, 81 NRC 829 (2015)

latest edition and addenda of the ASME Boiler and Pressure Vessel Code has been incorporated by reference in 10 C.F.R. 50.55a(b)(2); LBP-15-20, 81 NRC 829 (2015)

minimum frequency with which surveillance capsules must be tested is set by ASTM Standard E 185 (1982 version), which is incorporated into Appendix H; LBP-15-20, 81 NRC 829 (2015)

NRC Staff is incorporating the 2012 edition of the ASME Code by reference into 10 C.F.R. 50.55a; CLI-15-13, 81 NRC 555 (2015)

### ASSUMPTION OF COMPLIANCE

in setting license conditions, NRC Staff may assume that a licensee will comply with all requirements imposed by the license; LBP-15-16, 81 NRC 618 (2015)

NRC generally presumes that licensees will comply with its regulations; LBP-15-16, 81 NRC 618 (2015)

there is nothing in the record to suggest that applicant or NRC Staff will not act in good faith to ensure that applicant's regulatory responsibilities, including its license conditions, are honored, and the board cannot assume noncompliance; LBP-15-11, 81 NRC 401 (2015)

### ATOMIC ENERGY ACT

agency actions not formally labeled as license amendments nevertheless can constitute de facto license amendments and accordingly trigger hearing rights for the public under section 189a; CLI-15-5, 81 NRC 329 (2015)

basis for NRC authority to regulate use of special nuclear material in facilities such as nuclear power reactors is established; CLI-15-4, 81 NRC 221 (2015)

"byproduct material" refers to the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed for its source material content; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

Commission refers a limited portion of the hearing request to the licensing board to determine whether petitioner has identified an NRC activity that requires an opportunity to request an adjudicatory hearing; CLI-15-14, 81 NRC 729 (2015)

Congress did not intend to require a demonstration that nuclear wastes could safely be disposed of before licensing of nuclear plants was permitted; CLI-15-4, 81 NRC 221 (2015)

finding of reasonable assurance that highly hazardous and long-lived radioactive materials can be disposed of safely is not a prerequisite to licensing; CLI-15-4, 81 NRC 221 (2015)

general scope of NRC's authority is established in section 161, but it does not discuss spent fuel disposal; CLI-15-4, 81 NRC 221 (2015)

hearing must be held on each application to construct a nuclear power plant, regardless of whether an interested member of the public requests a hearing on the application; CLI-15-13, 81 NRC 555 (2015)

hearing rights are provided in licensing actions concerning the granting, suspending, revoking, or amending of any license upon the request of any person whose interest may be affected by the proceeding; CLI-15-5, 81 NRC 329 (2015); LBP-15-16, 81 NRC 618 (2015); LBP-15-17, 81 NRC 753 (2015); LBP-15-18, 81 NRC 793 (2015)

information is specified in section 182 that must be provided by license applicant and it has no reference to spent fuel disposal; CLI-15-4, 81 NRC 221 (2015)

intervenors litigated whether the performance-based licensing complies with the Atomic Energy Act and National Environmental Policy Act, and whether undue discretion was accorded to licensee; LBP-15-16, 81 NRC 618 (2015)

it is fair to read the AEC and NRC history as a de facto acquiescence in and ratification of the Commission's licensing procedure by Congress; CLI-15-4, 81 NRC 221 (2015)

license amendments are not contingent upon any additional safety determination regarding spent fuel storage; CLI-15-4, 81 NRC 221 (2015)

licensee must show with reasonable assurance that its proposed methodology for material control and accounting will not be inimical to the common defense and security and will not constitute an unreasonable risk to the health and safety of the public; CLI-15-9, 81 NRC 512 (2015)

licensing actions that alter the terms of a license or otherwise authorize additional operating activities trigger hearing rights for the public under section 189a; CLI-15-5, 81 NRC 329 (2015)

NRC can issue nuclear power reactor licenses to applicants only upon a finding that utilization of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public; CLI-15-4, 81 NRC 221 (2015)

NRC is not required, as a precondition to issuing or renewing operating licenses for nuclear power plants, to make definitive findings concerning technical feasibility of a repository for the disposal of spent nuclear fuel; CLI-15-4, 81 NRC 221 (2015)

NRC is prohibited from issuing a utilization or production facility license to any alien or any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government; CLI-15-7, 81 NRC 481 (2015)

NRC Staff oversight activities normally conducted to ensure that licensees comply with existing NRC requirements and license conditions do not typically trigger an opportunity for a hearing; CLI-15-5, 81 NRC 329 (2015)

"owned, controlled, or dominated" refers to relationships in which the will of one party is subjugated to the will of another; CLI-15-7, 81 NRC 481 (2015)

participation in a licensing proceeding requires a demonstration of standing; LBP-15-17, 81 NRC 753 (2015)

petitioner must address its hearing request to a matter that triggers a hearing opportunity; CLI-15-5, 81 NRC 329 (2015)

petitioners asserted that NRC actions following the events of September 11, 2001, and the accident at Fukushima Dai-ichi were insufficient to satisfy NRC's general obligation to protect public health and safety; CLI-15-4, 81 NRC 221 (2015)

requirement to demonstrate standing is derived from instruction to NRC to provide a hearing upon the request of any person whose interest may be affected by the proceeding; LBP-15-5, 81 NRC 249 (2015)

"source material" is defined as uranium being extracted through the ISL process; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

statutory findings required by section 103 do not apply to disposal activities that might result from operation of a licensed facility; CLI-15-4, 81 NRC 221 (2015)  
unless the safety findings prescribed by the Act and the regulations can be made, the reactor does not obtain a license, no matter how badly it is needed; CLI-15-4, 81 NRC 221 (2015)  
written consent from NRC is required for all direct or indirect license transfers; CLI-15-8, 81 NRC 500 (2015)

### BACKFITTING

Commission requests briefing from NRC Staff on the circumstances, if any, Staff would judge a potentially cost-beneficial mitigation alternative to warrant further NRC consideration outside of license renewal review, either via a backfit analysis or as part of another process; CLI-15-3, 81 NRC 217 (2015)

### BENEFIT-COST ANALYSIS

Commission requests briefing from NRC Staff on the circumstances, if any, NRC Staff would judge a potentially cost-beneficial mitigation alternative to warrant further NRC consideration outside of the license renewal review, either via a backfit analysis or as part of another process; CLI-15-3, 81 NRC 217 (2015)  
Commission requests briefing from NRC Staff on the level of uncertainty that NRC Staff considers acceptable for the implementation cost portion of the cost-benefit analysis, and why; CLI-15-3, 81 NRC 217 (2015)  
Commission requests briefing from NRC Staff on whether it has a process in place to follow up with licensee to determine which potentially cost-beneficial mitigation alternatives ultimately were found by licensee to be cost-beneficial, if any, and which alternatives, if any, licensee implemented; CLI-15-3, 81 NRC 217 (2015)  
contention that population used for analysis might underestimate the exposed population in a severe accident and, in turn, underestimate the benefit achieved in implementing a severe accident mitigation alternatives analysis is admissible; LBP-15-5, 81 NRC 249 (2015)  
it must be genuinely plausible that revising the severe accident mitigation alternatives analysis would change the outcome so that one or more of the SAMA candidates that applicant evaluated and rejected would become cost-beneficial; LBP-15-5, 81 NRC 249 (2015)  
NRC Staff must weigh unavoidable adverse environmental impacts and resource commitments (costs) against the project's benefits; CLI-15-13, 81 NRC 555 (2015)  
one cost that must be weighed by decisionmakers is the cost of uncertainty; LBP-15-3, 81 NRC 65 (2015)  
petitioner need not rerun applicant's own cost-benefit calculations, but must do more than merely suggest that additional factors be evaluated or that different analytical techniques be used; LBP-15-5, 81 NRC 249 (2015)  
petitioner's failure to address applicant's supplemental economic analyses, demonstrate specific knowledge of the analyses, and not indicate, even broadly that the SAMA economic cost-benefit conclusions are not sufficiently conservative renders a contention inadmissible; LBP-15-5, 81 NRC 249 (2015)  
unless it looks genuinely plausible that inclusion of an additional factor or use of other assumptions and models may change the cost-benefit conclusions for the severe accident mitigation alternatives candidates evaluated, no purpose would be served to further refine the SAMA analysis; LBP-15-5, 81 NRC 249 (2015)

### BIOLOGICAL ASSESSMENT

federal agency need not initiate formal consultation if, as a result of the preparation of a biological assessment under section 402.12 or as a result of informal consultation with FWS under section 402.13, the federal agency determines, with the written concurrence of the U.S. Fish and Wildlife Service Director, that the proposed action is not likely to adversely affect any listed species or critical habitat; LBP-15-11, 81 NRC 401 (2015)

### BOILING-WATER REACTORS

as part of the NRC post-Fukushima lessons-learned activities, NRC is requiring all licensees to reevaluate seismic hazards at their sites, and to this end, issued a request for information; DD-15-1, 81 NRC 193 (2015)  
contention that environmental report fails to accurately and thoroughly conduct severe accident mitigation alternatives analysis to design vulnerability of GE Mark I BWR pressure suppression containment

## SUBJECT INDEX

system and environmental consequences of a to-be-anticipated severe accident post-Fukushima Daiichi fails to present a genuine material dispute; LBP-15-5, 81 NRC 249 (2015)

existing containment vent systems at BWRs with Mark I containments provide a capability to vent the containment under design-basis conditions; DD-15-1, 81 NRC 193 (2015)

licensees of boiling water reactors with Mark I and II containments are required to design and install a venting system that provides venting capability from the wetwell during severe accident conditions; DD-15-1, 81 NRC 193 (2015)

NRC addressed concerns about flooding at GE Mark I and II BWRs through a request for information; DD-15-1, 81 NRC 193 (2015)

parameters from which ERDS transmits data points for BWRs are identified in 10 C.F.R. Part 50, App. E, § VI.2(a)(ii); LBP-15-4, 81 NRC 156 (2015)

request for additional instrumentation for all Mark I spent fuel storage pools has been addressed through an order modifying licenses with regard to reliable spent fuel pool instrumentation; DD-15-1, 81 NRC 193 (2015)

request that NRC immediately revoke prior preapproval of the hardened vent system or direct torus vent system at each GE BWR Mark I unit has been addressed by an order modifying licenses with regard to reliable hardened containment vents capable of operation under severe accident conditions; DD-15-1, 81 NRC 193 (2015)

request that NRC order the immediate suspension of the operating licenses of all General Electric BWRs that use the Mark I primary containment system, citing the Fukushima Dai-ichi accident in Japan as its rationale basis, is resolved; DD-15-1, 81 NRC 193 (2015)

structural integrity of GE Mark I BWR spent fuel pools and spent fuel management in dry storage casks are discussed; DD-15-1, 81 NRC 193 (2015)

### BRIEFS

Commission directs litigants to provide either a joint stipulation that local union's appeal should be dismissed or briefing on the question whether the appeal should be dismissed as moot and the proceeding terminated; CLI-15-16, 81 NRC 810 (2015)

Commission exercises its discretion to consider briefs that were not filed via the agency's E-Filing system; LBP-15-4, 81 NRC 156 (2015)

See also Appellate Briefs; Reply Briefs

### BURDEN OF PERSUASION

petitioner's burden on a contention of omission is to identify the omission and the supporting reasons for petitioners' belief that the application fails to contain information on a relevant matter as required by law; LBP-15-5, 81 NRC 249 (2015)

stay movant has the burden on the four factors of 10 C.F.R. 2.1213(d); LBP-15-2, 81 NRC 48 (2015)

### BURDEN OF PROOF

as proponent of the agency action, applicant generally has the burden in a licensing proceeding; LBP-15-2, 81 NRC 48 (2015); LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

because NRC Staff relies heavily on applicant's environmental report in preparing the environmental impact statement, should applicant become a proponent of a particular challenged position set forth in the EIS, applicant also has the burden on that matter; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

burden of NEPA compliance lies with NRC Staff; LBP-15-2, 81 NRC 48 (2015); LBP-15-3, 81 NRC 65 (2015)

licensee generally bears the ultimate burden of proof, but intervenors must give some basis for further inquiry; LBP-15-5, 81 NRC 249 (2015)

once challenged, there is no presumption that an environmental report is correct or accurate, with applicant, as the proponent of the license, bearing the burden of proof; LBP-15-2, 81 NRC 48 (2015)

petitioners have the burden of going forward, which requires them to provide factual allegations or expert testimony to show a potential deficiency in applicant's aging management plan; LBP-15-5, 81 NRC 249 (2015)

relative to factual matters, to carry burden of proof, NRC Staff and/or applicant must establish that its position is supported by a preponderance of the evidence; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

to the extent petitioner is challenging the adequacy of computer modeling of plume variability, petitioner bears the burden of providing evidence specific to the license renewal application; LBP-15-5, 81 NRC 249 (2015)

when NEPA contentions are involved, the burden of proof shifts to NRC Staff; LBP-15-16, 81 NRC 618 (2015)

### BYPRODUCT MATERIALS

“byproduct material” is categorized as tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content; LBP-15-11, 81 NRC 401 (2015)

definition of byproduct material was clarified in 10 C.F.R. 40.4 by adding the clause “including discrete surface wastes resulting from uranium solution extraction processes”; LBP-15-16, 81 NRC 618 (2015)

tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed for its source material content are defined as “byproduct materials”; LBP-15-16, 81 NRC 618 (2015)

### BYPRODUCT MATERIALS LICENSES

applicant for a license to possess and use source and AEA §11e(2) byproduct material for the purpose of in situ uranium recovery must submit an environmental report with its application; LBP-15-3, 81 NRC 65 (2015)

NRC Staff must prepare an environmental impact statement in connection with a license to possess and use source and AEA §11e(2) byproduct material for the purpose of in situ uranium recovery; LBP-15-3, 81 NRC 65 (2015)

### CABLES

inspection to determine effects of wet or underwater conditions on underground safety-related electrical cables is discussed; DD-15-1, 81 NRC 193 (2015)

### CANADA

although NRC regulations do not require NRC Staff to analyze the environmental impacts of NRC licensing actions on the environment of foreign nations, the Staff extended its outreach to international organizations to inform its analysis of the potential environmental impacts of the project; CLI-15-13, 81 NRC 555 (2015)

proximity of the nuclear power plant site to the Canadian border is considered in the contexts of environmental and safety reviews; CLI-15-13, 81 NRC 555 (2015)

### CASE MANAGEMENT

although boards are accorded considerable discretion to manage proceedings before them, they need not exercise it; LBP-15-15, 81 NRC 598 (2015)

boards are given broad discretion in the conduct of NRC adjudicatory proceedings, and the Commission generally defers to board case-management decisions; LBP-15-15, 81 NRC 598 (2015)

boards have the authority to reformulate contentions to consolidate issues for a more efficient proceeding; LBP-15-17, 81 NRC 753 (2015)

boards have the power to take necessary and appropriate actions consistent with the Atomic Energy Act to conduct a fair hearing; LBP-15-15, 81 NRC 598 (2015)

### CERTIFICATION

licensee must provide certifications when a nuclear power station has permanently ceased power operations and all fuel has been permanently removed from the reactor vessel and placed in the spent fuel pool; DD-15-1, 81 NRC 193 (2015)

See also Design Certification

### CERTIFIED QUESTIONS

referred rulings or certified questions must raise significant and novel legal or policy issues or issues whose early resolution would materially advance the orderly disposition of the proceeding; CLI-15-1, 81 NRC 1 (2015)

### CIVIL PENALTIES

NRC’s policy of imposing graduated civil penalties takes into account the gravity of the violation as the primary consideration and the ability to pay as a secondary consideration; DD-15-3, 81 NRC 713 (2015)

petitioner’s request to impose a \$10 million fine on licensee is denied; DD-15-3, 81 NRC 713 (2015)

## SUBJECT INDEX

### COLOCATED UNITS

admissibility of contention that severe accident mitigation alternatives analysis fails to evaluate the impact that a severe accident at one unit would have on the operation of a proposed nearby unit is decided; LBP-15-5, 81 NRC 249 (2015)

even if a site would not be totally evacuated, a fission product release from one unit would likely contaminate the entire site, with the result that both units could be out of operation for years; LBP-15-5, 81 NRC 249 (2015)

“synergistic” refers to the joint action of different parts or sites which, acting together, enhance the effects of one or more individual sites; LBP-15-5, 81 NRC 249 (2015)

### COMBINED LICENSE APPLICATION

although the Commission found NRC Staff’s review of combined license applications rigorous, it imposed a condition requiring implementation of a squib-valve surveillance program prior to fuel load; CLI-15-13, 81 NRC 555 (2015)

applicants referencing a certified design must provide sufficient information for NRC Staff to determine whether the site’s characteristics fall within the design’s parameters; CLI-15-13, 81 NRC 555 (2015)

Commission does not review combined license application de novo, but rather considers the sufficiency of NRC Staff’s review of the application; CLI-15-13, 81 NRC 555 (2015)

hearing must be held on each application to construct a nuclear power plant, regardless of whether an interested member of the public requests a hearing on the application; CLI-15-13, 81 NRC 555 (2015)

impact determinations in the Continued Storage generic environmental impact statement shall be deemed incorporated into the associated environmental impact statements; CLI-15-10, 81 NRC 535 (2015)

independent assessment of the safety aspects of the combined license application is required; CLI-15-13, 81 NRC 555 (2015)

information is specified in Atomic Energy Act § 182 that must be provided by applicant for a license and it has no reference to spent fuel disposal; CLI-15-4, 81 NRC 221 (2015)

inservice testing and inspection program for squib valves in combined license applications is discussed; CLI-15-13, 81 NRC 555 (2015)

NRC Staff review relative to regulatory actions that NRC has taken in response to lessons learned from the Fukushima Dai-ichi accident is discussed; CLI-15-13, 81 NRC 555 (2015)

### COMBINED LICENSE PROCEEDINGS

environmental issues that the Commission must consider in the mandatory portion of a combined license proceeding are outlined; CLI-15-13, 81 NRC 555 (2015)

generic analyses of the environmental impacts of continued storage and disposal in the context of NRC reactor licensing proceedings are acceptable; CLI-15-4, 81 NRC 221 (2015)

hearing must be held on each application to construct a nuclear power plant, regardless of whether an interested member of the public requests a hearing on the application; CLI-15-13, 81 NRC 555 (2015)

safety issues that the Commission must consider in the mandatory portion of a combined license proceeding are outlined; CLI-15-13, 81 NRC 555 (2015)

### COMBINED LICENSES

challenges in maintaining knowledge gained during the combined license review if construction is delayed are discussed; CLI-15-13, 81 NRC 555 (2015)

if applicant did not pursue an early site permit, all relevant site characteristics, including site geology, hydrology, seismology, and man-made hazards, as well as potential environmental impacts of the project, were studied as part of NRC Staff’s combined license review and are within the scope of the Commission decision; CLI-15-13, 81 NRC 555 (2015)

license holder under Part 50 or a combined license under Part 52 shall follow and maintain the effectiveness of an emergency plan that meets the requirements in Part 50, Appendix E; LBP-15-4, 81 NRC 156 (2015)

### COMMON DEFENSE AND SECURITY

foreign ownership, control, or domination analysis should be given an orientation toward safeguarding the national defense and security; CLI-15-7, 81 NRC 481 (2015)

licensee must show with reasonable assurance that its proposed methodology for material control and accounting will not be inimical to the common defense and security and will not constitute an unreasonable risk to the health and safety of the public; CLI-15-9, 81 NRC 512 (2015)



## SUBJECT INDEX

NRC can issue nuclear power reactor licenses to applicants only upon a finding that utilization of special nuclear material will be in accord with the common defense and security and will provide adequate protection of public health and safety; CLI-15-4, 81 NRC 221 (2015)

### COMMON-MODE FAILURES

admissibility of contention that common-mode failures and/or mutually exacerbating catastrophes are entitled to severe accident mitigation alternatives analysis is decided; LBP-15-5, 81 NRC 249 (2015)

### COMMUNICATIONS

adequate provisions must exist for prompt communications among principal response organizations to emergency personnel and to the public; LBP-15-4, 81 NRC 156 (2015)

### COMPLIANCE

activities associated with, and data coming from, precensuring groundwater monitoring activities are associated with compliance with the dictates of 10 C.F.R. Part 40, Appendix A, Criterion 7; LBP-15-3, 81 NRC 65 (2015)

after the rulemaking is completed, licensees for new reactors will be required to comply with the ASME code preservice and inservice surveillance provisions for squib valves; CLI-15-13, 81 NRC 555 (2015)

allegations of noncompliance with already-issued, existing, and open Commission orders are part of the current licensing basis and therefore cannot be challenged in a license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

boards cannot assume that applicants will not comply with their regulatory responsibilities, including their license conditions; LBP-15-3, 81 NRC 65 (2015)

Commission has long declined to assume that licensees will refuse to meet their obligations under their licenses or NRC regulations; LBP-15-4, 81 NRC 156 (2015)

debating compliance with another agency's proposed policies before they have been finalized would subject administrative agencies to needless and repetitive litigation; LBP-15-15, 81 NRC 598 (2015)

if petitioner has a credible basis to question the adequacy of licensee's compliance with 10 C.F.R. 50.54(q)(3), it may petition for enforcement action; LBP-15-4, 81 NRC 156 (2015)

in assessing whether applicant/licensee adequately carries out a licensing directive, boards are to assume that NRC Staff will be fair and judge the matter of applicant/licensee's compliance on the merits; LBP-15-3, 81 NRC 65 (2015)

in the absence of some showing of substantial prior misdeeds, applicant/licensee will be presumed to follow the agency's regulatory requirements, including the directives in its license; LBP-15-3, 81 NRC 65 (2015)

licensees may follow regulatory guides to determine equivalent safety margins, or may use any other methods, procedures, or selection of materials data and transients to demonstrate compliance; LBP-15-20, 81 NRC 829 (2015)

noncompliance with orders issued as part of NRC's ongoing oversight program are enforcement issues that are not within the scope of a license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

NRC guidance documents are not legally binding, and compliance with them is not required; LBP-15-20, 81 NRC 829 (2015)

petitioners can raise compliance issues only under 10 C.F.R. 2.206, which would allow them to petition NRC to take an enforcement action; LBP-15-5, 81 NRC 249 (2015)

post-licensing, preoperational activities conducted to comply with Part 40, Appendix A, Criterion 7 are associated with compliance with the dictates of 10 C.F.R. Part 40, Appendix A, Criteria 5B and 7A; LBP-15-3, 81 NRC 65 (2015)

See also Assumption of Compliance

### COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT

proper sampling plan for establishing baseline values is described; LBP-15-3, 81 NRC 65 (2015)

### COMPUTER MODELING

nonstatic nature of a website, in the absence of a stand-alone compact disc/digital video disc that would allow the board or parties to run a locked-down version of the website application, prevents consideration as evidence; LBP-15-3, 81 NRC 65 (2015)

to the extent petitioner is challenging the adequacy of computer modeling of plume variability, petitioner bears the burden of providing evidence specific to the license renewal applicant; LBP-15-5, 81 NRC 249 (2015)

## SUBJECT INDEX

### CONFIDENTIAL INFORMATION

flooded hazard reevaluation report contains security-related information, and so a portion of the document is not publicly available; DD-15-5, 81 NRC 877 (2015)

### CONFIRMATORY ACTION LETTER

NRC Staff inspections and CALs are oversight activities normally conducted to ensure that licensees comply with existing NRC requirements and license conditions and therefore do not typically trigger the opportunity for a hearing under the AEA; CLI-15-5, 81 NRC 329 (2015)

### CONNECTED ACTIONS

action lacks independent utility when it would be irrational or unwise to pursue the action without the presence of the EIS-generating central action; LBP-15-16, 81 NRC 618 (2015)

connected actions are closely related and therefore should be discussed in the same environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

non-NRC permits are interdependent parts of applicant's proposed action and thus are connected actions; LBP-15-16, 81 NRC 618 (2015)

when drafting an environmental impact statement, agency's scope of review must include analysis of any cumulative actions or actions connected to the central proposed action; LBP-15-16, 81 NRC 618 (2015)

### CONSIDERATION OF ALTERNATIVES

admissibility of contention that final environmental assessment fails to satisfy NRC's requirement for an environmental impact statement when there are unresolved conflicts concerning reasonable alternatives is decided; LBP-15-15, 81 NRC 598 (2015)

agency is required to consider all reasonable alternatives under the National Environmental Policy Act; LBP-15-15, 81 NRC 598 (2015)

alternative energy sources that will be dependent on future environmental safeguards and technological developments may be excluded from the NEPA alternatives discussion; LBP-15-3, 81 NRC 65 (2015)

alternatives discussion need not include every possible alternative, but rather every reasonable alternative; LBP-15-3, 81 NRC 65 (2015)

considering the reasonable alternatives analysis, it is only in the depth of the consideration and in the level of detail provided in the corresponding environmental documents that an environmental assessment and an environmental impact statement will differ; LBP-15-11, 81 NRC 401 (2015)

contention that final environmental assessment fails to adequately analyze all reasonable alternatives is inadmissible; LBP-15-11, 81 NRC 401 (2015)

discussion of alternatives that present severe engineering requirements or are imprudent for reasons including their high cost, safety hazards, and operational difficulties is excluded under NEPA; LBP-15-3, 81 NRC 65 (2015)

environmental report must contain a consideration of alternatives for reducing adverse impacts for all Category 2 license renewal issues in 10 C.F.R. Part 51, Subpart A, Appendix B; LBP-15-5, 81 NRC 249 (2015)

in consultation with identified parties, agency must develop alternatives and proposed measures that might avoid, minimize, or mitigate any adverse effects of the undertaking on historic properties and describe them in the environmental assessment or draft environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

intervenors fail to specify what other alternatives to the license renewal application should be discussed in the draft supplemental environmental impact statement, much less show that any proposed alternative would satisfy the purpose of applicant's proposed action; LBP-15-1, 81 NRC 15 (2015)

it is not enough to demonstrate a theoretical possibility that wind farms spread across a wide area could provide consistent power, but rather petitioners must show concretely that wind could be a reliable, commercially viable source of baseload power during the license renewal period; LBP-15-5, 81 NRC 249 (2015)

NEPA does not require consideration of alternatives that are technologically unproven; LBP-15-3, 81 NRC 65 (2015)

NEPA requires federal agencies to take a hard look at the environmental impacts of a proposed action, as well as reasonable alternatives to that action; LBP-15-3, 81 NRC 65 (2015)

NEPA requires that an actual range of alternatives be considered, so that agencies are precluded from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only applicant's proposed project; LBP-15-15, 81 NRC 598 (2015)

## SUBJECT INDEX

reasonable alternatives under NEPA do not include alternatives that are impractical, that present unique problems, or that cause extraordinary costs; LBP-15-3, 81 NRC 65 (2015)

See also Severe Accident Mitigation Alternatives Analysis

### CONSTRUCTION

challenges in maintaining knowledge gained during the combined license review if construction is delayed are discussed; CLI-15-13, 81 NRC 555 (2015)

commencement of construction is prohibited prior to a NEPA determination; LBP-15-16, 81 NRC 618 (2015)

in situ recovery license applicant is barred from installing a complete wellfield and associated monitor well networks until after a license is issued; LBP-15-3, 81 NRC 65 (2015)

Limited Work Authorization Rule expressly excludes transmission lines from delineated construction activities that would require NRC approval before being undertaken; CLI-15-1, 81 NRC 1 (2015)

nothing in the definition of “construction” in 10 C.F.R. 40.4 precludes the installation of wells or the use of monitoring protocols as needed to provide those background data; LBP-15-3, 81 NRC 65 (2015)

site exploration, including preconstruction monitoring to establish background information related to the environmental impacts of construction or operation or the protection of environmental values, is not included in the definition of construction; LBP-15-3, 81 NRC 65 (2015)

### CONSTRUCTION OF MEANING

although petitioner bears the burden of establishing standing, licensing boards should construe petitioner’s standing arguments in favor of petitioner; LBP-15-13, 81 NRC 456 (2015)

meaning of “verify” in the context of item presence verification is discussed; CLI-15-9, 81 NRC 512 (2015)

principle of *expressio unis est exclusio alterius* is discussed; LBP-15-11, 81 NRC 401 (2015)

regulation’s title can aid in construing regulatory text; LBP-15-4, 81 NRC 156 (2015)

See also Statutory Construction

### CONSTRUCTION PERMITS

in determining whether a license amendment, construction permit, or early site permit will be issued to applicant, the Commission is guided by the considerations that govern issuance of initial licenses, construction permits, or early site permits to the extent applicable and appropriate; LBP-15-20, 81 NRC 829 (2015)

### CONSULTATION DUTY

admissibility of contention that environmental assessment failed to conduct the required hard look at impacts of the proposed mine and fails to consult with the U.S. Fish & Wildlife Service is decided; LBP-15-11, 81 NRC 401 (2015)

agencies are to ensure that the federal government operates within a government-to-government relationship with federally recognized Native American tribes, reflecting respect for the rights of self-government due the sovereign tribal governments; LBP-15-16, 81 NRC 618 (2015)

concurrence by U.S. Fish and Wildlife Service discharges NRC’s consultation responsibilities; LBP-15-11, 81 NRC 401 (2015)

consultation must provide an Indian tribe with a reasonable opportunity to identify its concerns about historic properties, advise on their identification and evaluation, articulate its views on the undertaking’s effects on such properties, and participate in the resolution of adverse effects; LBP-15-16, 81 NRC 618 (2015)

consultation with U.S. Fish & Wildlife Service is legally mandated for any agency action that may affect listed species or critical habitat; LBP-15-11, 81 NRC 401 (2015)

contention claiming that NRC Staff’s consultation was inadequate does not ripen until issuance of NRC Staff’s draft environmental impact statement; LBP-15-5, 81 NRC 249 (2015)

federal agency is required to consult if an action may affect listed species or designated critical habitat, even if the effects are expected to be beneficial; LBP-15-11, 81 NRC 401 (2015)

federal agency must consult with any Indian tribe that attaches religious and cultural significance to potentially impacted historic properties; LBP-15-16, 81 NRC 618 (2015)

federal agency need not initiate formal consultation if, as a result of the preparation of a biological assessment under section 402.12 or as a result of informal consultation with the FWS under section 402.13, the federal agency determines, with the written concurrence of the U.S. Fish and Wildlife

## SUBJECT INDEX

Service Director, that the proposed action is not likely to adversely affect any listed species or critical habitat; LBP-15-11, 81 NRC 401 (2015)

if an agency determines that a particular action will have no effect on an endangered or threatened species, the U.S. Fish & Wildlife Service consultation requirements are not triggered; LBP-15-11, 81 NRC 401 (2015)

in consultation with identified parties, agency must develop alternatives and proposed measures that might avoid, minimize, or mitigate any adverse effects of the undertaking on historic properties and describe them in the environmental assessment or draft environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

“informal” consultation is an optional process that includes all discussions, correspondence, etc., between the U.S. Fish and Wildlife Service and the federal agency designed to assist the federal agency in determining whether formal consultation or a conference is required with the Service under section 402.13; LBP-15-11, 81 NRC 401 (2015)

issue of alleged failure to consult with a tribe is material and within the scope of materials license proceeding; LBP-15-16, 81 NRC 618 (2015)

it is the duty of NRC Staff, not applicant, to consult with interested tribes concerning the proposed site in the context of a National Historic Preservation Act contention; LBP-15-5, 81 NRC 249 (2015)

only species listed as threatened or endangered under the Endangered Species Act are covered by the Act’s formal consultation requirements; LBP-15-11, 81 NRC 401 (2015)

under NEPA, defining the scope of effects of a project requires engagement with governments of affected tribes through an early and open process aimed at identifying concerns, potential impacts, relevant effects of past actions, and possible alternative actions; LBP-15-16, 81 NRC 618 (2015)

when engaging in informal consultation, an agency must provide its determination as to whether the proposed action will affect threatened and endangered species to U.S. Fish & Wildlife Service and request FWS concurrence; LBP-15-11, 81 NRC 401 (2015)

**CONTAINMENT**

contention claiming that modifications to repair or replace inadequate structural beams and columns is more appropriately presented as a request for enforcement action; CLI-15-5, 81 NRC 329 (2015)

request for enforcement action based on support beam deficiencies, flood protection inadequacy, flood risks from upstream dams, and primary reactor containment electrical penetration seals containing Teflon is denied because petitioner’s requests have been addressed through other actions; DD-15-4, 81 NRC 869 (2015)

request that NRC immediately revoke prior preapproval of the hardened vent system or direct torus vent system at each GE BWR Mark I unit has been addressed by an order modifying licenses with regard to reliable hardened containment vents capable of operation under severe accident conditions; DD-15-1, 81 NRC 193 (2015)

request that NRC order the immediate suspension of the operating licenses of all General Electric boiling-water reactors that use the Mark I primary containment system citing the Fukushima Dai-ichi accident in Japan as its rationale basis is resolved; DD-15-1, 81 NRC 193 (2015)

**CONTAINMENT DESIGN**

contention that environmental report fails to accurately and thoroughly conduct severe accident mitigation alternatives analysis to design vulnerability of GE Mark I boiling water reactor pressure suppression containment system and environmental consequences of a to-be-anticipated severe accident post-Fukushima Daiichi fails to present a genuine material dispute; LBP-15-5, 81 NRC 249 (2015)

existing containment vent systems at BWRs with Mark I containments provide a capability to vent the containment under design-basis conditions; DD-15-1, 81 NRC 193 (2015)

**CONTAINMENT SYSTEMS**

licensees of boiling water reactors with Mark I and II containments are required to design and install a venting system that provides venting capability from the wetwell during severe accident conditions; DD-15-1, 81 NRC 193 (2015)

NRC has addressed pressure suppression containment system vulnerability to early failure under severe accident conditions including overpressurization in NUREG-0474; DD-15-1, 81 NRC 193 (2015)

**CONTENTIONS**

admissible contention is required for grant of a hearing request; LBP-15-17, 81 NRC 753 (2015)

## SUBJECT INDEX

although environmental contentions are, in essence, challenges to NRC Staff's compliance with NEPA, those contentions must be raised, if possible, in response to applicant's environmental report; CLI-15-1, 81 NRC 1 (2015); LBP-15-19, 81 NRC 815 (2015)

boards have the authority to reformulate contentions to consolidate issues for a more efficient proceeding; LBP-15-17, 81 NRC 753 (2015)

contention that final supplemental environmental impact statement lacks an adequate baseline groundwater characterization or fails to demonstrate that groundwater samples were collected in a scientifically defensible manner is decided; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

contention that FSEIS fails to analyze environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits is decided; LBP-15-3, 81 NRC 65 (2015)

contentions of omission and contentions of inadequacy are defined; LBP-15-5, 81 NRC 249 (2015)

intervenor fail to establish the validity of their various challenges to the adequacy of the FSEIS description of the baseline water quality at the in situ recovery site; LBP-15-3, 81 NRC 65 (2015)

intervenor opposed renewal of the nuclear power plant license, and proposed new contentions for increased ultrasonic testing of sand bed epoxy coating integrity; LBP-15-1, 81 NRC 15 (2015)

nothing in 10 C.F.R. Part 40, Appendix A, Criterion 5B precludes an inquiry, based on a well-pleaded contention, into whether the particular measures used in applicant's precertification program were adequate to provide the necessary information to properly characterize the environmental impacts of employing an ISR mining process in the aquifers below a proposed site; LBP-15-3, 81 NRC 65 (2015)

to the extent NRC takes action with respect to waste confidence on a case-by-case basis, litigants can challenge such site-specific agency actions in the adjudicatory process; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

when the adequacy of an EIS mitigation strategy is challenged, the determining issue is whether the agency took a sufficiently hard look at environmental consequences, and ensured that its decision was supported by a completely informed record; LBP-15-16, 81 NRC 618 (2015)

See also Abeyance of Contention; Amendment of Contentions

CONTENTIONS, ADMISSIBILITY

absent a waiver, contentions that raise a direct or indirect challenge to a Commission regulation must be rejected; LBP-15-4, 81 NRC 156 (2015)

adequacy of NRC Staff's review is not a litigable issue in a licensing case; CLI-15-9, 81 NRC 512 (2015)

admissibility of contention that a license amendment will be required for licensee to update and maintain accurate design basis documents is decided; CLI-15-5, 81 NRC 329 (2015)

admissibility of contention that applicant submit a decommissioning plan and updated financial plans related to decommissioning is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that environmental assessment fails to adequately describe and analyze aquifer restoration goals in light of new standards for determining alternative control limits is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that environmental assessment fails to adequately describe and analyze impacts of maintaining post-operational wellfields as long-term hazardous waste facilities is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that environmental assessment fails to adequately describe or analyze proposed mitigation measures is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that environmental assessment fails to conduct the required hard look at impacts of the proposed mine and failed to consult with the U.S. Fish & Wildlife Service is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that environmental assessment fails to analyze impacts on the project from earthquakes, especially concerning secondary porosity and adequate confinement is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that environmental assessment fails to describe and analyze the environmental impacts of new porosity and permeability in the aquifer caused by mining activity is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that environmental documents and associated monitoring values and restoration goals rely on baseline data calculations that are inadequate and unacceptable is decided; LBP-15-15, 81 NRC 598 (2015)

## SUBJECT INDEX

admissibility of contention that environmental documents lack an adequate description of financial assurances to cover costs of restoration and long-term monitoring of up to 30 years is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that environmental report lacks site-specific safety and environmental findings regarding spent fuel storage and disposal is decided; LBP-15-5, 81 NRC 249 (2015)

admissibility of contention that final environmental assessment fails to adequately analyze cumulative impacts is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that final environmental assessment fails to adequately evaluate adverse impacts on public health and safety is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with restoration standards and difficulty and cost in achieving them and the use of the alternative standards permitted under the proposed rules is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that licensee is undertaking modifications for protection against severe flooding in the event of upstream dam failures that will require a license amendment is decided; CLI-15-5, 81 NRC 329 (2015)

admissibility of contention that NRC Staff must conduct a new baseline groundwater characterization study of the license renewal area rather than relying on the baseline study conducted during the original license application is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that severe accident mitigation alternatives analysis fails to evaluate the impact that a severe accident at one unit would have on the operation of a proposed nearby unit is decided; LBP-15-5, 81 NRC 249 (2015)

admissibility requirement generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons; LBP-15-1, 81 NRC 15 (2015)

admissible contentions must meet all six pleading requirements of 10 C.F.R. 2.309(f)(1); LBP-15-5, 81 NRC 249 (2015); LBP-15-17, 81 NRC 753 (2015); LBP-15-18, 81 NRC 793 (2015); LBP-15-20, 81 NRC 829 (2015)

admission of a “placeholder” contention is not necessary to ensure that petitioner’s challenges to the Continued Storage Rule and GEIS receive a full and fair airing; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

admitted contentions challenging applicant’s environmental report may function as challenges to similar portions of NRC Staff’s NEPA document; LBP-15-11, 81 NRC 401 (2015)

allegations of inadequacies and omissions in NRC Staff’s environmental assessment satisfy the requirement to provide a specific statement of the issue of law or fact to be raised; LBP-15-13, 81 NRC 456 (2015)

allegations of noncompliance with already-issued, existing, and open Commission orders are part of the current licensing basis and therefore cannot be challenged in a license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

alleged facts and expert opinions in intervention petition and associated exhibits are sufficient to satisfy regulatory requirements; LBP-15-13, 81 NRC 456 (2015)

although an admissible contention requires no more than some minimal factual and legal foundation in support, the Commission expects that in almost all instances petitioner must go beyond merely quoting a request for additional information to justify admission; LBP-15-1, 81 NRC 15 (2015)

although boards do not decide the merits or resolve conflicting evidence at the contention admission stage, materials cited as the basis for a contention are subject to scrutiny by the board to determine whether they actually support the facts alleged; LBP-15-20, 81 NRC 829 (2015)

although intervenors disagree with applicant’s opportunistic inspection strategy for managing rebar corrosion, they merely assert, and do not plausibly explain, how applicant’s approach will lead to a material safety impact; LBP-15-1, 81 NRC 15 (2015)

amendment of 10 C.F.R. 2.309 in 2012 was to simplify the rules, not fundamentally change the rationale boards use to admit new/amended contentions; LBP-15-11, 81 NRC 401 (2015)

any contention that fails to directly controvert the application or environmental impact statement, or mistakenly asserts the application does not address a relevant issue, will be dismissed; LBP-15-1, 81 NRC 15 (2015)

## SUBJECT INDEX

applicability of a guidance document may be challenged in an individual proceeding; LBP-15-20, 81 NRC 829 (2015)

applicant's decision to improve an existing program to promote health and safety or to boost public support and confidence does not ordinarily confer an automatic opportunity to advance a new contention; LBP-15-1, 81 NRC 15 (2015)

at the contention admission stage, intervenors need not marshal their evidence as though preparing for an evidentiary hearing; LBP-15-20, 81 NRC 829 (2015)

at the contention filing stage the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion; LBP-15-1, 81 NRC 15 (2015)

attempts by petitioners to challenge aspects of an aging management plan that they could have challenged earlier is rejected; LBP-15-1, 81 NRC 15 (2015)

because of the need to provide specific support for a contention in order to raise a genuine dispute, the genuine dispute admissibility requirement is sometimes discussed together with the requirement for petitioners and intervenors to provide alleged factual or expert support for their allegations; LBP-15-1, 81 NRC 15 (2015)

because petitioner has not shown how a proposed plan would fail to ensure that buried pipes continue to fulfill their intended safety purposes, the contention is inadmissible; LBP-15-5, 81 NRC 249 (2015)

because the shield building functions as a radiation and biological shield, failure or collapse of the shield building due to cracking propagation could lead to health and safety impacts, and thus petitioner's contention concerns a matter that could impact the grant or denial of a pending license application; LBP-15-1, 81 NRC 15 (2015)

board admitted a contention without deciding if it was a contention of omission or a contention of inadequacy; LBP-15-5, 81 NRC 249 (2015)

board declines to entertain contentions based on little more than speculation, which represent negligible knowledge of the issues being challenged; LBP-15-1, 81 NRC 15 (2015)

board examines the information, facts, and expert opinions provided by petitioners to confirm that they do indeed provide adequate support for the contention; LBP-15-20, 81 NRC 829 (2015)

board improperly allowed petitioner to challenge the generic environmental impact statement's generic finding regarding severe accident consequences; CLI-15-6, 81 NRC 340 (2015)

board may appropriately view petitioner's support for its contention in a light favorable to petitioner, but cannot do so by ignoring the requirements in 10 C.F.R. 2.309(f)(1); LBP-15-5, 81 NRC 249 (2015); LBP-15-17, 81 NRC 753 (2015)

board may construe an admitted contention contesting applicant's environmental report as a challenge to a subsequently issued draft or final environmental impact statement without the need for intervenors to file a new or amended contention; LBP-15-11, 81 NRC 401 (2015)

boards may afford an interested state, local governmental body, and federally recognized Indian tribe that has not been admitted as a party under section 2.309 a reasonable opportunity to participate in a hearing; LBP-15-19, 81 NRC 815 (2015)

boards may examine both the statements in the document that support petitioner's assertions and those that do not; LBP-15-20, 81 NRC 829 (2015)

boards may reformulate contentions to eliminate extraneous issues or to consolidate issues for a more efficient proceeding; LBP-15-5, 81 NRC 249 (2015); LBP-15-13, 81 NRC 456 (2015)

Category 1 issues are not subject to challenge in a relicensing proceeding, absent a waiver under 10 C.F.R. 2.335, because they involve environmental effects that are essentially similar for all plants and need not be assessed repeatedly on a site-specific basis; LBP-15-5, 81 NRC 249 (2015)

challenge to use of an alternate concentration limit is an impermissible challenge to an NRC regulation, which is not subject to attack in any adjudicatory proceeding; LBP-15-11, 81 NRC 401 (2015)

challenges based on 10 C.F.R. 50.61a and the question of whether applicant demonstrated substantial advantage under 10 C.F.R. Part 50, Appendix H as a reason to not test capsules are beyond the scope of a license amendment proceeding, which concerns compliance with Appendix G of 10 C.F.R. Part 50; LBP-15-20, 81 NRC 829 (2015)

challenges to admissibility on the ground that it does not include an adequate basis because it does not include sufficient facts, evidence, or supporting factual information are misguided; LBP-15-20, 81 NRC 829 (2015)

## SUBJECT INDEX

challenges to emergency planning fall outside the scope of a license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

challenges to licensee actions taken under 10 C.F.R. 50.59 may only be taken by means of a petition for enforcement action under 10 C.F.R. 2.206; CLI-15-5, 81 NRC 329 (2015)

challenges to the agency's regulations are not allowed; LBP-15-3, 81 NRC 65 (2015)

claims of past and current mismanagement are outside the scope of the license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

Commission affirmed the board's standing ruling, but declined to accept review of challenges to the board's admission of two contentions because petitioner had failed to perfect its appeal by challenging the validity of the board's admissibility rulings regarding other contentions; LBP-15-3, 81 NRC 65 (2015)

Commission affords substantial deference to licensing boards' contention admission decisions; CLI-15-6, 81 NRC 340 (2015)

Commission approval of a rule waiver could allow a contention on a Category 1 issue to proceed where special circumstances exist; CLI-15-6, 81 NRC 340 (2015)

Commission chose to review intervenors' motion along with similar motions in other proceedings and associated petitions to suspend reactor licensing pending issuance of waste confidence safety findings; CLI-15-6, 81 NRC 340 (2015)

Commission denied motions for leave to file new contentions concerning the Continued Storage Rule; LBP-15-7, 81 NRC 391 (2015); LBP-15-9, 81 NRC 396 (2015)

Commission denied petition to supplement and declined to admit "placeholder" contention; CLI-15-13, 81 NRC 555 (2015)

Commission directed all licensing boards to reject pending waste confidence contentions that had been held in abeyance, because the generic impact determinations have been the subject of extensive public participation in the rulemaking process and therefore are excluded from litigation in individual proceedings; LBP-15-1, 81 NRC 15 (2015); LBP-15-5, 81 NRC 249 (2015)

Commission exercised its supervisory authority and dismissed proposed waste confidence safety contention and denied suspension petitions; CLI-15-13, 81 NRC 555 (2015)

concerns with the current design and operation of a nuclear power plant are more properly addressed through a petition for enforcement action; LBP-15-13, 81 NRC 456 (2015)

concurrent with approval of the final Continued Storage Rule and companion Generic Environmental Impact Statement, the Commission lifted the suspension on final licensing decisions and directed that the proposed spent fuel storage contentions be dismissed; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

contention about a matter not covered by a specific rule need only allege that the matter poses a significant safety problem; LBP-15-17, 81 NRC 753 (2015); LBP-15-20, 81 NRC 829 (2015)

contention admissibility criteria are strict by design but should not be turned into a fortress to deny intervention; LBP-15-20, 81 NRC 829 (2015)

contention admissibility requirements seek to ensure that NRC hearings adjudicate genuine, substantive safety and environmental issues placed in contention by qualified intervenors; CLI-15-8, 81 NRC 500 (2015)

contention admission stage is not the appropriate point at which to evaluate witness credibility or to weigh competing evidence, but an expert must provide a reasoned basis or explanation for opinions in support of a contention; LBP-15-17, 81 NRC 753 (2015)

contention admission standards are strict by design and exist to focus litigation on concrete issues and result in a clearer and more focused record for decision; LBP-15-11, 81 NRC 401 (2015); LBP-15-15, 81 NRC 598 (2015)

contention alleging a material deficiency must link the claimed deficiency to a public health and safety or an environmental impact; LBP-15-1, 81 NRC 15 (2015)

contention alleging that environmental assessment has not adequately addressed environmental impacts associated with saltwater intrusion arising from saline water migration from the plant into surrounding waters, and applicant's use of aquifer withdrawals to lower salinity and temperature is admissible; LBP-15-13, 81 NRC 456 (2015)



## SUBJECT INDEX

contention bases that do not pertain specifically to the license renewal application do not provide sufficient information to demonstrate a genuine dispute with the applicant on a material issue and is thus inadmissible; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

contention challenging applicant's safety culture and claiming to rely on NRC Staff's Safety Evaluation Report is inadmissible because the SER did not discuss safety culture as a general matter and could not serve as a reasonably apparent foundation for a safety culture contention; LBP-15-11, 81 NRC 401 (2015)

contention claiming that modifications to repair or replace inadequate structural beams and columns is more appropriately presented as a request for enforcement action; CLI-15-5, 81 NRC 329 (2015)

contention claiming that NRC Staff's consultation was inadequate does not ripen until issuance of NRC Staff's draft environmental impact statement; LBP-15-5, 81 NRC 249 (2015)

contention contesting adequacy of licensee's equivalent margins analysis is not a challenge to 10 C.F.R. Part 50, Appendix H; LBP-15-20, 81 NRC 829 (2015)

contention fails because it contests NRC Staff's safety review rather than the license renewal application; LBP-15-15, 81 NRC 598 (2015)

contention is within the scope of license renewal proceeding because NRC regulations require that the environmental report include a severe accident mitigation alternatives analysis; LBP-15-5, 81 NRC 249 (2015)

contention must explain what specific deficiencies exist and why they materially impact the license renewal application or environmental impact statement; LBP-15-1, 81 NRC 15 (2015)

contention must provide more than a bare assertion and must explain the supporting reasons for the dispute; LBP-15-1, 81 NRC 15 (2015)

contention of omission claims that the application fails to contain information on a relevant matter as required by law and provides the supporting reasons for petitioner's belief; LBP-15-5, 81 NRC 249 (2015)

contention of omission on a matter related to the National Environmental Policy Act must describe the information that should have been included in applicant's environmental report and provide the legal basis that requires the omitted information to be included; LBP-15-5, 81 NRC 249 (2015)

contention quotes text from a notice of proposed rulemaking, but it never ties the statements from the NOPR to any specific section of the environmental assessment, and thus fails to raise a genuine dispute with the EA; LBP-15-15, 81 NRC 598 (2015)

contention rule is strict by design; CLI-15-8, 81 NRC 500 (2015)

contention rule reflects a deliberate effort to prevent the major adjudicatory delays caused in the past by ill-defined or poorly supported contentions that were admitted for hearing although based on little more than speculation; CLI-15-8, 81 NRC 500 (2015)

contention that applicant failed to discuss a report on a recently identified seismic fault near the plant is inadmissible; LBP-15-20, 81 NRC 829 (2015)

contention that applicant failed to establish in its aging management plan that the effects of aging will be adequately managed for the period of extended operation is inadmissible; LBP-15-6, 81 NRC 314 (2015)

contention that applicant's revised material control and accounting plan fails to show how confirmation and verification of theft of plutonium will be carried out in the specified timelines is inadmissible; CLI-15-9, 81 NRC 512 (2015)

contention that applicant's revised material control and accounting plan is inadequate to satisfy the alarm resolution requirements is inadmissible; CLI-15-9, 81 NRC 512 (2015)

contention that applicant's severe accident mitigation alternatives analysis is significantly flawed because of the use of inaccurate factual assumptions about population is inadmissible; LBP-15-5, 81 NRC 249 (2015)

contention that DEIS is deficient because its evaluation of the operation of the radial collector wells does not preclude the possibility that they will change the plume dynamics of the industrial wastewater facility/cooling canal contaminant plume is inadmissible; LBP-15-19, 81 NRC 815 (2015)

contention that DEIS must identify the percentage of radial collector well water drawn from underneath the industrial wastewater facility is inadmissible; LBP-15-19, 81 NRC 815 (2015)

## SUBJECT INDEX

contention that does not actually challenge any specific part of the integrated plant assessment or time-limited aging analyses fails to demonstrate the existence of a genuine dispute; LBP-15-6, 81 NRC 314 (2015)

contention that does not dispute any specific portion of applicant's fuel handling accident analysis is inadmissible for lack of a genuine dispute; LBP-15-18, 81 NRC 793 (2015)

contention that environmental assessment fails to adequately describe air quality impacts is inadmissible as untimely; LBP-15-11, 81 NRC 401 (2015)

contention that environmental assessment violates the National Environmental Policy Act in its failure to analyze groundwater quantity impacts of the project is decided; LBP-15-11, 81 NRC 401 (2015)

contention that environmental report does not satisfy NEPA because it does not consider a range of measures to mitigate the risk of catastrophic fires in densely packed, closed-frame spent fuel storage pools is decided; LBP-15-5, 81 NRC 249 (2015)

contention that environmental report fails to accurately and thoroughly conduct severe accident mitigation alternatives analysis on design vulnerability of GE Mark I boiling water reactor pressure suppression containment system and environmental consequences of a to-be-anticipated severe accident post-Fukushima Daiichi fails to present a genuine material dispute; LBP-15-5, 81 NRC 249 (2015)

contention that environmental report fails to explain whether a discharge pipe with phosphoric acid as a corrosion inhibitor would increase algae production and potential for toxic algal blooms is admissible; LBP-15-5, 81 NRC 249 (2015)

contention that environmental report is inadequate insofar as it does not consider the risk of spent fuel pool fires is inadmissible; LBP-15-5, 81 NRC 249 (2015)

contention that environmental review documents fail to identify source data of the chemical concentrations for ethylbenzene, heptachlor, tetrachloroethylene, and toluene in groundwater is inadmissible as untimely; LBP-15-19, 81 NRC 815 (2015)

contention that final environmental assessment fails to adequately analyze all reasonable alternatives is inadmissible; LBP-15-11, 81 NRC 401 (2015)

contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with air emissions and liquid waste disposal is admissible in part; LBP-15-11, 81 NRC 401 (2015)

contention that final environmental assessment fails to present relevant information in a clear and concise manner that is readily accessible to the public and other reviewers is inadmissible; LBP-15-11, 81 NRC 401 (2015)

contention that final safety analysis report is deficient because it does not include information provided in applicant's seismic evaluation process report is rejected; LBP-15-14, 81 NRC 591 (2015)

contention that license renewal application has failed to establish that the effects of aging on relay switches and snubbers will be adequately managed for the period of extended operation is inadmissible; LBP-15-6, 81 NRC 314 (2015)

contention that NRC Staff's environmental assessment fails to consider that applicant's use of copper sulfate to control algae blooms will increase reactor operating temperatures in relation to waste is inadmissible; LBP-15-13, 81 NRC 456 (2015)

contention that operating license should not be renewed unless and until applicant establishes that the plant can withstand and be safely shut down following an earthquake is not within the scope of a license renewal proceeding; LBP-15-6, 81 NRC 314 (2015)

contention that population used for analysis might underestimate the exposed population in a severe accident and, in turn, underestimate the benefit achieved in implementing a severe accident mitigation alternatives analysis is admissible; LBP-15-5, 81 NRC 249 (2015)

contention that regulatory provisions are themselves insufficient to protect the public health and safety constitutes an improper collateral attack upon NRC regulations; LBP-15-4, 81 NRC 156 (2015)

contention that supplementation of the environmental impact statement is necessary to allow members of the public to lodge placeholder contentions challenging Commission reliance, in individual licensing proceedings, on the continued storage GEIS and Continued Storage Rule is inadmissible; CLI-15-10, 81 NRC 535 (2015)

contention where a fisheries biologist opined that applicant lacked adequate data on which to conclude that impacts on the aquatic environment were insignificant is admissible; LBP-15-20, 81 NRC 829 (2015)

## SUBJECT INDEX

contention where arguments and expert testimony were copied, largely without change, from another proceeding and failed to offer information specific to the challenged license renewal application is inadmissible; CLI-15-6, 81 NRC 340 (2015)

contentions calling for requirements in excess of those imposed by NRC regulations will be rejected as a collateral attack on the regulations; LBP-15-4, 81 NRC 156 (2015)

contentions challenging applicable statutory requirements or Commission regulations are not admissible in NRC adjudications; LBP-15-5, 81 NRC 249 (2015)

contentions must be raised at the earliest possible opportunity; CLI-15-1, 81 NRC 1 (2015)

contentions must meet the six pleading criteria of 10 C.F.R. 2.309(f)(1)(i)-(vi), and failure to meet any of them renders the contention inadmissible; LBP-15-1, 81 NRC 15 (2015); LBP-15-4, 81 NRC 156 (2015); LBP-15-6, 81 NRC 314 (2015); LBP-15-16, 81 NRC 618 (2015)

contentions must provide sufficient information to show a genuine dispute with applicant on a material issue of law or fact; CLI-15-8, 81 NRC 500 (2015)

contentions proposed after the filing deadline, which would have been allowable under the previous 10 C.F.R. 2.309(f)(2) requirements, will also be allowable under the current section 2.309(c)(1) requirements; LBP-15-11, 81 NRC 401 (2015)

contentions relying on information and findings discussed in the notice of proposed rulemaking, as opposed to tentative rules or policy determinations, are not timely filed; LBP-15-15, 81 NRC 598 (2015)

contentions shall not be admitted if at the outset they are not described with reasonable specificity or are not supported by some alleged fact or facts demonstrating a genuine material dispute; LBP-15-1, 81 NRC 15 (2015)

contentions should refer to portions of the application that petitioner disputes along with supporting reasons for each dispute, and if petitioner believes that an application fails altogether to contain information required by law, petitioner must identify each failure and provide supporting reasons for that belief; CLI-15-8, 81 NRC 500 (2015)

contentions that are the subject of general rulemaking by NRC may not be litigated in individual licensing proceedings; LBP-15-4, 81 NRC 156 (2015); LBP-15-17, 81 NRC 753 (2015)

contentions that fall outside the specified scope of the proceeding are inadmissible; LBP-15-20, 81 NRC 829 (2015)

contentions that request more testing, more methods of testing, and more information, without explaining why the current program is inadequate, are inadmissible; LBP-15-20, 81 NRC 829 (2015)

crux of the “genuine dispute” prong under 10 C.F.R. 2.309(f)(1)(vi) is the requirement for specificity, that a contention must have more than general allegations; LBP-15-1, 81 NRC 15 (2015)

current licensing basis issues cannot be challenged in license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

eight-factor test that allowed a board to consider new or amended contentions that did not meet the three requirements for admissibility of late-filed contentions available under 10 C.F.R. 2.309(f)(2) is no longer available; LBP-15-1, 81 NRC 15 (2015)

enforcement orders are outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

environmental contentions are expected in response to applicant’s or NRC Staff’s environmental reviews, and contentions regarding their adequacy cannot be expected to be proffered at an earlier stage of the proceeding before the documents are available; LBP-15-11, 81 NRC 401 (2015)

environmental justice is a Category 2 issue, within the scope of a license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

environmental waste confidence contentions are dismissed; CLI-15-6, 81 NRC 340 (2015)

even if a contention provided information not discussed in the environmental report, it is still not admissible if it fails to provide a reasoned basis or explanation for why the ER is wrong; LBP-15-5, 81 NRC 249 (2015)

even if contentions are based on NRC Staff’s FSEIS, intervenor still bears the responsibility of demonstrating that a new contention merits admission and meets all six pleading requirements; LBP-15-16, 81 NRC 618 (2015)

evidence contained in affidavits accompanying motions to reopen must meet admissibility standards; LBP-15-14, 81 NRC 591 (2015)

## SUBJECT INDEX

except as provided in section 2.335(b)-(d), no rule or regulation of the Commission, or any provision thereof, concerning the licensing of production and utilization facilities is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding subject to Part 2; LBP-15-4, 81 NRC 156 (2015); LBP-15-6, 81 NRC 314 (2015)

expert witness must have enough knowledge in the subject area to allow him to proffer an expert opinion for the purposes of determining contention admissibility; LBP-15-20, 81 NRC 829 (2015)

facts put forward by intervenor should plausibly indicate why a program is inadequate; LBP-15-20, 81 NRC 829 (2015)

facts relied on to support a contention of omission need not show that the facility cannot be safely operated, but only that the application is incomplete; LBP-15-5, 81 NRC 249 (2015)

factual support is not necessary at the contention filing stage to show that a genuine dispute exists and need not be in affidavit or formal evidentiary form or of the quality necessary to withstand a summary disposition motion; LBP-15-11, 81 NRC 401 (2015)

failure to comply with any of the section 2.309(f)(1) requirements renders a contention inadmissible; LBP-15-13, 81 NRC 456 (2015); LBP-15-19, 81 NRC 815 (2015)

failure to offer factual support for the proposition that applicant's inputs for evacuation times are flawed or unreasonable or that its sensitivity analysis of these inputs was incorrect renders a contention inadmissible; LBP-15-5, 81 NRC 249 (2015)

failure to reference specific sources showing that wind or other renewables are viable sources of baseload power within the service area, renders a contention inadmissible; LBP-15-5, 81 NRC 249 (2015)

following adoption of a revised Continued Storage Rule, boards were ordered to reject continued storage contentions pending before them, except contentions unresolved by the Continued Storage Rule; CLI-15-6, 81 NRC 340 (2015)

generalized economic cost arguments, unsupported by asserted facts or expert opinion, are insufficient to show a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 15 (2015)

generic determinations are appropriately excluded from litigation in individual proceedings; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

generic environmental impact statement findings with respect to severe accident consequences are not subject to challenge in individual license renewal proceedings; CLI-15-6, 81 NRC 340 (2015)

generic environmental impact statement for ISL mining is subject to an appropriate challenge in an adjudicatory proceeding; LBP-15-11, 81 NRC 401 (2015)

genuine dispute prong of 10 C.F.R. 2.309(f)(1)(vi) requires a nexus between alleged deficiencies and a material consequence; LBP-15-1, 81 NRC 15 (2015)

good cause doesn't exist where petitioner's late-filed contention is due to careless inadvertence and not, as petitioner claimed, attributable to technical difficulties with the E-Filing system; LBP-15-4, 81 NRC 156 (2015)

good cause for a newly proposed contention exists when information on which it is based was not previously available and is materially different than information previously available and has been submitted in a timely fashion based on the availability of the subsequent information; LBP-15-1, 81 NRC 15 (2015); LBP-15-11, 81 NRC 401 (2015); LBP-15-15, 81 NRC 598 (2015)

hearing request is granted where petitioners have submitted a timely petition, established representational standing, and proffered an admissible contention; LBP-15-20, 81 NRC 829 (2015)

if a contention makes a prima facie allegation that the application omits information required by law, it necessarily presents a genuine dispute with applicant on a material issue and raises an issue plainly material to an essential finding of regulatory compliance needed for license issuance; LBP-15-5, 81 NRC 249 (2015)

if a petitioner submits a proposed contention after the initial filing deadline announced in the applicable Federal Register notice for submitting a hearing petition, it will not be entertained absent a determination by the presiding officer that petitioner has demonstrated good cause; LBP-15-11, 81 NRC 401 (2015); LBP-15-15, 81 NRC 598 (2015)

if applicant cures the omission cited in a contention, the contention will become moot unless revised by intervenors; LBP-15-5, 81 NRC 249 (2015)

if applicant's enhanced monitoring program is inadequate, then applicant's unenhanced monitoring program embodied in its license renewal application was *a fortiori* inadequate, and intervenors had a regulatory obligation to challenge it in their original petition to intervene; LBP-15-1, 81 NRC 15 (2015)

## SUBJECT INDEX

if intervenor cannot meet the requirements for filing a contention under the new section 2.309(c)(1), he or she can still take advantage of an extension request if unanticipated events, such as a weather event or unexpected health issues, prevented the participant from filing for a reasonable period of time after the deadline; LBP-15-1, 81 NRC 15 (2015)

if intervenors sought to introduce new issues, then they should have filed a new or amended contention; CLI-15-9, 81 NRC 512 (2015)

if there are data or conclusions in the NRC draft or final environmental impact statement that differ significantly from data or conclusions in applicant's documents, late-filing standards are no bar to the admission of properly supported contentions; LBP-15-11, 81 NRC 401 (2015)

in addition to being timely, new contention must satisfy the six-factor admissibility standard; LBP-15-19, 81 NRC 815 (2015)

in explaining why there is a genuine material dispute, contention must give the board a reason to believe that the alleged deficiency will lead to a material safety or environmental outcome, based on factual or expert support; LBP-15-1, 81 NRC 15 (2015)

in interpreting the scope of an admitted contention, boards look back to the bases set forth in support of the contention; CLI-15-9, 81 NRC 512 (2015)

inadequacy in the severe accident mitigation alternatives analysis is material if license renewal applicant failed to consider complete information without justifying why particular information was omitted; LBP-15-5, 81 NRC 249 (2015)

Indian tribe's treaty-based claims of ownership of mining site and international treaty-based claims cannot support admission of environmental assessment contention; LBP-15-11, 81 NRC 401 (2015)

intervenor must do more than point to issues with the shield building, but must also indicate what is wrong with applicant's response and its amended inspection program and why intervenor believes the particular inspection program makes the license renewal application unacceptable; LBP-15-1, 81 NRC 15 (2015)

intervenors' reliance on long-available documents regarding leakages and notices of violation made a contention untimely as filed; LBP-15-11, 81 NRC 401 (2015)

intervenors are not allowed to postpone filing a contention challenging environmental or safety information or analysis until Staff issues some document that collects, summarizes, and places into context the facts supporting that contention; LBP-15-11, 81 NRC 401 (2015)

intervenors fail to specify what other alternatives to the license renewal application should be discussed in the draft supplemental environmental impact statement, much less show that any proposed alternative would satisfy the purpose of applicant's proposed action; LBP-15-1, 81 NRC 15 (2015)

intervenors must develop a fact-based argument that actually and specifically challenges the application; LBP-15-1, 81 NRC 15 (2015)

intervenors were correct to file contentions on a newly adopted rule because, unlike a proposed rule, it now has indisputable legal effect; LBP-15-15, 81 NRC 598 (2015)

intervenors' allegations are viewed in a light favorable to intervenors; LBP-15-11, 81 NRC 401 (2015)

intervenors' allegations do not plausibly indicate that the shield building would lose its functionality under the proposed aging management plan; LBP-15-1, 81 NRC 15 (2015)

intervenors' requests for more testing, more methods of testing, and more information, without an explanation of why the current program is inadequate, do not create a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 15 (2015)

intervention petition was not sufficiently specific when it merely repeated the contents of petitioner's earlier petition concerning a prior license amendment; LBP-15-17, 81 NRC 753 (2015)

intervention petitioner may not attack generic NRC requirements or regulations or express generalized grievances about NRC policies; CLI-15-9, 81 NRC 512 (2015)

issuance of a request for additional information does not alone establish deficiencies in an application or that NRC Staff will go on to find any of applicant's clarifications, justifications, or other responses to be unsatisfactory; CLI-15-8, 81 NRC 500 (2015)

issue raised must fall within the scope of the proceeding and be material to the findings that the NRC must make; CLI-15-8, 81 NRC 500 (2015)

issues addressed in a separate proceeding are beyond the scope of a later proceeding; LBP-15-20, 81 NRC 829 (2015)

## SUBJECT INDEX

it is a well-established principle that a petitioner in an adjudicatory proceeding cannot use one regulation to challenge another without first obtaining a waiver by showing special circumstances; LBP-15-4, 81 NRC 156 (2015)

it is not enough to demonstrate a theoretical possibility that wind farms spread across a wide area could provide consistent power, but rather petitioners must show concretely that wind could be a reliable, commercially viable source of baseload power during the license renewal period; LBP-15-5, 81 NRC 249 (2015)

it is the duty of NRC Staff, not applicant, to consult with interested tribes concerning the proposed site in the context of a National Historic Preservation Act contention; LBP-15-5, 81 NRC 249 (2015)

it makes no sense to spend the parties' and NRC's own valuable resources litigating allegations of current deficiencies in a proceeding that is directed to future-oriented issues of aging; LBP-15-6, 81 NRC 314 (2015)

it must be genuinely plausible that revising the severe accident mitigation alternatives analysis would change the outcome so that one or more of the SAMA candidates that applicant evaluated and rejected would become cost-beneficial; LBP-15-5, 81 NRC 249 (2015)

licensing board concluded that information on a website cited by intervenors, instead of supporting intervenors' claim, contradicted it; LBP-15-20, 81 NRC 829 (2015)

licensing board failed to provide sufficient justification for rejecting a challenge to applicant's meteorological model where petitioners pointed to site-specific meteorological patterns to argue that the model and inputs were inaccurate and insufficiently conservative; LBP-15-20, 81 NRC 829 (2015)

licensing board may appropriately view petitioner's supporting information in a light favorable to the petitioner, but may not do so by ignoring other admissibility requirements; LBP-15-1, 81 NRC 15 (2015); LBP-15-19, 81 NRC 815 (2015); LBP-15-20, 81 NRC 829 (2015)

licensing boards should not accept in individual licensing proceedings contentions that are or are about to become the subject of general rulemaking by the Commission; CLI-15-9, 81 NRC 512 (2015); CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

licensing proceedings are not the appropriate venue for generic rulemaking issues; CLI-15-9, 81 NRC 512 (2015)

litigants may not challenge a rule in NRC adjudicatory proceedings absent a showing of special circumstances; CLI-15-1, 81 NRC 1 (2015)

material difference must exist between information on which a contention is based and information that was previously available, e.g., a difference between the environmental report and the draft EIS or the draft EIS and the final EIS; CLI-15-1, 81 NRC 1 (2015)

"materiality" requires petitioner to show why the alleged error or omission is of possible significance to the result of the proceeding; LBP-15-20, 81 NRC 829 (2015)

mere notice pleading is insufficient, but requirement for contention specificity and factual support rather than vague or conclusory statements is not intended to prevent intervention when material and concrete issues exist; LBP-15-20, 81 NRC 829 (2015)

merits questions cannot be resolved at the contention admission stage of the proceeding; LBP-15-20, 81 NRC 829 (2015)

migration of a contention is appropriate only where the environmental analysis or discussion at issue is essentially in pari materia with applicant's analysis or discussion that is the focus of the contention; LBP-15-11, 81 NRC 401 (2015)

migration tenet applies when information in the draft environmental impact statement is sufficiently similar to information in applicant's environmental report, and allows previously admitted contentions challenging the environmental report to apply to relevant portions of the DSEIS; LBP-15-16, 81 NRC 618 (2015)

motion to reopen that relates to a contention not previously in controversy must satisfy the section 2.309(c) requirements for new or amended contentions filed after the original hearing petition deadline; LBP-15-14, 81 NRC 591 (2015)

neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention; LBP-15-1, 81 NRC 15 (2015)

new arguments may not be raised in replies; LBP-15-17, 81 NRC 753 (2015)

## SUBJECT INDEX

new contention is inadmissible because it relies on information that is not materially different from information previously available and already in the record; LBP-15-11, 81 NRC 401 (2015); LBP-15-16, 81 NRC 618 (2015)

new information on the need to supplement an issued final EIS must point to impacts that affect the quality of the human environment in a significant manner or to a significant extent not already considered; LBP-15-16, 81 NRC 618 (2015)

new or amended contention is considered timely if it is filed within 60 days of the date when the material information first became available to movant through service, publication, or any other means; LBP-15-1, 81 NRC 15 (2015)

new or amended contentions must satisfy the substantive contention admissibility standards, and failure to meet any of them renders a contention inadmissible; LBP-15-11, 81 NRC 401 (2015); LBP-15-15, 81 NRC 598 (2015)

no finding on emergency planning is necessary for issuance of a renewed nuclear power reactor operating license; CLI-15-6, 81 NRC 340 (2015)

no NRC rule or regulation, or any provision thereof, concerning the licensing of production and utilization facilities is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding; LBP-15-5, 81 NRC 249 (2015); LBP-15-17, 81 NRC 753 (2015)

no significant hazards consideration determination is a procedural decision barred from litigation; LBP-15-13, 81 NRC 456 (2015); LBP-15-17, 81 NRC 753 (2015)

NRC deliberately raised the admission standards for contentions to obviate serious hearing delays caused in the past by poorly defined or poorly supported contentions; LBP-15-1, 81 NRC 15 (2015)

NRC rules of practice are designed to avoid unfocused inquiry in contested proceedings; CLI-15-1, 81 NRC 1 (2015)

NRC Staff's first attempt to analyze a NEPA issue gives rise to an intervenor's first opportunity to raise contentions on the adequacy of this assessment; LBP-15-11, 81 NRC 401 (2015)

NRC Staff's safety analysis and environmental analysis occur separately, and intervenors are expected to raise safety challenges in response to the safety reports and environmental challenges in response to the environmental statements; LBP-15-11, 81 NRC 401 (2015)

once the deadline for filing petitions to intervene has passed, a party may file new or amended contentions if it is able to demonstrate good cause by meeting three requirements; LBP-15-1, 81 NRC 15 (2015)

party may petition the Commission for permission to challenge a rule, but that party must make a showing of special circumstances; LBP-15-5, 81 NRC 249 (2015)

petitioner cannot cure a deficient contention with new arguments not presented in the initial petition; LBP-15-4, 81 NRC 156 (2015)

petitioner has not satisfied reopening standards because it has not raised a significant environmental issue and has not demonstrated that a materially different result would be likely if the contention had been considered initially; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

petitioner may file new contentions if there are data or conclusions in the draft or final environmental impact statement or environmental assessment that differ significantly from data or conclusions in applicant's documents; LBP-15-11, 81 NRC 401 (2015)

petitioner may not provide support for a contention in its reply; LBP-15-5, 81 NRC 249 (2015)

petitioner may not rely on general allegations, but must show specific ties to NRC regulatory requirements or to safety in general to demonstrate a genuine dispute of fact or law; LBP-15-20, 81 NRC 829 (2015)

petitioner must demonstrate that a contention asserts an issue of law or fact that is material to the findings NRC must make to support the action that is involved in the proceeding; LBP-15-20, 81 NRC 829 (2015)

petitioner must demonstrate that a contention of omission is within the scope of the proceeding; LBP-15-5, 81 NRC 249 (2015)

petitioner must explain the basis for each proffered contention by stating alleged facts or expert opinions that support petitioner's position and on which petitioner intends to rely in litigating the contention at hearing; CLI-15-8, 81 NRC 500 (2015); LBP-15-5, 81 NRC 249 (2015)

petitioner must provide factual evidence or supporting documents that produce some doubt about the adequacy of a specified portion of applicant's documents or that provide supporting reasons that tend to

## SUBJECT INDEX

show that there is some specified omission from applicant's documents; LBP-15-20, 81 NRC 829 (2015)

petitioner must show that a genuine dispute exists on a material issue of law or fact relating to the application; LBP-15-19, 81 NRC 815 (2015)

petitioner need not rerun applicant's own cost-benefit calculations, but must do more than merely suggest that additional factors be evaluated or that different analytical techniques be used; LBP-15-5, 81 NRC 249 (2015)

petitioner that fails to provide sufficient factual or expert support for the claims in its contention in contravention of section 2.309(f)(1)(v) also may have failed to show a genuine dispute with the application as required under section 2.309(f)(1)(vi); LBP-15-1, 81 NRC 15 (2015)

petitioner's burden on a contention of omission is to identify the omission and the supporting reasons for petitioners' belief that the application fails to contain information on a relevant matter as required by law; LBP-15-5, 81 NRC 249 (2015)

petitioner's failure to address applicant's supplemental economic analyses, demonstrate specific knowledge of the analysis, and not indicate, even broadly, that the SAMA economic cost-benefit conclusions are not sufficiently conservative renders a contention inadmissible; LBP-15-5, 81 NRC 249 (2015)

petitioner's issue of NRC Staff's compliance with its NEPA obligation to undertake a full evaluation of the environmental impacts associated with a proposed federal action is within the scope of an operating license amendment proceeding and material to the findings NRC must make; LBP-15-13, 81 NRC 456 (2015)

petitioners are not barred from contending that additional testing is necessary to show margins of safety equivalent to those of the ASME BPV Code, Section XI, Appendix G because petitioners allege noncompliance with 10 C.F.R. Part 50, Appendix G and not Appendix H; LBP-15-20, 81 NRC 829 (2015)

petitioners are not required at the contention admission stage to prove their case on the merits or even to provide expert or factual support as strong as that necessary to withstand a summary disposition motion; LBP-15-20, 81 NRC 829 (2015)

petitioners are obliged to present factual allegations and/or expert opinion necessary to support their contentions; LBP-15-1, 81 NRC 15 (2015)

petitioners are required to make a minimal showing that material facts are in dispute, thereby demonstrating that an inquiry in depth is appropriate; LBP-15-20, 81 NRC 829 (2015)

petitioners are required to provide sufficient factual support to demonstrate a genuine dispute; LBP-15-20, 81 NRC 829 (2015)

petitioners can raise compliance issues only under 10 C.F.R. 2.206, which would allow them to petition NRC to take an enforcement action; LBP-15-5, 81 NRC 249 (2015)

petitioners cannot challenge an NRC regulation without first obtaining a waiver; LBP-15-20, 81 NRC 829 (2015)

petitioners cannot rely on a late attempt to reinvigorate thinly supported contentions by presenting entirely new arguments in reply briefs; LBP-15-4, 81 NRC 156 (2015)

petitioners do not need to cite a specific portion of the application to support a contention of omission; LBP-15-5, 81 NRC 249 (2015)

petitioners have not raised an issue material to findings that NRC must make to support final decisions and they are unable to satisfy contention admissibility standards or meet the criteria to reopen a closed record; CLI-15-4, 81 NRC 221 (2015)

petitioners may challenge a Staff guidance document such as a Regulatory Guide; LBP-15-20, 81 NRC 829 (2015)

petitioners may raise contentions seeking correction of significant inaccuracies and omissions in the environmental report; LBP-15-5, 81 NRC 249 (2015)

petitioners may raise issues not addressed by a specific regulation when unique features in the facility or ongoing development of a generic solution mean that there are some gaps in the regulatory scheme that must be addressed on a case-by-case basis; LBP-15-20, 81 NRC 829 (2015)

petitioners must do more than rest on the mere existence of requests for additional information as a basis for their contention; CLI-15-8, 81 NRC 500 (2015)

petitioners must offer more than speculation at the contention admission stage; LBP-15-5, 81 NRC 249 (2015)



## SUBJECT INDEX

petitioners must provide a concise statement of the alleged facts or expert opinions that support their position on the issue, together with references to the specific sources and documents, on which they intend to rely to support their position on the issue; LBP-15-5, 81 NRC 249 (2015); LBP-15-20, 81 NRC 829 (2015)

petitioners must provide site-specific support to show that the severe accident mitigation alternatives analysis is unreasonable; LBP-15-5, 81 NRC 249 (2015)

petitioners question applicant's failure to consider the qualitative benefits of installing engineered filters; LBP-15-5, 81 NRC 249 (2015)

petitioners who choose to wait to raise contentions that could have been raised earlier risk the possibility that there will not be a material difference between the application and NRC Staff's review documents, thus rendering any newly proposed contention on previously available information impermissibly late; CLI-15-1, 81 NRC 1 (2015)

petitioners' argument that power reactor is being operated as a test reactor reflects a misreading of 10 C.F.R. 50.59; LBP-15-20, 81 NRC 829 (2015)

petitioners' contention challenges the sufficiency of the equivalent margins analysis to provide reasonable assurance of reactor safety and is therefore within the scope of the proceeding; LBP-15-20, 81 NRC 829 (2015)

placeholder contentions that challenge the 2014 Continued Storage Rule and associated Generic Environmental Impact Statement for Continued Storage are inadmissible; CLI-15-15, 81 NRC 803 (2015)

pleading requirements calling for a recitation of facts or expert opinion supporting the issue raised are inapplicable to a contention of omission beyond identifying the regulatively required missing information; LBP-15-5, 81 NRC 249 (2015); LBP-15-11, 81 NRC 401 (2015)

pleadings submitted by pro se petitioners are afforded greater leniency than petitions drafted with the assistance of counsel; LBP-15-13, 81 NRC 456 (2015)

pointing to alleged new and significant information is not enough to allow boards to adjudicate an issue resolved generically by regulation; LBP-15-5, 81 NRC 249 (2015)

proponents of new or amended contentions are required to demonstrate good cause for their filing, which includes a demonstration that the information on which the new or amended contention is based is materially different from information previously available; CLI-15-1, 81 NRC 1 (2015)

proposed rule or proposed law may not support an admissible contention because its ultimate effect is at best speculative; LBP-15-15, 81 NRC 598 (2015)

proposed rules are not binding upon administrative agencies and are not ripe for review by NRC boards; LBP-15-15, 81 NRC 598 (2015)

providing any material or document as a basis for a contention without setting forth an explanation of its significance, is inadequate to support admission of that contention; LBP-15-20, 81 NRC 829 (2015)

purpose of 10 C.F.R. 2.309(f)(1) is to focus litigation on concrete issues and result in a clearer and more focused record for decision; LBP-15-5, 81 NRC 249 (2015)

radiological claims that represent a direct challenge to prior license amendments authorizing extended power uprates are outside the scope of a license amendment proceeding; LBP-15-13, 81 NRC 456 (2015)

regulations can be challenged only under extremely limited circumstances; LBP-15-5, 81 NRC 249 (2015)

reply brief may not be used to present entirely new arguments in support of an existing contention or to propose a new contention, but board may consider information in a reply that legitimately amplifies an issue presented in the original petition; LBP-15-5, 81 NRC 249 (2015)

requirement for brief explanation of the basis for a contention merely requires an explanation of the rationale or theory of the contention; LBP-15-20, 81 NRC 829 (2015)

requirement that a contention refer to specific portions of the application ensures that the board will be able to determine whether the contention is within the scope of the proceeding and that applicant knows which portions of the application it must defend; LBP-15-20, 81 NRC 829 (2015)

requirement that a contention refer to specific portions of the application is satisfied when a commonsense reading of the petition makes abundantly clear which sections of the application petitioners are challenging, even though petitioners do not specifically cite particular sections; LBP-15-20, 81 NRC 829 (2015)

## SUBJECT INDEX

requirements for an admissible contention are provided in 10 C.F.R. 2.309(f)(i)-(vi); CLI-15-8, 81 NRC 500 (2015)

requiring petitioners to proffer conclusive support for the effect of their proposed contention would improperly require boards to adjudicate the merits of contentions before admitting them; LBP-15-20, 81 NRC 829 (2015)

results of review by NRC Staff and Indian tribe of applicant's newly disclosed well log data did not paint a seriously different picture of the environmental landscape; LBP-15-16, 81 NRC 618 (2015)

rules on contention admissibility are strict by design; LBP-15-5, 81 NRC 249 (2015); LBP-15-17, 81 NRC 753 (2015)

safety culture issues are outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

safety issue that does not involve aging management issues is outside the scope of the license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

severe accident mitigation alternatives analysis issues can present difficult judgment calls at the contention admission stage; LBP-15-5, 81 NRC 249 (2015)

simply attaching material or documents as a basis for a contention, without setting forth an explanation of that information's significance, is inadequate to support admission of the contention; LBP-15-1, 81 NRC 15 (2015)

some reasonably specific factual or legal basis is required; CLI-15-8, 81 NRC 500 (2015)

standards are strict by design; LBP-15-19, 81 NRC 815 (2015)

subject matter of contentions must impact the grant or denial of a pending license application; LBP-15-20, 81 NRC 829 (2015)

support for a contention must be provided when the contention is filed, not at some later date; LBP-15-5, 81 NRC 249 (2015)

there must be some significant link between a claimed deficiency and NRC's ultimate determination whether applicant will adequately protect the health and safety of the public and the environment; LBP-15-20, 81 NRC 829 (2015)

thinly supported contention is inadmissible; CLI-15-6, 81 NRC 340 (2015)

to challenge a Category 1 issue such as public health, petitioner must request a waiver and show that unique circumstances warrant a site-specific determination; LBP-15-5, 81 NRC 249 (2015)

to eliminate the inadmissible issue of tribal notification and to clarify the scope of the subsistence consumption issue, board narrows and reformulates a contention; LBP-15-5, 81 NRC 249 (2015)

to gain the admission of a new or amended contention, a party must meet the requirements of 10 C.F.R. 2.309(c) and (f); LBP-15-16, 81 NRC 618 (2015)

to meet the section 2.309(f)(1)(v) requirement for providing factual and expert support, petitioners must proffer at least some minimal factual and legal foundation in support of their contentions; LBP-15-1, 81 NRC 15 (2015)

to raise a genuine dispute on a material issue of law or fact, a properly formulated contention must challenge specific portions of, or alleged omissions from, the application or the agency's environmental impact statement, and provide reasons in support; LBP-15-1, 81 NRC 15 (2015)

to the extent a contention would require licensee to maintain the ERDS link or to create another ERDS-like system after its reactor is permanently shut down and defueled, it is an impermissible collateral attack on a regulation; LBP-15-4, 81 NRC 156 (2015)

to the extent petitioner is challenging the adequacy of computer modeling of plume variability, petitioner bears the burden of providing evidence specific to the license renewal applicant; LBP-15-5, 81 NRC 249 (2015)

two issues in one contention are best evaluated as separate contentions; LBP-15-5, 81 NRC 249 (2015)

unless petitioner sets forth a supported contention pointing to an apparent error or deficiency that may have significantly skewed the environmental conclusions, there is no genuine material dispute for hearing; LBP-15-5, 81 NRC 249 (2015)

when an application is alleged to be deficient, petitioner must identify the deficiencies and provide supporting reasons for its position that such information is required; LBP-15-1, 81 NRC 15 (2015)

when an NRC regulation permits use of a particular analysis, a contention asserting that a different analysis or technique should be used is inadmissible because it indirectly attacks NRC's regulations; LBP-15-17, 81 NRC 753 (2015); LBP-15-20, 81 NRC 829 (2015)

## SUBJECT INDEX

when petitioner neglects to provide the requisite support for its contentions, it is not within the board's power to make assumptions or draw inferences that favor petitioner, nor may the board supply information that is lacking; LBP-15-1, 81 NRC 15 (2015)

where petition fails on the merits, the Commission need not address procedural issues; CLI-15-10, 81 NRC 535 (2015)

with respect to the need to supplement an issued final EIS, the party offering the new contention has the burden of presenting information sufficient to show that there is a genuine issue regarding whether the NRC Staff should supplement its document; LBP-15-16, 81 NRC 618 (2015)

CONTENTIONS, LATE-FILED

contention that environmental assessment fails to adequately describe air quality impacts is inadmissible as untimely; LBP-15-11, 81 NRC 401 (2015)

contentions relying on information and findings discussed in the notice of proposed rulemaking, as opposed to tentative rules or policy determinations, are not timely filed; LBP-15-15, 81 NRC 598 (2015)

eight-factor test that allowed a board to consider new or amended contentions that did not meet the three requirements for admissibility of late-filed contentions available under 10 C.F.R. 2.309(f)(2) is no longer available; LBP-15-1, 81 NRC 15 (2015)

good cause doesn't exist where petitioner's late-filed contention is due to careless inadvertence and not, as petitioner claimed, attributable to technical difficulties with the E-Filing system; LBP-15-4, 81 NRC 156 (2015)

good cause for a newly proposed contention exists when information on which it is based was not previously available and is materially different than information previously available and has been submitted in a timely fashion based on the availability of the subsequent information; LBP-15-1, 81 NRC 15 (2015); LBP-15-11, 81 NRC 401 (2015); LBP-15-15, 81 NRC 598 (2015)

if a party submits a proposed contention after the initial filing deadline announced in the applicable Federal Register notice for submitting a hearing petition, it will not be entertained absent a determination by the presiding officer that a participant has demonstrated good cause; LBP-15-11, 81 NRC 401 (2015); LBP-15-15, 81 NRC 598 (2015)

if applicant's enhanced monitoring program is inadequate, then applicant's unenhanced monitoring program embodied in its license renewal application was *a fortiori* inadequate, and intervenors had a regulatory obligation to challenge it in their original petition to intervene; LBP-15-1, 81 NRC 15 (2015)

if intervenors sought to introduce new issues, then they should have filed a new or amended contention; CLI-15-9, 81 NRC 512 (2015)

in addition to being timely, new contention must satisfy the six-factor admissibility standard; LBP-15-19, 81 NRC 815 (2015)

material difference must exist between information on which a contention is based and information that was previously available, e.g., a difference between the environmental report and the draft EIS or the draft EIS and the final EIS; CLI-15-1, 81 NRC 1 (2015)

most important among the late-filing factors is demonstration of good cause; LBP-15-1, 81 NRC 15 (2015)

motion to reopen that relates to a contention not previously in controversy must satisfy the section 2.309(c) requirements for new or amended contentions filed after the original hearing petition deadline; LBP-15-14, 81 NRC 591 (2015)

new contention is inadmissible because it relies on information that is not materially different from information previously available and already in the record; LBP-15-16, 81 NRC 618 (2015)

new contentions cannot be based on previously available information; LBP-15-11, 81 NRC 401 (2015)

new or amended contention is considered timely if it is filed within 60 days of the date when the material information first became available to the moving party through service, publication, or any other means; LBP-15-1, 81 NRC 15 (2015)

new or amended contentions must satisfy the substantive contention admissibility standards and failure to meet any of them renders a contention inadmissible; LBP-15-11, 81 NRC 401 (2015); LBP-15-15, 81 NRC 598 (2015)

once the deadline for filing petitions to intervene has passed, a party may file new or amended contentions if it is able to demonstrate good cause by meeting three requirements; LBP-15-1, 81 NRC 15 (2015); LBP-15-19, 81 NRC 815 (2015)

## SUBJECT INDEX

petitioner may file new contentions if there are data or conclusions in the NRC draft or final environmental impact statement or environmental assessment that differ significantly from data or conclusions in applicant's documents; LBP-15-11, 81 NRC 401 (2015)

petitioners who choose to wait to raise contentions that could have been raised earlier risk the possibility that there will not be a material difference between the application and NRC Staff's review documents, thus rendering any newly proposed contention based on previously available information impermissibly late; CLI-15-1, 81 NRC 1 (2015)

proponents of new or amended contentions are required to demonstrate good cause for their filing, which includes a demonstration that the information on which the new or amended contention is based is materially different from information previously available; CLI-15-1, 81 NRC 1 (2015)

requirements for demonstrating good cause are the same as the requirements for filing late contentions previously available under section 2.309(f)(2)(i)-(iii); LBP-15-1, 81 NRC 15 (2015)

section 2.309(c)(1)(iii) does not stipulate what is considered timely, and the board looks to Commission precedent; LBP-15-11, 81 NRC 401 (2015)

to gain the admission of a new or amended contention, a party must meet the requirements of 10 C.F.R. 2.309(c) and (f); LBP-15-16, 81 NRC 618 (2015)

when a contention is considered to be timely filed is not specified in 10 C.F.R. 2.309(c)(1)(iii); LBP-15-15, 81 NRC 598 (2015)

### CONTESTED LICENSE APPLICATIONS

NRC rules of practice are designed to avoid unfocused inquiry in contested proceedings; CLI-15-1, 81 NRC 1 (2015)

### CONTINUED STORAGE RULE

absent a rule waiver, NRC Staff is not expected to revisit the impact determinations made in the Continued Storage GEIS as part of its site-specific NEPA reviews; CLI-15-10, 81 NRC 535 (2015)

admission of a "placeholder" contention is not necessary to ensure that petitioner's challenges to the Continued Storage Rule and GEIS receive a full and fair airing; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

assumptions used in the analysis of impacts of continued storage of spent fuel are sufficiently conservative to bound the impacts such that variances that may occur between sites are unlikely to result in environmental impact determinations greater than those presented in the continued storage generic environmental impact statement; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

because 10 C.F.R. 51.23(b) prescribes a specific procedure for incorporating the environmental impacts of continued storage into a site-specific analysis, this procedure, rather than a procedure set forth in the general provisions of Part 51, governs NRC environmental review; CLI-15-10, 81 NRC 535 (2015)

Commission adopted a generic environmental impact statement to identify and analyze the environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors; LBP-15-12, 81 NRC 452 (2015)

Commission denied motions for leave to file new contentions concerning the Continued Storage Rule; LBP-15-7, 81 NRC 391 (2015)

Commission denied petition to supplement and declined to admit "placeholder" contention; CLI-15-13, 81 NRC 555 (2015)

Commission directed licensing boards to reject pending waste confidence contentions after adopting a generic environmental impact statement to identify and analyze environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors; LBP-15-5, 81 NRC 249 (2015)

concurrent with approval of the final Continued Storage Rule and companion Generic Environmental Impact Statement, the Commission lifted the suspension on final licensing decisions and directed that the proposed spent fuel storage contentions be dismissed; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

contention that supplementation of the environmental impact statement is necessary to allow members of the public to lodge placeholder contentions challenging Commission reliance, in individual licensing proceedings, on the continued storage GEIS and Continued Storage Rule is inadmissible; CLI-15-10, 81 NRC 535 (2015)

## SUBJECT INDEX

“deemed incorporated” function of 10 C.F.R. 51.23(b) provides administrative efficiency by adding the environmental impacts of continued storage to site-specific environmental impact statements without additional work by the Staff; CLI-15-10, 81 NRC 535 (2015)

environmental impacts of continued storage have been incorporated into the environmental impact statements at issue in the proceedings by operation of law; CLI-15-10, 81 NRC 535 (2015)

following adoption of a revised Continued Storage Rule, boards were ordered to reject continued storage contentions pending before them, except contentions unresolved by the Continued Storage Rule; CLI-15-6, 81 NRC 340 (2015)

generic analyses of the environmental impacts of continued storage and disposal in the context of NRC reactor licensing proceedings are acceptable; CLI-15-4, 81 NRC 221 (2015)

generic environmental impact statement for spent fuel pools is not limited to discussing only normal operations, but also discusses potential accidents and other nonroutine events, and thus need not be included in the severe accident mitigation alternatives analysis for license renewal; LBP-15-5, 81 NRC 249 (2015)

impact determinations in the continued storage generic environmental impact statement shall be deemed incorporated into the environmental impact statements associated with combined license and license renewal applications; CLI-15-10, 81 NRC 535 (2015)

impacts of continued storage will not vary significantly across sites and can be analyzed generically; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

members of the public had the opportunity to fully participate in the Continued Storage rulemaking proceeding; CLI-15-10, 81 NRC 535 (2015)

NRC adopted a generic environmental impact statement identifying and analyzing environmental impacts of continued storage of spent nuclear fuel and associated revisions to the Temporary Storage Rule in 10 C.F.R. 51.23; LBP-15-1, 81 NRC 15 (2015)

NRC adopted a generic environmental impact statement to identify and analyze environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors; LBP-15-5, 81 NRC 249 (2015)

NRC need not undertake incorporation by reference of a generic environmental impact statement where the Commission has already taken public comment and performed a comprehensive analysis of the environmental consequences of continued spent fuel storage; CLI-15-10, 81 NRC 535 (2015)

placeholder contentions that challenge the 2014 Continued Storage Rule and associated Generic Environmental Impact Statement for Continued Storage are inadmissible; CLI-15-15, 81 NRC 803 (2015)

rule and supporting generic environmental impact statement to assess the environmental impacts of spent fuel storage after the end of a reactor’s license term were approved; CLI-15-10, 81 NRC 535 (2015)

rule makes generic safety findings concerning feasibility and capacity of spent fuel disposal; LBP-15-9, 81 NRC 396 (2015)

to the extent NRC takes action with respect to waste confidence on a case-by-case basis, litigants can challenge such site-specific agency actions in the adjudicatory process; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

when considering continued storage in licensing reviews with previously completed final environmental impact statements, NRC Staff is expected to use a consistent and transparent process to ensure that all stakeholders are aware of how the environmental impacts of continued storage are considered in each affected licensing action; CLI-15-10, 81 NRC 535 (2015)

**CONTROL RODS**  
See Reactor Control Rods

**CONTROLLED ACCESS**  
term is defined as any temporarily or permanently established area that is clearly demarcated, access to which is controlled, and which affords isolation of the material or persons within it; CLI-15-9, 81 NRC 512 (2015)

**COOLANT**  
petitioners’ concerns about tube leaks, unplanned power changes, and potential primary coolant contamination did not constitute any violations that were more than minor; DD-15-2, 81 NRC 205 (2015)

## SUBJECT INDEX

### COOLANT SYSTEM, MAIN

licensee's operation of primary coolant pumps contrary to plant licensing and the FSAR is a violation of 10 C.F.R. Part 50, Appendix B, Criterion III; DD-15-3, 81 NRC 713 (2015)  
request for immediate action to prevent restart because a piece of primary coolant pump impeller was lodged between the reactor vessel and the flow skirt is denied; DD-15-3, 81 NRC 713 (2015)  
request for licensee to replace the primary coolant pumps with others designed for their intended duty is denied; DD-15-3, 81 NRC 713 (2015)

### COOLING SYSTEMS

See Spent Fuel Cooling System

### CORROSION

although intervenors disagree with applicant's opportunistic inspection strategy for managing rebar corrosion, they merely assert, and do not plausibly explain, how applicant's approach will lead to a material safety impact; LBP-15-1, 81 NRC 15 (2015)

### COST-BENEFIT ANALYSIS

See Benefit-Cost Analysis

### COSTS

generalized economic cost arguments, unsupported by asserted facts or expert opinion, are insufficient to show a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 15 (2015)

### COUNCIL ON ENVIRONMENTAL QUALITY

Advisory Council on Historic Preservation regulations provide guidance on agency compliance with NEPA and are not binding on NRC when the agency has not expressly adopted them, but are entitled to considerable deference; LBP-15-16, 81 NRC 618 (2015)

NRC has not expressly adopted CEQ regulations, but they are entitled to considerable deference;  
LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

### CRACKING

because the shield building functions as a radiation and biological shield, failure or collapse of the shield building due to cracking propagation could lead to health and safety impacts and thus petitioner's contention concerns a matter that could impact the grant or denial of a pending license application;  
LBP-15-1, 81 NRC 15 (2015)

board has ample authority to ensure that evidence offered concerning microcracking is limited to that specific material issue and does not stray into issues outside the scope of the license amendment proceeding; LBP-15-20, 81 NRC 829 (2015)

directing NRC Staff to investigate a safety issue that the board could not reach through the adjudicatory process may put the Commission in a position, after receiving views of applicant if it desired, to assure itself about the significance, or lack thereof, of the shield building cracking issues raised by intervenors, and to direct such followup proceedings, if any, as it might deem appropriate; LBP-15-1, 81 NRC 15 (2015)

### CULTURAL RESOURCES

agencies must take a hard look at preserving important historic and cultural aspects of our national heritage; LBP-15-16, 81 NRC 618 (2015)

agency failed to take a hard look at cumulative impacts on cultural resources under NEPA even though the agency had satisfied its obligations under NHPA to consult with the tribe; LBP-15-16, 81 NRC 618 (2015)

consultation must provide an Indian tribe with a reasonable opportunity to identify its concerns about historic properties, advise on their identification and evaluation, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects; LBP-15-16, 81 NRC 618 (2015)

federal agencies must consult with any Indian tribe that attaches religious and cultural significance to the sites; LBP-15-16, 81 NRC 618 (2015)

final supplemental environmental impact statement must include an analysis of cultural impacts;  
LBP-15-16, 81 NRC 618 (2015)

harming Native American artifacts would constitute an irreparable injury because artifacts are, by their nature, unique, and their historical and cultural significance make them difficult to value monetarily;  
LBP-15-2, 81 NRC 48 (2015)

## SUBJECT INDEX

irreparable harm element of the test for issuance of injunctive relief was met where the tribe's evidence showed that a phase of the project would involve damage to at least one known site, and virtually ensure some loss or damage; LBP-15-2, 81 NRC 48 (2015)

materials license application must provide analyses that are adequate, accurate, and complete in all material respects to demonstrate that cultural and historic resources are identified and protected; LBP-15-16, 81 NRC 618 (2015)

NRC Staff must include in the final supplemental environmental impact statement an analysis of significant problems and objections raised by any affected Indian tribes, and by other interested persons; LBP-15-16, 81 NRC 618 (2015)

NRC Staff must take steps necessary to identify the presence of historic properties within the area encompassed by the source materials license renewal application; LBP-15-2, 81 NRC 48 (2015)  
overall record for the licensing action includes a complete analysis of the cultural resources; LBP-15-16, 81 NRC 618 (2015)

preliminary injunction halting a solar energy project was granted based on a tribal claim that the project would not avoid most of the 459 cultural sites identified, and that the NEPA and NHPA process had been insufficient; LBP-15-2, 81 NRC 48 (2015)

### CULTURAL SENSITIVITY

agencies are to ensure that the federal government operates within a government-to-government relationship with federally recognized Native American tribes, reflecting respect for the rights of self-government due the sovereign tribal governments; LBP-15-16, 81 NRC 618 (2015)

federal agencies must consult with any Indian tribe that attaches religious and cultural significance to potentially impacted historic properties; LBP-15-16, 81 NRC 618 (2015)

federal policy supports special consideration where tribal religious exercise is threatened; LBP-15-16, 81 NRC 618 (2015)

### CUMULATIVE IMPACTS ANALYSIS

admissibility of contention that final environmental assessment fails to adequately analyze cumulative impacts is decided; LBP-15-11, 81 NRC 401 (2015)

agency failed to take a hard look at cumulative impacts on cultural resources under NEPA even though the agency had satisfied its obligations under NHPA to consult with the tribe; LBP-15-16, 81 NRC 618 (2015)

when drafting an environmental impact statement, agency's scope of review must include analysis of any connected or cumulative actions to the central proposed action; LBP-15-16, 81 NRC 618 (2015)

### CURRENT LICENSING BASIS

ability of a facility to shut down safely following a potential earthquake is a current operating issue, and is not unique to whether licenses should be renewed; LBP-15-6, 81 NRC 314 (2015)

allegations of noncompliance with already-issued, existing, and open Commission orders are part of the CLB and therefore cannot be challenged in a license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

applicant has the burden of providing reasonable assurance that the CLB will be maintained throughout the renewal period; LBP-15-5, 81 NRC 249 (2015)

Commission distinguishes between aging management issues, reviewed at the time of license renewal, and operational issues, reviewed at all times as part of the CLB; LBP-15-5, 81 NRC 249 (2015)

concerns with the current design and operation of a nuclear power plant are more properly addressed through a petition for enforcement action; LBP-15-13, 81 NRC 456 (2015)

except for the detrimental effects of aging on the functionality of certain plant systems, structures, and components in the period of extended operation, the regulatory process is adequate to ensure that the licensing bases of all currently operating plants provide and maintain an acceptable level of safety; LBP-15-6, 81 NRC 314 (2015)

NRC's ongoing regulatory process ensures that the CLB of an operating plant remains acceptably safe; LBP-15-5, 81 NRC 249 (2015)

this term of art is comprehended as the various NRC requirements applicable to a specific plant that are in effect at the time of a license renewal application; LBP-15-20, 81 NRC 829 (2015)

### DEADLINES

board is directed to rule within 140 days of the date of the referral on whether the hearing request should be granted; CLI-15-14, 81 NRC 729 (2015)

## SUBJECT INDEX

contention filing deadlines support the Commission's interest in promoting efficient adjudication;

LBP-15-11, 81 NRC 401 (2015)

determination as to whether requests or petitions are filed in a timely manner shall be subject to a reasonableness standard and are not subject to the 30-day deadline applicable to motions by existing parties to add or amend contentions; LBP-15-6, 81 NRC 314 (2015)

each licensee shall complete implementation of the ERDS by February 13, 1993, or before initial escalation to full power, whichever comes later; LBP-15-4, 81 NRC 156 (2015)

environmental contentions are expected in response to applicant's or NRC Staff's environmental reviews, and contentions regarding their adequacy cannot be expected to be proffered at an earlier stage of the proceeding before the documents are available; LBP-15-11, 81 NRC 401 (2015)

in proceedings for which a Federal Register notice of agency action is published, a hearing request must be filed not later than the time specified in the notice or if no notice is specified, 60 days from the date of publication of the notice; CLI-15-5, 81 NRC 329 (2015)

in proceedings for which a notice of agency action is not published, a hearing request must be filed not later than the latest of 60 days after publication of notice on the NRC Web site or 60 days after the requestor receives actual notice of a pending application but not more than 60 days after agency action on the application; CLI-15-5, 81 NRC 329 (2015)

intervenor is not allowed to postpone filing a contention challenging environmental or safety information or analysis until Staff issues some document that collects, summarizes, and places into context the facts supporting that contention; LBP-15-11, 81 NRC 401 (2015)

intervention petition must be filed within the time specified in any notice of proposed action; LBP-15-13, 81 NRC 456 (2015)

new or amended contention is considered timely if it is filed within 60 days of the date when the material information first became available to the moving party through service, publication, or any other means; LBP-15-1, 81 NRC 15 (2015)

notification of renewal of source materials license triggers the 5-day filing deadline to apply for a stay of the license; LBP-15-2, 81 NRC 48 (2015)

timeliness of an initial hearing petition in different situations is defined as being filed between 20 and 60 days after certain specified events; LBP-15-11, 81 NRC 401 (2015)

when a contention is considered to be timely filed is not specified in 10 C.F.R. 2.309(c)(1)(iii); LBP-15-15, 81 NRC 598 (2015)

when a filing deadline is approaching, notwithstanding that an attorney is engaged in good-faith settlement discussions, prudence should compel the attorney to take all actions that are necessary to ensure the deadline will be met in the event that settlement discussions are unsuccessful; LBP-15-4, 81 NRC 156 (2015)

### DECISION ON THE MERITS

in assessing whether applicant/licensee adequately carries out a licensing directive, boards are to assume that NRC Staff will be fair and judge the matter of applicant/licensee's compliance on the merits; LBP-15-3, 81 NRC 65 (2015)

merits questions cannot be resolved at the contention admission stage; LBP-15-20, 81 NRC 829 (2015)

NRC Staff guidance is entitled to special weight in a decision on the merits; LBP-15-20, 81 NRC 829 (2015)

requiring petitioners to proffer conclusive support for the effect of their proposed contention would improperly require boards to adjudicate the merits of contentions before admitting them; LBP-15-20, 81 NRC 829 (2015)

### DECISIONS

board's ultimate NEPA judgments are made on the basis of the entire adjudicatory record in addition to NRC Staff's final supplemental environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

See also Initial Decisions; Licensing Board Decisions; Partial Initial Decisions; Record of Decision

### DECOMMISSIONING

NRC expressly altered the policy and application of 10 C.F.R. 50.59 as it related to decommissioning activities, permitting licensee to dismantle major structural components without prior NRC approval of a final decommissioning plan; CLI-15-14, 81 NRC 729 (2015)

nuclear power facility arguably exists until final decommissioning, which may take up to 60 years, or longer if approved by the Commission; LBP-15-4, 81 NRC 156 (2015)



## SUBJECT INDEX

- regulatory history, like 10 C.F.R. Part 50, App. E, § VI itself, is focused entirely on implementation and maintenance of the ERDS operations with not one word about decommissioning the system; LBP-15-4, 81 NRC 156 (2015)
- DECOMMISSIONING COSTS
- decommissioning funding requirements encompass costs of low-level waste burial; CLI-15-8, 81 NRC 500 (2015)
- DECOMMISSIONING FUNDING
- financial assurance for decommissioning may be based on the prepayment method; CLI-15-8, 81 NRC 500 (2015)
- formulas, based on reactor type and power level, are provided in 10 C.F.R. 50.75(c) for determining minimum dollar amounts required to demonstrate reasonable assurance of decommissioning funding; CLI-15-8, 81 NRC 500 (2015)
- license transfer applicant must show reasonable assurance of sufficient funds to decommission the facility; CLI-15-8, 81 NRC 500 (2015)
- DECOMMISSIONING FUNDING PLANS
- financial surety arrangements must be established by each mill operator before the commencement of operations to ensure that sufficient funds will be available to carry out the decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas; LBP-15-15, 81 NRC 598 (2015)
- DECOMMISSIONING PLANS
- admissibility of contention that applicant submit a decommissioning plan and updated financial plans related to decommissioning is decided; LBP-15-15, 81 NRC 598 (2015)
- licensees must submit for NRC approval their plans to manage spent fuel after the permanent cessation of reactor operation; CLI-15-4, 81 NRC 221 (2015)
- DECONTAMINATION
- parties are directed to provide further briefing on questions relating to severe accident decontamination time values and costs used in the SAMA analysis; CLI-15-2, 81 NRC 213 (2015)
- DEFICIENCIES
- deficiency in a final environmental impact statement is not automatic ground for reversal of an order granting a permit although the issue has been opened for full consideration in an agency hearing; CLI-15-6, 81 NRC 340 (2015)
- DEFINITIONS
- Administrative Procedure Act broadly defines “rule” to include nearly every statement an agency may make; LBP-15-15, 81 NRC 598 (2015)
- “baseline” data describe results of applicant’s preoperational or baseline groundwater quality sampling program providing data on project-wide groundwater conditions; LBP-15-16, 81 NRC 618 (2015)
- “byproduct material” is categorized as tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content; LBP-15-11, 81 NRC 401 (2015); LBP-15-16, 81 NRC 618 (2015)
- “Category IA” material means any strategic special nuclear material directly usable in the manufacture of a nuclear explosive device; CLI-15-9, 81 NRC 512 (2015)
- “Category IB” material refers to all strategic special nuclear material other than Category IA material; CLI-15-9, 81 NRC 512 (2015)
- “construction” does not include site exploration, including preconstruction monitoring to establish background information related to the environmental impacts of construction or operation, or the protection of environmental values; LBP-15-3, 81 NRC 65 (2015)
- contentions of omission and contentions of inadequacy are defined; LBP-15-5, 81 NRC 249 (2015)
- “controlled access area” is any temporarily or permanently established area that is clearly demarcated, access to which is controlled, and which affords isolation of the material or persons within it; CLI-15-9, 81 NRC 512 (2015)
- “cumulative impacts” result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

- “current licensing basis” is a term of art comprehending the various NRC requirements applicable to a specific plant that are in effect at the time of a license renewal application; LBP-15-20, 81 NRC 829 (2015)
- “environmental document” includes environmental assessment, environmental impact statement, finding of no significant impact, and notice of intent; LBP-15-16, 81 NRC 618 (2015)
- for a potential injury to be irreparable, it must be shown to be imminent, certain, and great; LBP-15-2, 81 NRC 48 (2015)
- “formula kilogram” means strategic special nuclear material in any combination in a quantity of 1000 grams computed by the formula,  $\text{grams} = (\text{grams contained U-235}) + 2.5 (\text{grams U-233} + \text{grams plutonium})$ ; CLI-15-9, 81 NRC 512 (2015)
- “good cause” in 10 C.F.R. 2.307 does not share the same definition that is used for good cause in section 2.309(c); LBP-15-1, 81 NRC 15 (2015)
- “informal” consultation is an optional process that includes all discussions, correspondence, etc., between the U.S. Fish and Wildlife Service and the federal agency designed to assist the federal agency in determining whether formal consultation or a conference is required with the Service under section 402.13; LBP-15-11, 81 NRC 401 (2015)
- “material access area” is any location that contains special nuclear material, within a vault or a building, the roof, walls, and floor of which constitute a physical barrier; CLI-15-9, 81 NRC 512 (2015)
- neither “baseline” nor “background” is explicitly defined in 10 C.F.R. Part 40, Appendix A; LBP-15-16, 81 NRC 618 (2015)
- nuclear power facility has shut down permanently within the meaning of 10 C.F.R. Part 50, Appendix E, § VI.2 when it has permanently ceased reactor operations, and permanently removed fuel from the reactor vessel, as those terms are defined in 10 C.F.R. 50.2; LBP-15-4, 81 NRC 156 (2015)
- “owned, controlled or dominated” refers to relationships in which the will of one party is subjugated to the will of another; CLI-15-7, 81 NRC 481 (2015)
- “permanent cessation of operations” for a nuclear power reactor facility is defined as a certification by a licensee to NRC that it has permanently ceased or will permanently cease reactor operations; LBP-15-4, 81 NRC 156 (2015)
- “permanent fuel removal” from a nuclear power reactor facility is defined as a certification by licensee to NRC that it has permanently removed all fuel assemblies from the reactor vessel; LBP-15-4, 81 NRC 156 (2015)
- “power of detection” means the probability that the critical value of a statistical test will be exceeded when there is an actual loss of a specific quantity of strategic special nuclear material; CLI-15-9, 81 NRC 512 (2015)
- “primary groundwater restoration” is to return the constituent to background levels; LBP-15-3, 81 NRC 65 (2015)
- “quality assurance” comprises all planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service; DD-15-2, 81 NRC 205 (2015)
- safety significance of a structure, system, or component is defined in terms of its safety-related functions, and within the scope of license renewal are included those SSCs whose failure could prevent satisfactory accomplishment of the safety-related function; CLI-15-6, 81 NRC 340 (2015)
- “secondary groundwater restoration” is restoration of constituent levels to the drinking water limits enumerated in Appendix A, Table 5C; LBP-15-3, 81 NRC 65 (2015)
- “source material” is defined as uranium being extracted through the ISL process; LBP-15-16, 81 NRC 618 (2015)
- special nuclear material “item” is any discrete quantity or container of special nuclear material or source material, not undergoing processing, having a unique identity and also having an assigned element and isotope quantity; CLI-15-9, 81 NRC 512 (2015)
- “strategic special nuclear material” means uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium; CLI-15-9, 81 NRC 512 (2015)
- “synergistic” refers to the joint action of different parts or sites which, acting together, enhance the effects of one or more individual sites; LBP-15-5, 81 NRC 249 (2015)

## SUBJECT INDEX

“tamper-safing” refers to use of devices on containers or vaults in a manner and at a time that ensures a clear indication of any violation of the integrity of previously made measurements of special nuclear material within the container or vault; CLI-15-9, 81 NRC 512 (2015)

“unit process” means an identifiable segment or segments of processing activities for which the amounts of input and output strategic special nuclear material are based on measurements; CLI-15-9, 81 NRC 512 (2015)

“vault” is a windowless enclosure with walls, floor, roof and door(s) designed and constructed to delay penetration from forced entry; CLI-15-9, 81 NRC 512 (2015)

### DELAY

admissibility of contention that final environmental assessment failed to conduct the required hard look at impacts of the proposed mine associated with restoration standards and schedules, including delays, resulting from the proposed rules, and failure to describe such impacts in the final EA is decided; LBP-15-15, 81 NRC 598 (2015)

### DENIAL OF LICENSE

NRC Staff is instructed to promptly issue its approval or denial of an application consistent with its findings, despite the pendency of a hearing; LBP-15-16, 81 NRC 618 (2015)

### DEPARTMENT OF ENERGY

responsibility for constructing and operating a waste repository was assigned to the Department of Energy, not NRC; CLI-15-4, 81 NRC 221 (2015)

### DESIGN

spent fuel storage systems must be designed to ensure adequate safety under normal and postulated accident conditions; CLI-15-4, 81 NRC 221 (2015)

See also Containment Design

### DESIGN BASIS

admissibility of contention that a license amendment will be required for licensee to update and maintain accurate design basis documents is decided; CLI-15-5, 81 NRC 329 (2015)

existing containment vent systems at BWRs with Mark I containments provide a capability to vent the containment under design-basis conditions; DD-15-1, 81 NRC 193 (2015)

### DESIGN CERTIFICATION

applicants referencing a certified design must provide sufficient information for NRC Staff to determine whether the site’s characteristics fall within the design’s parameters; CLI-15-13, 81 NRC 555 (2015)  
under its certified design, the Economic Simplified Boiling Water Reactor could maintain circulation long enough to permit safe shutdown of the reactor even if it were to lose offsite power and all of its backup generators failed to operate; LBP-15-5, 81 NRC 249 (2015)

### DIESEL GENERATORS

under its certified design, the Economic Simplified Boiling Water Reactor could maintain circulation long enough to permit safe shutdown of the reactor even if it were to lose offsite power and all of its backup generators failed to operate; LBP-15-5, 81 NRC 249 (2015)

### DISCLOSURE

lead agency must make available to the public the results of relevant monitoring of mitigation measures; LBP-15-16, 81 NRC 618 (2015)

### DOCUMENTARY MATERIAL

“environmental document” includes environmental assessment, environmental impact statement, finding of no significant impact, and notice of intent; LBP-15-16, 81 NRC 618 (2015)

### DOCUMENTATION

admissibility of contention that a license amendment will be required for licensee to update and maintain accurate design basis documents is decided; CLI-15-5, 81 NRC 329 (2015)

ruling that supplements the record should state clearly what evidence the board found credible, whether the evidence supports or alters NRC Staff’s conclusions in the environmental impact statement, and what the impact of the proposed action for the specific issue is expected to be; CLI-15-6, 81 NRC 340 (2015)

### DRAFT ENVIRONMENTAL IMPACT STATEMENT

additional content is required in a final environmental impact statement compared to a draft EIS; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

agencies shall prepare supplements to either draft or final EISs if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; LBP-15-13, 81 NRC 456 (2015)

although a draft supplemental environmental impact statement may rely in part on applicant's environmental report, NRC Staff must independently evaluate and be responsible for the reliability of all information used in the DSEIS; LBP-15-3, 81 NRC 65 (2015)

although NRC has issued a generic environmental impact statement for in situ uranium recovery facilities that assesses potential ISR facility construction/operation/decommissioning impacts, for the initial licensing of each individual ISR facility, NRC Staff will first prepare a draft supplemental EIS; LBP-15-3, 81 NRC 65 (2015)

analysis for all draft and final EISs, by virtue of section 51.90, will, to the fullest extent practicable, quantify the various factors considered; LBP-15-3, 81 NRC 65 (2015)

as long as the DEIS takes a hard look at the environmental impacts from licensing a plant, nothing in NEPA requires NRC Staff's analysis to preclude any particular environmental impact; LBP-15-19, 81 NRC 815 (2015)

contention claiming that NRC Staff's consultation was inadequate does not ripen until issuance of NRC Staff's draft environmental impact statement; LBP-15-5, 81 NRC 249 (2015)

contention that DEIS is deficient because its evaluation of the operation of the radial collector wells does not preclude the possibility that they will change the plume dynamics of the industrial wastewater facility/cooling canal contaminant plume is inadmissible; LBP-15-19, 81 NRC 815 (2015)

contention that DEIS must identify the percentage of radial collector well water drawn from underneath the industrial wastewater facility is inadmissible; LBP-15-19, 81 NRC 815 (2015)

in consultation with identified parties, agency must develop alternatives and proposed measures that might avoid, minimize, or mitigate any adverse effects of the undertaking on historic properties and describe them in the environmental assessment or draft environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

intervenor fail to specify what other alternatives to the license renewal application should be discussed in the draft supplemental environmental impact statement, much less show that any proposed alternative would satisfy the purpose of applicant's proposed action; LBP-15-1, 81 NRC 15 (2015)

it is not clear NRC Staff relied upon the generic environmental impact statement when preparing the draft supplemental environmental impact statement because it was not incorporated by reference or mentioned in any other manner; LBP-15-11, 81 NRC 401 (2015)

legal requirements applicable to a draft EIS, as specified in sections 51.70(b) and 51.71, are imposed on a final EIS; LBP-15-3, 81 NRC 65 (2015)

migration tenet applies when information in the draft environmental impact statement is sufficiently similar to information in applicant's environmental report, and allows previously admitted contentions challenging the environmental report to apply to relevant portions of the DSEIS; LBP-15-16, 81 NRC 618 (2015)

relative to an individual ISR facility, when NRC Staff formulates its draft and final supplemental environmental impact statement conclusions regarding the environmental impacts of a proposed action or alternative actions, it uses as guidance a standard scheme to categorize or quantify the impacts; LBP-15-3, 81 NRC 65 (2015)

### DRY CASK STORAGE

structural integrity of GE Mark I boiling water reactor spent fuel pools and spent fuel management in dry storage casks are discussed; DD-15-1, 81 NRC 193 (2015)

suspension request that would have halted final licensing decisions pending action on a petition for rulemaking regarding NRC Staff's review of the potential expedited transfer of spent fuel from pools to dry casks was denied; CLI-15-13, 81 NRC 555 (2015)

### EARLY SITE PERMITS

if applicant did not pursue an early site permit, all relevant site characteristics, including site geology, hydrology, seismology, and man-made hazards, as well as potential environmental impacts of the project, were studied as part of NRC Staff's combined license review and are within the scope of the Commission decision; CLI-15-13, 81 NRC 555 (2015)

in determining whether a license amendment, construction permit, or early site permit will be issued to applicant, the Commission is guided by the considerations that govern issuance of initial licenses,

## SUBJECT INDEX

construction permits, or early site permits to the extent applicable and appropriate; LBP-15-20, 81 NRC 829 (2015)

### EARTHQUAKE ZONES

request that NRC order the immediate shutdown of all nuclear power reactors that are known to be located on or near an earthquake fault line is denied; DD-15-6, 81 NRC 884 (2015)

### EARTHQUAKES

ability of a facility to shut down safely following a potential earthquake is a current operating issue, and is not unique to whether licenses should be renewed; LBP-15-6, 81 NRC 314 (2015)

admissibility of contention that environmental assessment failed to analyze impacts on the project from earthquakes, especially concerning secondary porosity and adequate confinement is decided; LBP-15-11, 81 NRC 401 (2015)

contention that operating license should not be renewed unless and until applicant establishes that the plant can withstand and be safely shut down following an earthquake is not within the scope of a license renewal proceeding; LBP-15-6, 81 NRC 314 (2015)

See also Seismic Analysis; Seismic Design

### ECONOMIC EFFECTS

petitioner's failure to address applicant's supplemental economic analyses, demonstrate specific knowledge of the analysis, and not indicate, even broadly that the SAMA economic cost-benefit conclusions are not sufficiently conservative renders a contention inadmissible; LBP-15-5, 81 NRC 249 (2015)

### ECONOMIC ISSUES

generalized economic cost arguments, unsupported by asserted facts or expert opinion, are insufficient to show a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 15 (2015)

### ECONOMIC SIMPLIFIED BOILING WATER REACTOR

under its certified design, the ESBWR could maintain circulation long enough to permit safe shutdown of the reactor even if it were to lose offsite power and all of its backup generators failed to operate; LBP-15-5, 81 NRC 249 (2015)

### EFFECTIVENESS

NRC regulations appropriately require a hearing before the proposed license amendment becomes effective whenever the amendment creates the possibility of a new or different kind of accident; LBP-15-20, 81 NRC 829 (2015)

See also Immediate Effectiveness; Stay of Effectiveness

### ELECTRICAL EQUIPMENT

inspection to determine effects of wet or underwater conditions on underground safety-related electrical cables is discussed; DD-15-1, 81 NRC 193 (2015)

transformer is an active component because it undergoes a change in properties when it performs its intended function; CLI-15-6, 81 NRC 340 (2015)

### ELECTRONIC FILING

Commission exercises its discretion to consider briefs that were not filed via the agency's E-Filing system; LBP-15-4, 81 NRC 156 (2015)

failure to comply with NRC's e-filing requirements without good cause or without obtaining an exemption from the requirements under 10 C.F.R. 2.302(g) can result in rejection of a pleading; LBP-15-4, 81 NRC 156 (2015)

good cause doesn't exist where petitioner's late-filed contention is due to careless inadvertence and not, as petitioner claimed, attributable to technical difficulties with the E-Filing system; LBP-15-4, 81 NRC 156 (2015)

State intervenor provided good cause for its late E-filing submission because the State submitted its petition to NRC by e-mail before the deadline lapsed and the delay was purely a matter of obtaining digital credentials for the system, not an attempt to gain extra time to prepare a pleading or otherwise to flout NRC's procedural requirements; LBP-15-4, 81 NRC 156 (2015)

### EMBRITTLEMENT

application to use alternate pressurized thermal shock rule must contain the projected embrittlement reference temperatures along various portions of the reactor pressure vessel, from the present to a future point, compared to the alternate screening criteria; LBP-15-17, 81 NRC 753 (2015)

application to use alternate pressurized thermal shock rule must contain an assessment of flaws in the reactor pressure vessel; LBP-15-17, 81 NRC 753 (2015)

## SUBJECT INDEX

consistency check compares mean and slope of the embrittlement model curve against surveillance data and checks to confirm that outliers fall within acceptable residual values provided in the regulation; LBP-15-17, 81 NRC 753 (2015)

consistency check seeks to compare, for a specific material type, the model's projected embrittlement with the actual embrittlement values at the same fluence provided by material samples; LBP-15-17, 81 NRC 753 (2015)

differing amounts of copper, nickel, phosphorus, and manganese between material samples for the consistency check are accounted for; LBP-15-17, 81 NRC 753 (2015)

if fewer than three surveillance data points exist for a specific material, then the embrittlement model must be used without performing the consistency check; LBP-15-17, 81 NRC 753 (2015)

if the embrittlement model deviates from the physical samples over the limits specified in 10 C.F.R. 50.61a(f)(6)(vi), licensee must submit additional evaluations and seek approval for the deviations from the Director of the Office of Nuclear Reactor Regulation; LBP-15-17, 81 NRC 753 (2015)

if the reference values projected at specific areas of the reactor pressure vessel for the end of life of the plant surpass the current screening criteria, licensee must submit a safety analysis and obtain NRC approval to continue to operate; LBP-15-17, 81 NRC 753 (2015)

if three or more surveillance data points measured at three or more different neutron fluences exist for a specific material, licensee shall determine if the surveillance data show a significantly different trend than the embrittlement model predicts; LBP-15-17, 81 NRC 753 (2015)

in calculating embrittlement reference temperatures, licensee must calculate neutron flux through the reactor pressure vessel using a methodology that has been benchmarked to experimental measurements and with quantified uncertainties and possible biases; LBP-15-17, 81 NRC 753 (2015)

integrated surveillance program among similar reactors is allowed if the reactors have sufficiently similar design and operating features to permit accurate comparisons of the predicted amount of radiation damage; LBP-15-17, 81 NRC 753 (2015)

license amendments related to reactor pressure vessel embrittlement present an obvious potential for offsite public health and safety consequences; LBP-15-17, 81 NRC 753 (2015)

licensee must perform a consistency check of its embrittlement model against available surveillance data; LBP-15-17, 81 NRC 753 (2015)

licensees have some discretion in considering other plant-specific information that may be helpful in aligning their embrittlement models with the surveillance data; LBP-15-17, 81 NRC 753 (2015)

licensing actions that could increase reactor vessel embrittlement, such as license renewals, hold the potential for offsite consequences that are obvious; LBP-15-17, 81 NRC 753 (2015)

model projects the reference temperatures for various parts of the reactor pressure vessel at the end of life of the plant; LBP-15-17, 81 NRC 753 (2015)

neutron radiation embrittlement of reactor pressure vessel walls, decreasing their fracture toughness, is discussed; LBP-15-17, 81 NRC 753 (2015)

pressurized thermal shock rule and embrittlement screening program are discussed; LBP-15-17, 81 NRC (2015); LBP-15-17, 81 NRC 753 (2015)

probabilistic embrittlement model is used to predict future reference temperatures across the reactor pressure vessel, which is then verified by existing surveillance data in a process called the consistency check; LBP-15-17, 81 NRC 753 (2015)

purpose of the consistency check is to determine if the surveillance data show a significantly different trend than the embrittlement model predicts; LBP-15-17, 81 NRC 753 (2015)

surveillance data are continuously integrated into future embrittlement projections; LBP-15-17, 81 NRC 753 (2015)

surveillance data include any data that demonstrate embrittlement trends for the beltline materials; LBP-15-17, 81 NRC 753 (2015)

surveillance data need not be obtained from the same reactor pressure vessel that is the subject of the license amendment; LBP-15-17, 81 NRC 753 (2015)

**EMERGENCIES**

where NRC finds that an emergency situation exists, in that failure to act in a timely way would result in derating or shutdown of a nuclear power plant, it may issue a license amendment involving no significant hazards consideration without prior notice and opportunity for a hearing or for public comment; LBP-15-13, 81 NRC 456 (2015)

## SUBJECT INDEX

### EMERGENCY BACKUP POWER

NRC imposed requirements to provide makeup water independent of offsite power and the normal emergency alternating current power sources to maintain or restore spent fuel pool cooling capability in the event of an accident; DD-15-1, 81 NRC 193 (2015)

### EMERGENCY CORE COOLING SYSTEM

in the event of a severe accident in an AP1000, squib valves, which are explosively activated, reduce pressure and inject water as needed into the reactor vessel; CLI-15-13, 81 NRC 555 (2015)

### EMERGENCY EXERCISES

licensee must maintain an emergency plan, review it annually through an independent reviewer, and conduct periodic exercises to measure the plan's effectiveness; CLI-15-6, 81 NRC 340 (2015)  
offsite emergency plans are reviewed biennially by NRC and the Federal Emergency Management Agency in a comprehensive emergency preparedness exercise; CLI-15-6, 81 NRC 340 (2015)

### EMERGENCY OPERATING PROCEDURES

licensees must activate the ERDS as soon as possible but not later than 1 hour after declaring an Emergency Class of alert, site area emergency, or general emergency; LBP-15-4, 81 NRC 156 (2015)

### EMERGENCY OPERATIONS FACILITY

ERDS is a direct electronic data link between licensees of operating reactors and the NRC Operations Center, and its objective is to allow NRC to monitor critical parameters during an emergency; LBP-15-4, 81 NRC 156 (2015)

### EMERGENCY PLANNING

all Part 50 licensees must meet emergency planning requirements, regardless of whether the facility is operating or has been permanently shut down and defueled; LBP-15-18, 81 NRC 793 (2015)  
challenges to emergency planning fall outside the scope of a license renewal proceeding; CLI-15-6, 81 NRC 340 (2015); LBP-15-5, 81 NRC 249 (2015)  
proximity of the nuclear power plant site to the Canadian border is considered in the contexts of environmental and safety reviews; CLI-15-13, 81 NRC 555 (2015)

### EMERGENCY PLANS

because current levels of emergency planning are required by regulation, licensee cannot make changes contemplated in its license amendment request without first receiving certain regulatory exemptions; LBP-15-18, 81 NRC 793 (2015)  
before licensee may change its emergency plan to discontinue the ERDS link, it must perform and retain an analysis that concludes that the removal of ERDS is not a reduction in emergency plan effectiveness; LBP-15-4, 81 NRC 156 (2015)  
concerns about a facility's emergency plans may be raised at any time pursuant to 10 C.F.R. 2.206; CLI-15-6, 81 NRC 340 (2015)  
holder of a combined license for a newly built reactor may not load fuel or operate except as provided in accordance with Part 50, Appendix E; LBP-15-4, 81 NRC 156 (2015)  
holder of a license under Part 50, or a combined license under Part 52, shall follow and maintain the effectiveness of an emergency plan that meets the requirements in Part 50, Appendix E; LBP-15-4, 81 NRC 156 (2015)  
in any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation ability of state and local emergency plans; LBP-15-4, 81 NRC 156 (2015)  
lack of detail for emergency sheltering option is not significant because size of sheltering population is very small; LBP-15-18, 81 NRC 793 (2015)  
licensee is forbidden to change its emergency plan unless it performs and retains an analysis that demonstrates the changes do not reduce the effectiveness of the plan as changed; LBP-15-4, 81 NRC 156 (2015)  
licensee must comply with the requirements of 10 C.F.R. 50.54(q)(3) before it effects a change to its emergency plan to delete references to ERDS or its use during an emergency; LBP-15-4, 81 NRC 156 (2015)  
licensee must maintain an emergency plan, review it annually through an independent reviewer, and conduct periodic exercises to measure the plan's effectiveness; CLI-15-6, 81 NRC 340 (2015)  
offsite emergency plans are reviewed biennially by NRC and the Federal Emergency Management Agency in a comprehensive emergency preparedness exercise; CLI-15-6, 81 NRC 340 (2015)

## SUBJECT INDEX

plans are approved by NRC and FEMA and are updated on an ongoing basis; CLI-15-6, 81 NRC 340 (2015)

### EMERGENCY PREPAREDNESS

offsite emergency plans are reviewed biennially by NRC and the Federal Emergency Management Agency in a comprehensive emergency preparedness exercise; CLI-15-6, 81 NRC 340 (2015)

### EMERGENCY RESPONSE

adequate provisions must exist for prompt communications among principal response organizations to emergency personnel and to the public; LBP-15-4, 81 NRC 156 (2015)

### EMERGENCY RESPONSE DATA SYSTEM

all nuclear power facilities that are shut down permanently or indefinitely are exempted from participating in the ERDS program; LBP-15-4, 81 NRC 156 (2015)

all operational nuclear power plants except Big Rock Point must participate in the ERDS program by providing onsite hardware at each unit to interface with NRC receiving station; LBP-15-4, 81 NRC 156 (2015)

any alleged ambiguity in the exception provision of 10 C.F.R. Part 50, Appendix E, § VI is eliminated when the regulatory language is examined in light of the regulatory history and framework; LBP-15-4, 81 NRC 156 (2015)

any facility with an operating reactor unit is required to provide ERDS for that unit, regardless of the status of other reactors at the facility; LBP-15-4, 81 NRC 156 (2015)

before licensee may change its emergency plan to discontinue the ERDS link, it must perform and retain an analysis that concludes that the removal of ERDS is not a reduction in emergency plan effectiveness; LBP-15-4, 81 NRC 156 (2015)

each licensee shall complete implementation of the ERDS by February 13, 1993, or before initial escalation to full power, whichever comes later; LBP-15-4, 81 NRC 156 (2015)

ERDS is a direct electronic data link between licensees of operating reactors and the NRC Operations Center, and its objective is to allow NRC to monitor critical parameters during an emergency; LBP-15-4, 81 NRC 156 (2015)

exception in 10 C.F.R. 50.72 is most reasonably interpreted as exempting from the ERDS program all nuclear reactors that have permanently ceased operations and defueled, i.e., that are permanently shut down; LBP-15-4, 81 NRC 156 (2015)

if 10 C.F.R. Part 50, Appendix E, § VI were a one-time requirement that applied only to units existing in 1991, that would mean it was not intended to apply prospectively to newly built reactors; LBP-15-4, 81 NRC 156 (2015)

if licensee of a permanently shutdown reactor is never required to activate the ERDS link, it must be concluded that such a licensee is exempt from the ERDS program; LBP-15-4, 81 NRC 156 (2015)

licensee must activate the ERDS as soon as possible but not later than 1 hour after declaring an

Emergency Class of alert, site area emergency, or general emergency; LBP-15-4, 81 NRC 156 (2015)

licensee must comply with the requirements of 10 C.F.R. 50.54(q)(3) before it effects a change to its emergency plan to delete references to ERDS or its use during an emergency; LBP-15-4, 81 NRC 156 (2015)

parameters from which ERDS transmits data points for boiling water reactors are identified in 10 C.F.R.

Part 50, App. E, § VI.2(a)(ii); LBP-15-4, 81 NRC 156 (2015)

regulatory history, like 10 C.F.R. Part 50, App. E, § VI itself, is focused entirely on implementation and maintenance of the ERDS operations with not one word about decommissioning the system; LBP-15-4, 81 NRC 156 (2015)

scope of the ERDS exception is informed by the regulatory history, which states that ERDS is to be used by licensees of operating reactors; LBP-15-4, 81 NRC 156 (2015)

section 50.72(a)(4) describes implementation, maintenance, and activation of the ERDS system in the event of an emergency; LBP-15-4, 81 NRC 156 (2015)

section 50.72(a)(4) directing licensees to activate ERDS during exigent circumstances applies only to operating nuclear power reactors; LBP-15-4, 81 NRC 156 (2015)

to the extent a contention would require licensee to maintain the ERDS link or to create another ERDS-like system after its reactor is permanently shut down and defueled, it is an impermissible collateral attack on a regulation; LBP-15-4, 81 NRC 156 (2015)



## SUBJECT INDEX

### EMERGENCY RESPONSE PLANS

arrangements for requesting and effectively using assistance resources should be identified and supported by appropriate letters of agreement; LBP-15-18, 81 NRC 793 (2015)  
radiological emergency response plan was developed by the State and approved by the Federal Emergency Management Agency to ensure that the State is prepared to handle the offsite effects of a radiological emergency; LBP-15-4, 81 NRC 156 (2015)

### ENDANGERED SPECIES

admissibility of contention that environmental assessment failed to conduct the required hard look at impacts of the proposed mine and fails to consult with the U.S. Fish & Wildlife Service is decided; LBP-15-11, 81 NRC 401 (2015)  
consultation with U.S. Fish & Wildlife Service is legally mandated for any agency action that may affect listed species or critical habitat; LBP-15-11, 81 NRC 401 (2015)  
if an agency determines that a particular action will have no effect on an endangered or threatened species, the U.S. Fish & Wildlife Service consultation requirements are not triggered; LBP-15-11, 81 NRC 401 (2015)  
“informal” consultation is an optional process that includes all discussions, correspondence, etc., between the U.S. Fish and Wildlife Service and the federal agency designed to assist the federal agency in determining whether formal consultation or a conference is required with the Service under section 402.13; LBP-15-11, 81 NRC 401 (2015)  
when engaging in informal consultation, an agency must provide its determination as to whether the proposed action will affect threatened and endangered species to U.S. Fish & Wildlife Service and request FWS concurrence; LBP-15-11, 81 NRC 401 (2015)  
whooping crane and black-footed ferret are listed as threatened or endangered under the Endangered Species Act; LBP-15-11, 81 NRC 401 (2015)

### ENDANGERED SPECIES ACT

agency must ensure that any action that it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of critical habitat of such species; CLI-15-13, 81 NRC 555 (2015)  
federal agency is required to consult if an action may affect listed species or designated critical habitat, even if the effects are expected to be beneficial; LBP-15-11, 81 NRC 401 (2015)  
federal agency need not initiate formal consultation if, as a result of the preparation of a biological assessment under section 402.12 or as a result of informal consultation with the Service under section 402.13, the federal agency determines, with the written concurrence of the U.S. Fish and Wildlife Service Director, that the proposed action is not likely to adversely affect any listed species or critical habitat; LBP-15-11, 81 NRC 401 (2015)  
only species listed as threatened or endangered under the Act are covered by the Act’s formal consultation requirements; LBP-15-11, 81 NRC 401 (2015)

### ENERGY

See Department of Energy; Renewable Energy Sources; Wind Energy

### ENERGY REORGANIZATION ACT

basis for NRC authority to regulate the use of special nuclear material in facilities like nuclear power reactors is established; CLI-15-4, 81 NRC 221 (2015)  
if there were any doubt over the intent of Congress not to require a safety finding on spent fuel disposal, it was laid to rest by enactment of the ERA; CLI-15-4, 81 NRC 221 (2015)

### ENFORCEMENT

compliance with orders issued as part of NRC’s ongoing oversight program are enforcement issues that are not within the scope of a license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)  
monitoring and enforcement program must be adopted where applicable for any mitigation; LBP-15-16, 81 NRC 618 (2015)

See also Request for Action

### ENFORCEMENT ACTIONS

assertion that the section 2.206 process does not provide a viable forum for relief is rejected; CLI-15-14, 81 NRC 729 (2015)

## SUBJECT INDEX

Commission denies portions of a hearing request but refers petitioner's underlying concerns to the Executive Director for Operations for consideration as an enforcement action; CLI-15-14, 81 NRC 729 (2015)

if petitioner has a credible basis to question the adequacy of licensee's compliance with 10 C.F.R.

50.54(q)(3), it may petition for enforcement action; LBP-15-4, 81 NRC 156 (2015)

oversight activities at times involve enforcement actions, including orders and civil penalties, to which a hearing right or opportunity attaches; CLI-15-5, 81 NRC 329 (2015)

pending tax litigation would not have a significant implication for public health and safety and, to the extent the claim is viable, it would be better handled through a petition for enforcement action;

LBP-15-15, 81 NRC 598 (2015)

petitioners can raise compliance issues only under 10 C.F.R. 2.206, which would allow them to petition NRC to take an enforcement action; LBP-15-5, 81 NRC 249 (2015)

section 2.206 provides a process for stakeholders to advance concerns and obtain full or partial relief, or written reasons why the requested relief is not warranted; LBP-15-4, 81 NRC 156 (2015)

### ENFORCEMENT POLICY

NRC's policy of imposing graduated civil penalties takes into account the gravity of the violation as the primary consideration and the ability to pay as a secondary consideration; DD-15-3, 81 NRC 713 (2015)

### ENVIRONMENTAL ANALYSIS

agency conducting a NEPA analysis must examine both the probability of a given harm occurring and the consequences of that harm if it does occur; CLI-15-6, 81 NRC 340 (2015)

commencement of construction is prohibited prior to a NEPA determination; LBP-15-16, 81 NRC 618 (2015)

environmental impacts will be considered irrespective of whether a certification or license from the appropriate authority has been obtained; LBP-15-16, 81 NRC 618 (2015)

license transfer applications need not include an environmental analysis under NEPA; CLI-15-8, 81 NRC 500 (2015)

NEPA does not require NRC Staff to analyze every conceivable aspect of the proposed project; LBP-15-16, 81 NRC 618 (2015)

non-NEPA document, let alone one prepared and adopted by a state government, cannot satisfy a federal agency's obligations under NEPA; LBP-15-11, 81 NRC 401 (2015)

non-NRC permits are interdependent parts of applicant's proposed action and thus are connected actions; LBP-15-16, 81 NRC 618 (2015)

shared transmission corridor is an offsite transmission line excluded from environmental impact analysis; LBP-15-5, 81 NRC 249 (2015)

### ENVIRONMENTAL ASSESSMENT

admissibility of contention that EA fails to adequately describe and analyze aquifer restoration goals in light of new standards for determining alternative control limits is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that EA fails to adequately describe and analyze impacts of maintaining post-operational wellfields as long-term hazardous waste facilities is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that EA fails to adequately describe and analyze proposed mitigation measures is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that EA fails to analyze impacts on the project from earthquakes, especially concerning secondary porosity and adequate confinement is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that EA fails to conduct the required hard look at impacts of the proposed mine and fails to consult with the U.S. Fish & Wildlife Service is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that EA fails to describe and analyze the environmental impacts of new porosity and permeability in the aquifer caused by mining activity is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that EA violates the National Environmental Policy Act in its failure to analyze groundwater quantity impacts of the project is decided; LBP-15-11, 81 NRC 401 (2015)

## SUBJECT INDEX

admissibility of contention that environmental documents and associated monitoring values and restoration goals rely on baseline data calculations that are inadequate and unacceptable is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that environmental documents lack an adequate description of financial assurances for payment of the costs of restoration and long-term monitoring of up to 30 years is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that final EA fails to adequately analyze cumulative impacts is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that final EA fails to adequately evaluate adverse impacts on public health and safety is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that final EA fails to conduct the required hard look at impacts of the proposed mine associated with restoration standards and difficulty and cost in achieving them and the use of the alternative standards permitted under the proposed rules is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that final EA fails to satisfy NRC's requirement for an environmental impact statement when there are unresolved conflicts concerning reasonable alternatives is decided; LBP-15-15, 81 NRC 598 (2015)

agencies can, consistent with NEPA regulations, incorporate by reference analyses and information from existing documents into an EA or environmental impact statement, provided the material has been appropriately cited and described; LBP-15-11, 81 NRC 401 (2015)

allegations of inadequacies and omissions in NRC Staff's EA satisfy the requirement to provide a specific statement of the issue of law or fact to be raised; LBP-15-13, 81 NRC 456 (2015)

considering the reasonable alternatives analysis, it is only in the depth of the consideration and in the level of detail provided in the corresponding environmental documents that an EA and an environmental impact statement will differ; LBP-15-11, 81 NRC 401 (2015)

contention alleging that environmental assessment has not adequately addressed environmental impacts associated with saltwater intrusion arising from saline water migration from the plant into surrounding waters, and applicant's use of aquifer withdrawals to lower salinity and temperature is admissible; LBP-15-13, 81 NRC 456 (2015)

contention quotes text from a notice of proposed rulemaking, but it never ties the statements from the NOPR to any specific section of the EA, and thus fails to raise a genuine dispute with the EA; LBP-15-15, 81 NRC 598 (2015)

contention that EA fails to adequately describe air quality impacts is inadmissible as untimely; LBP-15-11, 81 NRC 401 (2015)

contention that final EA fails to adequately analyze all reasonable alternatives is inadmissible; LBP-15-11, 81 NRC 401 (2015)

contention that final EA fails to conduct the required hard look at impacts of the proposed mine associated with air emissions and liquid waste disposal is admissible in part; LBP-15-11, 81 NRC 401 (2015)

contention that final EA fails to present relevant information in a clear and concise manner that is readily accessible to the public and other reviewers is inadmissible; LBP-15-11, 81 NRC 401 (2015)

deference can be given to a state permit's findings as to the acceptability of environmental impacts; LBP-15-11, 81 NRC 401 (2015)

EA and associated finding of no significant impact must contain sufficient discussion of environmental impacts and the reasons why the proposed action will not have a significant effect on the quality of the human environment; LBP-15-13, 81 NRC 456 (2015)

importing analysis from a previously completed EA while disregarding intervening events would render meaningless NEPA's requirement to supplement an environmental impact statement or EA; LBP-15-13, 81 NRC 456 (2015)

in consultation with identified parties, agency must develop alternatives and proposed measures that might avoid, minimize, or mitigate any adverse effects of the undertaking on historic properties and describe them in the EA or draft environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

issuance of an EA is appropriate where NRC Staff determines that the proposed project will result in no significant impacts; LBP-15-11, 81 NRC 401 (2015)

## SUBJECT INDEX

it is appropriate for NRC Staff to give substantial weight to state agency's decision that issuing the NPDES permit would be environmentally acceptable; LBP-15-11, 81 NRC 401 (2015)

it would be incongruous with NEPA's approach to environmental protection, and with NEPA's manifest concern with preventing uninformed action, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior to the completion of agency action simply because the relevant proposal has received initial approval; LBP-15-13, 81 NRC 456 (2015)

NEPA requires a hard look at the environmental effects of the planned action, not a circular restatement of NRC Staff's own conclusions; LBP-15-11, 81 NRC 401 (2015)

NRC Staff must describe the potential environmental impact of a proposed action and discuss any reasonable alternatives; LBP-15-11, 81 NRC 401 (2015)

petitioner's issue of NRC Staff's compliance with its NEPA obligation to undertake a full evaluation of the environmental impacts associated with a proposed federal action is within the scope of an operating license amendment proceeding and material to the findings NRC must make; LBP-15-13, 81 NRC 456 (2015)

question whether the environmental assessment is sufficient to satisfy NRC Staff's NEPA requirements must await consideration at a full evidentiary hearing; LBP-15-13, 81 NRC 456 (2015)

reliance on a state permit, let alone one prepared and adopted by a state government, cannot satisfy a federal agency's obligations under NEPA; LBP-15-11, 81 NRC 401 (2015)

standard for preparing a supplemental EA is the same as for preparing a supplemental environmental impact statement; LBP-15-13, 81 NRC 456 (2015)

### ENVIRONMENTAL EFFECTS

adverse environmental effects that must be assessed under NEPA include aesthetic, historic, cultural, economic, social, or health effects; LBP-15-16, 81 NRC 618 (2015)

contention alleging a material deficiency must link the claimed deficiency to a public health and safety or an environmental impact; LBP-15-1, 81 NRC 15 (2015)

"cumulative impacts" result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions; LBP-15-16, 81 NRC 618 (2015)

in its Waste Confidence Decision, NRC failed to consider environmental impacts of a repository never becoming available, its analysis of spent fuel pool leaks was not forward-looking, and it had not sufficiently considered the consequences of spent fuel pool fires; CLI-15-4, 81 NRC 221 (2015)

nothing in 10 C.F.R. Part 40, Appendix A, Criterion 5B precludes an inquiry, based on a well-pleaded contention, into whether the particular measures used in applicant's precicensing program were adequate to provide the necessary information to characterize properly the environmental impacts of employing an ISR mining process in the aquifers below a proposed site; LBP-15-3, 81 NRC 65 (2015)

programmatic agreement may be used to implement the NHPA § 106 process in situations where the effects to historic properties cannot be fully determined prior to the approval of an undertaking, such as where an applicant proposes a phased approach to developing its project; LBP-15-16, 81 NRC 618 (2015)

under NEPA, defining the scope of effects of a project requires engagement with governments of affected tribes through an early and open process aimed at identifying concerns, potential impacts, relevant effects of past actions, and possible alternative actions; LBP-15-16, 81 NRC 618 (2015)

### ENVIRONMENTAL IMPACT STATEMENT

admissibility of contention that final environmental assessment fails to satisfy NRC's requirement for an EIS when there are unresolved conflicts concerning reasonable alternatives is decided; LBP-15-15, 81 NRC 598 (2015)

agencies are given broad discretion to keep their NEPA inquiries within appropriate and manageable boundaries; LBP-15-3, 81 NRC 65 (2015)

agencies can, consistent with NEPA regulations, incorporate by reference analyses and information from existing documents into an environmental assessment or environmental impact statement provided the material has been appropriately cited and described; LBP-15-11, 81 NRC 401 (2015)

agency preparing the NEPA document must explain the statutory or regulatory requirements it is relying on and its reasons for concluding that the application of those requirements will actually result in the mitigation and monitoring it assumes will occur; LBP-15-11, 81 NRC 401 (2015)

## SUBJECT INDEX

alternative energy sources that will be dependent on future environmental safeguards and technological developments may be excluded from the NEPA alternatives discussion; LBP-15-3, 81 NRC 65 (2015)

alternatives discussion need not include every possible alternative, but rather every reasonable alternative; LBP-15-3, 81 NRC 65 (2015)

although license requirements and other environmental quality standards are to be considered in assessing environmental impacts, they do not negate NRC Staff's responsibility to consider all environmental effects; LBP-15-3, 81 NRC 65 (2015)

although NRC regulations do not require NRC Staff to analyze the environmental impacts of NRC licensing actions on the environment of foreign nations, Staff extended its outreach to international organizations to inform its analysis; CLI-15-13, 81 NRC 555 (2015)

appeal board's ruling that the EIS was deemed modified by the parties' stipulations at hearing did not violate the letter or spirit of NEPA; CLI-15-6, 81 NRC 340 (2015)

because NRC Staff relies heavily on applicant's environmental report in preparing the EIS, should the applicant become a proponent of a particular challenged position set forth in the EIS, the applicant, as such a proponent, also has the burden on that matter; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

board may construe an admitted contention contesting applicant's environmental report as a challenge to a subsequently issued draft or final EIS without the necessity for intervenors to file a new or amended contention; LBP-15-11, 81 NRC 401 (2015)

board may incorporate material from another agency's EIS, which was submitted in the hearing record, as part of the record of decision; CLI-15-6, 81 NRC 340 (2015)

boards do not sit to "flyspeak" environmental documents or to add details or nuances, but the environmental report or EIS must come to grips with all important considerations; LBP-15-5, 81 NRC 249 (2015)

compliance with the National Historic Preservation Act does not relieve a federal agency of the duty of complying with the EIS requirement to the fullest extent possible; LBP-15-16, 81 NRC 618 (2015)

connected actions are closely related and therefore should be discussed in the same EIS; LBP-15-16, 81 NRC 618 (2015)

consideration of alternatives under NEPA that are technologically unproven is unnecessary; LBP-15-3, 81 NRC 65 (2015)

considering the reasonable alternatives analysis, it is only in the depth of the consideration and in the level of detail provided in the corresponding environmental documents that an environmental assessment and an EIS will differ; LBP-15-11, 81 NRC 401 (2015)

contention that environmental review documents fail to identify source data of the chemical concentrations for ethylbenzene, heptachlor, tetrachloroethylene, and toluene in groundwater is inadmissible as untimely; LBP-15-19, 81 NRC 815 (2015)

courts decide whether a mitigation plan was adequately or inadequately discussed, but the line between these two options is not well defined; LBP-15-16, 81 NRC 618 (2015)

"deemed incorporated" function of 10 C.F.R. 51.23(b) provides administrative efficiency by adding the environmental impacts of continued storage to site-specific EISs without additional work by the Staff; CLI-15-10, 81 NRC 535 (2015)

deficiency in a final EIS is not automatic ground for reversal of an order granting a permit although the issue has been opened for full consideration in an agency hearing; CLI-15-6, 81 NRC 340 (2015)

discussion of alternatives that present severe engineering requirements or are imprudent for reasons including their high cost, safety hazards, and operational difficulties is excluded under NEPA; LBP-15-3, 81 NRC 65 (2015)

EIS is required when the proposed project is a major federal action significantly affecting the quality of the human environment; LBP-15-15, 81 NRC 598 (2015)

EISs are not intended to be research documents; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

EISs may be deemed modified by the hearing record because hearing procedures allow for additional and more rigorous public scrutiny of the FSEIS than does the usual circulation for comment; CLI-15-6, 81 NRC 340 (2015)

## SUBJECT INDEX

EISs must discuss any adverse environmental effects that cannot be avoided should the proposal be implemented and must provide a reasonably complete discussion of possible mitigation measures; LBP-15-11, 81 NRC 401 (2015)

environmental considerations that the environmental report must discuss are equivalent to, and in most instances verbatim restatements of, environmental considerations that NEPA requires the agency to describe in detail in the EIS; LBP-15-5, 81 NRC 249 (2015)

environmental documents must include a detailed statement by the responsible official on any adverse environmental effects that cannot be avoided should the proposal be implemented; LBP-15-16, 81 NRC 618 (2015)

environmental impacts of at-reactor and away-from-reactor storage of spent fuel are considered for 60 years after the end of a reactor's licensed life for operation, an additional 100 years of storage, and the indefinite storage of spent nuclear fuel and incorporated into site-specific EISs; CLI-15-10, 81 NRC 535 (2015)

environmental impacts of continued storage have been incorporated into the EISs at issue in the proceedings by operation of law; CLI-15-10, 81 NRC 535 (2015)

federal agencies must prepare a detailed EIS for proposed actions significantly affecting the quality of the human environment; LBP-15-16, 81 NRC 618 (2015)

hard look under NEPA is intended to foster both informed agency decisionmaking and informed public participation so as to ensure that the agency does not act upon incomplete information, only to regret its decision after it is too late to correct; LBP-15-3, 81 NRC 65 (2015)

impact determinations in the continued storage generic EIS shall be deemed incorporated into the EISs associated with combined license or license renewal application; CLI-15-10, 81 NRC 535 (2015)

important qualitative considerations or factors that cannot be quantified in the EIS will be discussed in qualitative terms; LBP-15-3, 81 NRC 65 (2015)

in an NRC adjudicatory proceeding, even if a board finds an EIS prepared by NRC Staff inadequate in certain respects, the board's findings, as well as the adjudicatory record, become, in effect, part of the final EIS; LBP-15-16, 81 NRC 618 (2015)

merely listing possible mitigation options does not satisfy NEPA; LBP-15-16, 81 NRC 618 (2015)

NEPA does not call for certainty or precision, but an estimate of anticipated, not unduly speculative, impacts; LBP-15-16, 81 NRC 618 (2015)

NEPA does not demand the presence of a fully developed plan that will mitigate environmental harm before an agency can act; LBP-15-16, 81 NRC 618 (2015)

NEPA does not mandate particular results, but simply prescribes the necessary process that agencies must follow in evaluating environmental impacts; LBP-15-19, 81 NRC 815 (2015)

NEPA does not require NRC Staff to examine every conceivable aspect of federally licensed projects in preparing its EIS; LBP-15-3, 81 NRC 65 (2015)

NEPA does not require the adoption of best practices, particularly in the face of a potentially significant resource commitment; LBP-15-3, 81 NRC 65 (2015)

NEPA requires federal agencies to take a hard look at the environmental impacts of a proposed action, as well as reasonable alternatives to that action; LBP-15-3, 81 NRC 65 (2015)

NEPA's "hard look" requirement is subject to a rule of reason in that consideration of environmental impacts need not address all theoretical possibilities, but rather only those that have some reasonable possibility of occurring; LBP-15-3, 81 NRC 65 (2015)

NRC must prepare an EIS that adequately evaluates the environmental impacts of relicensing, including impacts to tribal hunting and fishing rights and subsistence consumption; LBP-15-5, 81 NRC 249 (2015)

NRC Staff must describe the potential environmental impact of a proposed action and discuss any reasonable alternatives; LBP-15-11, 81 NRC 401 (2015)

NRC Staff must include in an EIS an analysis of significant problems and objections raised by any affected Indian tribes and other interested persons; LBP-15-16, 81 NRC 618 (2015)

NRC Staff must prepare an EIS in connection with a license to possess and use source and AEA § 11e(2) byproduct material for the purpose of in situ uranium recovery; LBP-15-3, 81 NRC 65 (2015)

principal goals of a final EIS are to force agencies to take a hard look at the environmental consequences of a proposed project and to permit the public a role in the agency's decisionmaking process; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

reasonable alternatives under NEPA do not include alternatives that are impractical, that present unique problems, or that cause extraordinary costs; LBP-15-3, 81 NRC 65 (2015)

reasonably complete discussion of possible mitigation measures must be included in a NEPA document, to allow the agency and the public a chance to properly evaluate the severity of the adverse effects; LBP-15-16, 81 NRC 618 (2015)

section 51.102(c) replaced a previous version that expressly permitted licensing boards to modify the content of an EIS; CLI-15-6, 81 NRC 340 (2015)

statutory requirement to prepare an EIS ensures that decisionmakers will have available, and will carefully consider, detailed information concerning significant environmental impacts; CLI-15-10, 81 NRC 535 (2015)

statutory requirement to prepare an EIS guarantees that the relevant information will be made available to the larger audience, such as petitioners and state and local governments; CLI-15-10, 81 NRC 535 (2015)

there is no NEPA requirement to use the best scientific methodology, and NEPA should be construed in the light of reason if it is not to demand virtually infinite study and resources; LBP-15-3, 81 NRC 65 (2015)

though mitigation measures must be discussed in an EIS, NEPA does not guarantee that federally approved projects will have no adverse impacts; LBP-15-16, 81 NRC 618 (2015)

when adequacy of an EIS mitigation strategy is challenged, the determining issue is whether the agency took a sufficiently hard look at environmental consequences, and ensured that its decision was supported by a completely informed record; LBP-15-16, 81 NRC 618 (2015)

when drafting an EIS, agency's scope of review must include analysis of any connected or cumulative actions to the central proposed action; LBP-15-16, 81 NRC 618 (2015)

where the agency has found mitigation strategies necessary to alleviate a potential impact, the associated discussion should be reasonably complete to properly evaluate the severity of the adverse effects; LBP-15-11, 81 NRC 401 (2015)

with regard to reasonably foreseeable impacts, NEPA does not call for certainty or precision, but an estimate of anticipated (not unduly speculative) impacts; LBP-15-3, 81 NRC 65 (2015)

See also Draft Environmental Impact Statement; Final Environmental Impact Statement; Generic Environmental Impact Statement; Supplemental Environmental Impact Statement

**ENVIRONMENTAL ISSUES**

admitted contentions challenging applicant's environmental report may function as challenges to similar portions of NRC Staff's NEPA document; LBP-15-11, 81 NRC 401 (2015)

although environmental contentions are, in essence, challenges to NRC Staff's compliance with NEPA, those contentions must be raised, if possible, in response to applicant's environmental report; CLI-15-1, 81 NRC 1 (2015)

board's ultimate NEPA judgments are made on the basis of the entire adjudicatory record in addition to NRC Staff's final supplemental environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

Category 1 issues are not subject to challenge in a relicensing proceeding, absent a waiver under 10 C.F.R. 2.335, because they involve environmental effects that are essentially similar for all plants and need not be assessed repeatedly on a site-specific basis; LBP-15-5, 81 NRC 249 (2015)

contention of omission on a matter related to the National Environmental Policy Act must describe the information that should have been included in applicant's environmental report and provide the legal basis that requires the omitted information to be included; LBP-15-5, 81 NRC 249 (2015)

contentions arising under NEPA must be filed based on applicant's environmental report; LBP-15-19, 81 NRC 815 (2015)

environmental contentions are expected in response to applicant's or NRC Staff's environmental reviews, and contentions regarding their adequacy cannot be expected to be proffered at an earlier stage of the proceeding before the documents are available; LBP-15-11, 81 NRC 401 (2015)

environmental waste confidence contentions are dismissed; CLI-15-6, 81 NRC 340 (2015)

if there are data or conclusions in the NRC draft or final environmental impact statement that differ significantly from data or conclusions in applicant's documents, late-filing standards are no bar to the admission of properly supported contentions; LBP-15-11, 81 NRC 401 (2015)

issues that the Commission must consider in the mandatory portion of a combined license proceeding are outlined; CLI-15-13, 81 NRC 555 (2015)

## SUBJECT INDEX

license renewal provisions cover environmental issues relating to onsite spent fuel storage generically, and all such issues, including accident risk, fall outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

NRC has not expressly adopted Council on Environmental Quality regulations, but they are entitled to considerable deference; LBP-15-3, 81 NRC 65 (2015)

NRC hearings on NEPA issues focus entirely on the adequacy of NRC Staff's work; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

NRC Staff's first attempt to analyze a NEPA issue gives rise to an intervenor's first opportunity to raise contentions on the adequacy of this assessment; LBP-15-11, 81 NRC 401 (2015)

NRC Staff's safety analysis and environmental analysis occur separately, and intervenors are expected to raise safety challenges in response to the safety reports and environmental challenges in response to the environmental statements; LBP-15-11, 81 NRC 401 (2015)

petitioner may file new contentions if there are data or conclusions in the NRC draft or final environmental impact statement or environmental assessment that differ significantly from data or conclusions in applicant's documents; LBP-15-11, 81 NRC 401 (2015)

proposed transmission-line corridor is discussed; CLI-15-13, 81 NRC 555 (2015)

severe accident mitigation alternatives analysis is conducted pursuant to the National Environmental Policy Act, and thus is an environmental issue, not a safety issue; LBP-15-1, 81 NRC 15 (2015)

unless petitioner sets forth a supported contention pointing to an apparent error or deficiency that may have significantly skewed the environmental conclusions, there is no genuine material dispute for hearing; LBP-15-5, 81 NRC 249 (2015)

when NEPA contentions are involved, the burden of proof shifts to NRC Staff; LBP-15-16, 81 NRC 618 (2015)

### ENVIRONMENTAL JUSTICE

Exec. Order No. 12898 did not, in itself, create new substantive authority for federal agencies and thus NRC determined that it would endeavor to carry out the EJ principles as part of the agency's responsibilities under NEPA; CLI-15-6, 81 NRC 340 (2015)

impacts to subsistence consumption must be evaluated as part of the site-specific EJ analysis; LBP-15-5, 81 NRC 249 (2015)

license renewal review must consider EJ, which is a Category 2 issue; CLI-15-6, 81 NRC 340 (2015); LBP-15-5, 81 NRC 249 (2015)

NRC must prepare an environmental impact statement that adequately evaluates the environmental impacts of relicensing, including impacts to tribal hunting and fishing rights and subsistence consumption; LBP-15-5, 81 NRC 249 (2015)

NRC Staff examined special pathways of exposure that could lead to a higher level of radiation exposure in minority and low-income populations in the area, including subsistence consumption of fish, native vegetation, surface waters, sediments, and local produce; CLI-15-6, 81 NRC 340 (2015)

subsistence consumption is a subset of EJ; LBP-15-5, 81 NRC 249 (2015)

### ENVIRONMENTAL PROTECTION AGENCY

agency is recognized as an expert in environmental protection, and its final policy determinations deserve consideration; LBP-15-15, 81 NRC 598 (2015)

radon emissions are regulated by EPA; LBP-15-16, 81 NRC 618 (2015)

### ENVIRONMENTAL REPORT

admissibility of contention that ER lacks site-specific safety and environmental findings regarding storage and disposal of spent fuel is decided; LBP-15-5, 81 NRC 249 (2015)

although a draft supplemental environmental impact statement may rely in part on applicant's ER, NRC Staff must independently evaluate and be responsible for the reliability of all information used in the DSEIS; LBP-15-3, 81 NRC 65 (2015)

although environmental contentions are, in essence, challenges to NRC Staff's compliance with NEPA, those contentions must be raised, if possible, in response to applicant's ER; CLI-15-1, 81 NRC 1 (2015)

applicant for a license to possess and use source and AEA § 11e(2) byproduct material for the purpose of in situ uranium recovery must submit an ER with its application; LBP-15-3, 81 NRC 65 (2015)

applicant must analyze environmental impacts of a license renewal on matters identified as Category 2 issues in 10 C.F.R. Part 51, Subpart A, Appendix B; LBP-15-5, 81 NRC 249 (2015)



## SUBJECT INDEX

applicant must describe the proposed action, state its purposes, and describe the environment affected; LBP-15-3, 81 NRC 65 (2015)

applicant must discuss the five elements of 10 C.F.R. 51.45(b)(1)-(5); LBP-15-3, 81 NRC 65 (2015)

because NRC Staff relies heavily on the applicant's ER in preparing the environmental impact statement, should the applicant become a proponent of a particular challenged position set forth in the EIS, the applicant, as such a proponent, also has the burden on that matter; LBP-15-16, 81 NRC 618 (2015)

because NRC Staff relies heavily upon applicant's ER in preparing the environmental impact statement, should applicant become a proponent of a particular challenged position set forth in the EIS, applicant, as such a proponent, also has the burden on that matter; LBP-15-3, 81 NRC 65 (2015)

board may construe an admitted contention contesting applicant's ER as a challenge to a subsequently issued draft or final environmental impact statement without the necessity for intervenors to file a new or amended contention; LBP-15-11, 81 NRC 401 (2015)

boards do not sit to "flyspeek" environmental documents or to add details or nuances, but the ER or environmental impact statement must come to grips with all important considerations; LBP-15-5, 81 NRC 249 (2015)

Category 2 issues are reviewed on a site-specific basis because they have not been determined to be essentially similar for all plants; LBP-15-5, 81 NRC 249 (2015)

contention is within the scope of license renewal proceeding because NRC regulations require that the ER include a severe accident mitigation alternatives analysis; LBP-15-5, 81 NRC 249 (2015)

contention of omission on a matter related to the National Environmental Policy Act must describe the information that should have been included in applicant's ER and provide the legal basis that requires the omitted information to be included; LBP-15-5, 81 NRC 249 (2015)

contention that ER does not satisfy NEPA because it does not consider a range of mitigation measures to mitigate the risk of catastrophic fires in densely packed, closed-frame spent fuel storage pools is decided; LBP-15-5, 81 NRC 249 (2015)

contention that ER fails to accurately and thoroughly conduct severe accident mitigation alternatives analysis to design vulnerability of GE Mark I boiling water reactor pressure suppression containment system and environmental consequences of a to-be-anticipated severe accident post-Fukushima Daiichi fails to present a genuine material dispute; LBP-15-5, 81 NRC 249 (2015)

contention that ER is inadequate insofar as it does not consider the risk of spent fuel pool fires is inadmissible; LBP-15-5, 81 NRC 249 (2015)

contentions arising under NEPA must be filed based on applicant's ER; LBP-15-19, 81 NRC 815 (2015)

environmental considerations that the ER must discuss are equivalent to, and in most instances verbatim restatements of, environmental considerations that NEPA requires the agency to describe in detail in the environmental impact statement; LBP-15-5, 81 NRC 249 (2015)

ER for the license renewal stage need not contain environmental analysis of Category 1 issues identified in 10 C.F.R. Part 51, Subpart A, Appendix B; LBP-15-5, 81 NRC 249 (2015)

ER must contain a consideration of alternatives for reducing adverse impacts for all Category 2 license renewal issues in 10 C.F.R. Part 51, Subpart A, Appendix B; LBP-15-5, 81 NRC 249 (2015)

even if a contention provided information not discussed in the ER, it is still not admissible if it fails to provide a reasoned basis or explanation for why the ER is wrong; LBP-15-5, 81 NRC 249 (2015)

failure to provide a direct critique of the analysis in the ER discussing the potential for offshore power and interconnected wind farms is a failure to identify a genuine dispute with applicant; LBP-15-5, 81 NRC 249 (2015)

inadequacy in the severe accident mitigation alternatives analysis is material if license renewal applicant failed to consider complete information without justifying why particular information was omitted; LBP-15-5, 81 NRC 249 (2015)

license renewal applicant may adopt generic findings of the generic environmental impact statement, but must also include site-specific analyses of Category 2 issues; CLI-15-6, 81 NRC 340 (2015)

license renewal applicant must consider alternatives to mitigate severe accidents for all plants that have not considered such alternatives; LBP-15-5, 81 NRC 249 (2015)

migration tenet applies when information in the draft environmental impact statement is sufficiently similar to information in applicant's ER, and allows previously admitted contentions challenging the ER to apply to relevant portions of the DSEIS; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

NRC Staff uses applicant's ER as a starting point for its own environmental review of a license renewal application, the results of which are published as a supplement to the generic environmental impact statement; CLI-15-6, 81 NRC 340 (2015)

once challenged, there is no presumption that an ER is correct or accurate, with applicant, as the proponent of the license, bearing the burden of proof; LBP-15-2, 81 NRC 48 (2015)

petitioners may raise contentions seeking correction of significant inaccuracies and omissions in the ER; LBP-15-5, 81 NRC 249 (2015)

severe accident mitigation alternatives analysis must be considered as part of the ER and, ultimately, as part of NRC Staff's supplemental environmental impact statement for a power reactor license renewal; LBP-15-5, 81 NRC 249 (2015)

severe accident mitigation alternatives review identifies and assesses possible changes, such as improvements in hardware, training, or procedures, that could cost-effectively mitigate the environmental impacts that would otherwise flow from a potential severe accident; LBP-15-5, 81 NRC 249 (2015)

to the extent there are important NEPA qualitative considerations or factors that cannot be quantified, these considerations or factors will be discussed in qualitative terms; LBP-15-5, 81 NRC 249 (2015)

**ENVIRONMENTAL REVIEW**

absent a rule waiver, NRC Staff is not expected to revisit the impact determinations made in the Continued Storage GEIS as part of its site-specific NEPA reviews; CLI-15-10, 81 NRC 535 (2015)

adequacy of NRC Staff's review of transmission-corridor impacts might be appropriate for the board's consideration sua sponte; CLI-15-1, 81 NRC 1 (2015)

agencies are given broad discretion to keep their NEPA inquiries within appropriate and manageable boundaries; LBP-15-3, 81 NRC 65 (2015)

agencies must use a systematic, interdisciplinary approach that will ensure the integrated use of the natural and social sciences and the environmental design arts in decisionmaking that may impact the environment; CLI-15-13, 81 NRC 555 (2015)

agency conducting a NEPA review shall independently evaluate the information submitted and shall be responsible for its accuracy; LBP-15-11, 81 NRC 401 (2015)

agency failed to take a hard look at cumulative impacts on cultural resources under NEPA even though the agency had satisfied its obligations under NHPA to consult with the tribe; LBP-15-16, 81 NRC 618 (2015)

although an agency may coordinate and, where practicable, integrate its National Environmental Policy Act and National Historic Preservation Act review efforts, the two statutes impose separate and distinct obligations; LBP-15-16, 81 NRC 618 (2015)

because 10 C.F.R. 51.23(b) prescribes a specific procedure for incorporating the environmental impacts of continued storage into a site-specific analysis, this procedure, rather than a procedure set forth in the general provisions of Part 51, governs NRC environmental review; CLI-15-10, 81 NRC 535 (2015)

compliance with the environmental quality standards and requirements of the Federal Water Pollution Control Act is not a substitute for, and does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality; LBP-15-11, 81 NRC 401 (2015)

"environmental document" includes environmental assessment, environmental impact statement, finding of no significant impact, and notice of intent; LBP-15-16, 81 NRC 618 (2015)

federal agency must assess the effects of the undertaking on any eligible historic properties found; LBP-15-16, 81 NRC 618 (2015)

in uncontested hearings, it is NRC's duty to ensure, among other things, that it has adhered to its obligations under the National Environmental Policy Act; CLI-15-1, 81 NRC 1 (2015)

it is the duty of NRC Staff, not applicant, to consult with interested tribes concerning the proposed site in the context of a National Historic Preservation Act contention; LBP-15-5, 81 NRC 249 (2015)

NEPA encourages state participation when appropriate and authorized, but coordination between a federal agency and a state requires active involvement between the two in order for the federal agency to meet its independent review burden; LBP-15-11, 81 NRC 401 (2015)

NEPA hard look must emerge from an engagement in informed and reasoned decisionmaking, as the agency obtains opinions from its own experts and experts outside the agency and gives careful scientific scrutiny and responds to all legitimate concerns that are raised; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

NEPA requires that agencies take a hard look at the environmental effects of actions even after a proposal has received initial approval; LBP-15-16, 81 NRC 618 (2015)

NEPA review in license renewal proceedings is not limited to aging management-related issues; LBP-15-5, 81 NRC 249 (2015)

NRC Staff examined special pathways of exposure that could lead to a higher level of radiation exposure in minority and low-income populations in the area, including subsistence consumption of fish, native vegetation, surface waters, sediments, and local produce; CLI-15-6, 81 NRC 340 (2015)

NRC Staff must assess the relationship between local short-term uses and long-term productivity of the environment, consider alternatives, and describe the unavoidable adverse environmental impacts and the irreversible and irretrievable commitments of resources associated with the proposed action; CLI-15-13, 81 NRC 555 (2015)

NRC Staff must have some discretion to draw the line and move forward with decisionmaking; LBP-15-16, 81 NRC 618 (2015)

NRC Staff must provide a reasonably thorough discussion of the significant aspects of the probable environmental consequences of a proposed action; LBP-15-16, 81 NRC 618 (2015)

NRC Staff must weigh unavoidable adverse environmental impacts and resource commitments (costs) against the project's benefits; CLI-15-13, 81 NRC 555 (2015)

NRC Staff uses applicant's ER as a starting point for its own environmental review of a license renewal application, the results of which are published as a supplement to the generic environmental impact statement; CLI-15-6, 81 NRC 340 (2015)

proximity of the nuclear power plant site to the Canadian border is considered in the contexts of environmental and safety reviews; CLI-15-13, 81 NRC 555 (2015)

the fact that a competent and responsible state authority has approved the environmental acceptability of a site or a project after extensive and thorough environmentally sensitive hearings is properly entitled to substantial weight in the conduct of NRC's own NEPA analysis; LBP-15-11, 81 NRC 401 (2015)

when drafting an environmental impact statement, agency's scope of review must include analysis of any connected or cumulative actions to the central proposed action; LBP-15-16, 81 NRC 618 (2015)

while reviewing any adverse effects, federal agencies must take a hard look at the environmental impacts of a proposed action; LBP-15-16, 81 NRC 618 (2015)

### EQUIPMENT

protection of regulatory treatment of nonsafety systems equipment from external hazards at the site is discussed; CLI-15-13, 81 NRC 555 (2015)

### ERROR

board did not err in factual finding that applicant was not under foreign ownership, control, or domination; CLI-15-7, 81 NRC 481 (2015)

board erred in allowing a collateral attack on the GEIS Category 1 finding associated with severe accident consequences; CLI-15-6, 81 NRC 340 (2015)

board erred in allowing collateral attacks on emergency plans; CLI-15-6, 81 NRC 340 (2015)

board erred in concluding that transformers are passive components under the license renewal rule; CLI-15-6, 81 NRC 340 (2015)

board erred in finding that NRC Staff analyzed the wrong variables in its environmental justice review; CLI-15-6, 81 NRC 340 (2015)

board improperly allowed petitioner to challenge the generic environmental impact statement's generic finding regarding severe accident consequences; CLI-15-6, 81 NRC 340 (2015)

Commission defers to board's factual findings unless they are clearly erroneous and generally steps in only to correct factual findings not even plausible in light of the record reviewed in its entirety, e.g., where it appears that the board has overlooked or misunderstood important evidence; CLI-15-6, 81 NRC 340 (2015)

licensing board failed to provide sufficient justification for rejecting a challenge to applicant's meteorological model where petitioners pointed to site-specific meteorological patterns to argue that the model and inputs were inaccurate and insufficiently conservative; LBP-15-20, 81 NRC 829 (2015)

to show clear error, petitioner must show that the board's determination is not even plausible in light of the record as a whole; CLI-15-7, 81 NRC 481 (2015); CLI-15-9, 81 NRC 512 (2015)

## SUBJECT INDEX

### EVACUATION TIME ESTIMATES

failure to offer factual support for the proposition that applicant's inputs for evacuation times are flawed or unreasonable or that its sensitivity analysis of these inputs was incorrect renders a contention inadmissible; LBP-15-5, 81 NRC 249 (2015)

### EVIDENCE

absent documentary support, NRC has declined to assume that licensees will contravene its regulations; LBP-15-3, 81 NRC 65 (2015)

at the contention admission stage, petitioners need not marshal their evidence as though preparing for an evidentiary hearing; LBP-15-20, 81 NRC 829 (2015)

at the contention admission stage, the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion; LBP-15-1, 81 NRC 15 (2015)

board considered a letter written after the original petition was filed and submitted with petitioner's reply; LBP-15-5, 81 NRC 249 (2015)

board considered evidence submitted with petitioner's reply to which opposing parties didn't object; LBP-15-5, 81 NRC 249 (2015)

board has ample authority to ensure that evidence offered concerning microcracking is limited to that specific material issue and does not stray into issues outside the scope of the license amendment proceeding; LBP-15-20, 81 NRC 829 (2015)

contention admission stage is not the appropriate point at which to evaluate witness credibility or to weigh competing evidence, but an expert must provide a reasoned basis or explanation for opinions in support of a contention; LBP-15-17, 81 NRC 753 (2015)

factual support is not necessary at the contention filing stage to show that a genuine dispute exists and need not be in affidavit or formal evidentiary form or of the quality necessary to withstand a summary disposition motion; LBP-15-11, 81 NRC 401 (2015)

irreparable harm element of the test for issuance of injunctive relief was met where the tribe's evidence showed that a phase of the project would involve damage to at least one known site, and virtually ensure some loss or damage; LBP-15-2, 81 NRC 48 (2015)

mere presence of evidence supporting both sides does not call for Commission review where it appears that the board considered all the evidence and arguments before it; CLI-15-7, 81 NRC 481 (2015)

nonstatic nature of a website, in the absence of a stand-alone compact disc/digital video disc that would allow the board or parties to run a locked-down version of the website application, prevents consideration as evidence; LBP-15-3, 81 NRC 65 (2015)

requiring petitioners to proffer conclusive support for the effect of their proposed contention would improperly require boards to adjudicate the merits of contentions before admitting them; LBP-15-20, 81 NRC 829 (2015)

### EVIDENCE, HEARSAY

in absence of objection, hearsay evidence is treated as being properly admitted and may be given such probative effect and value to which it is entitled; LBP-15-20, 81 NRC 829 (2015)

### EVIDENTIARY HEARINGS

boards have considerable discretion in their evidentiary rulings; CLI-15-6, 81 NRC 340 (2015)

fact-finding administrative body, such as a licensing board, with authority to develop an evidentiary record, is distinguished from reviewing adjudicatory and judicial bodies, generally with a more limited record-creating authority; LBP-15-3, 81 NRC 65 (2015)

issued licenses can be revoked, conditioned, modified, or affirmed based on the evidence reviewed at the evidentiary hearing; LBP-15-16, 81 NRC 618 (2015)

question whether the environmental assessment is sufficient to satisfy NRC Staff's NEPA requirements must await consideration at a full evidentiary hearing; LBP-15-13, 81 NRC 456 (2015)

### EXCEPTIONS

exception in 10 C.F.R. 50.72 is most reasonably interpreted as exempting from the ERDS program all nuclear reactors that have permanently ceased operations and defueled, i.e., that are permanently shut down; LBP-15-4, 81 NRC 156 (2015)

scope of the ERDS exception is informed by the regulatory history, which states that ERDS is to be used by licensees of operating reactors; LBP-15-4, 81 NRC 156 (2015)

## SUBJECT INDEX

### EXECUTIVE ORDER 12898

order did not, in itself, create new substantive authority for federal agencies and thus NRC determined that it would endeavor to carry out the environmental justice principles as part of the agency's responsibilities under NEPA; CLI-15-6, 81 NRC 340 (2015)

### EXEMPTIONS

any alleged ambiguity in the exception provision of 10 C.F.R. Part 50, Appendix E, § VI is eliminated when the regulatory language is examined in light of the regulatory history and framework; LBP-15-4, 81 NRC 156 (2015)

because current levels of emergency planning are required by regulation, licensee cannot make changes contemplated in its license amendment request without first receiving certain regulatory exemptions; LBP-15-18, 81 NRC 793 (2015)

Congress intentionally limited the opportunity for a hearing to certain designated agency actions which do not include exemptions; LBP-15-18, 81 NRC 793 (2015)

exemption from the surveillance program is allowed if a reactor's lifetime irradiation levels are below a certain threshold; LBP-15-17, 81 NRC 753 (2015)

exemptions ordinarily do not trigger hearing rights when an already-licensed facility is asking for relief from performing a duty imposed by NRC regulations; LBP-15-18, 81 NRC 793 (2015)

failure to comply with NRC's e-filing requirements without good cause or without obtaining an exemption from the requirements under 10 C.F.R. 2.302(g) can result in rejection of a pleading; LBP-15-4, 81 NRC 156 (2015)

hearing on exemption-related matters is necessary insofar as resolution of the exemption request directly affects the licensability of a proposed fuel storage site and the exemption raises material questions directly connected to an agency licensing action; LBP-15-18, 81 NRC 793 (2015)

in exempting an aquifer from MCLs, EPA has to find that the aquifer cannot and will not serve as a source of drinking water because it is mineral producing and can be demonstrated to contain minerals that, considering their quantity and location, are expected to be commercially producible; LBP-15-3, 81 NRC 65 (2015)

when licensee requests an exemption in a related license amendment application, hearing rights on the amendment application are considered to encompass the exemption request as well; LBP-15-18, 81 NRC 793 (2015)

### EXIGENT CIRCUMSTANCES

determination seems compelled by the fact that violation of the technical specifications limit for the plant, whatever the cause of the temperature increase, requires a dual-unit shutdown; LBP-15-13, 81 NRC 456 (2015)

NRC Staff may determine that exigent circumstances exist such that there is insufficient time for a full 30-day public comment period on a license amendment request; LBP-15-13, 81 NRC 456 (2015)

### EXTENSION OF TIME

if intervenor cannot meet the requirements for filing a contention under the new section 2.309(c)(1), he or she can still take advantage of an extension request if unanticipated events, such as a weather event or unexpected health issues, prevented the participant from filing for a reasonable period of time after the deadline; LBP-15-1, 81 NRC 15 (2015)

### FAIRNESS

each side must be heard; LBP-15-5, 81 NRC 249 (2015)

in assessing whether applicant/licensee adequately carries out a licensing directive, boards are to assume that NRC Staff will be fair and judge the matter of applicant/licensee's compliance on the merits; LBP-15-3, 81 NRC 65 (2015)

petitioners would have no opportunity to be heard regarding a sua sponte objection by the board because they would only learn of it when they received the board's ruling and thus would be deprived of the opportunity to file the response expressly provided in procedural rules; LBP-15-5, 81 NRC 249 (2015)

### FAULTS

request that NRC order immediate shutdown of all nuclear power reactors that are known to be located on or near an earthquake fault line is denied; DD-15-6, 81 NRC 884 (2015)

## SUBJECT INDEX

### FEDERAL EMERGENCY MANAGEMENT AGENCY

in any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation ability of state and local emergency plans; LBP-15-4, 81 NRC 156 (2015)

radiological emergency response plan was developed by the State and approved by the Federal Emergency Management Agency to ensure that the State is prepared to handle the offsite effects of a radiological emergency; LBP-15-4, 81 NRC 156 (2015)

### FEDERAL REGISTER

publication in the Federal Register is legally sufficient notice to all affected people; LBP-15-5, 81 NRC 249 (2015)

### FEDERAL RULES OF EVIDENCE

federal rules are not directly applicable to NRC proceedings, but NRC adjudicatory boards often look to those rules for guidance; LBP-15-20, 81 NRC 829 (2015)

objection not timely made is considered to be waived; LBP-15-20, 81 NRC 829 (2015)

### FEDERAL WATER POLLUTION CONTROL ACT

compliance with the environmental quality standards and requirements of the Federal Water Pollution Control Act is not a substitute for, and does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality; LBP-15-11, 81 NRC 401 (2015)

### FILINGS

amicus curiae filings are allowed at the Commission's discretion or sua sponte; CLI-15-4, 81 NRC 221 (2015)

contention filing deadlines support the Commission's interest in promoting efficient adjudication; LBP-15-11, 81 NRC 401 (2015)

when a filing deadline is approaching, notwithstanding that an attorney is engaged in good-faith settlement discussions, prudence should compel the attorney to take all actions that are necessary to ensure the deadline will be met in the event that settlement discussions are unsuccessful; LBP-15-4, 81 NRC 156 (2015)

See also Electronic Filing; Pleadings

### FILTERS

petitioners question applicant's failure to consider the qualitative benefits of installing engineered filters; LBP-15-5, 81 NRC 249 (2015)

### FINAL ENVIRONMENTAL IMPACT STATEMENT

additional content is required in a FEIS compared to a draft EIS; LBP-15-3, 81 NRC 65 (2015)

agencies shall prepare supplements to either draft or final EISs if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; LBP-15-13, 81 NRC 456 (2015)

analysis for all draft and final EISs, by virtue of section 51.90, will, to the fullest extent practicable, quantify the various factors considered; LBP-15-3, 81 NRC 65 (2015)

board's findings and the adjudicatory record are, in effect, part of the final supplemental environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

board's ultimate NEPA judgments can be made on the basis of the entire adjudicatory record in addition to NRC Staff's FEIS; LBP-15-3, 81 NRC 65 (2015)

bounding analysis provided in the final supplemental environmental impact statement, as supplemented in the record, provides sufficient information about a reasonable range of hazardous constituent concentration values associated with potential post-operational alternate concentration limits so as to provide an appropriate NEPA assessment of the environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits; LBP-15-3, 81 NRC 65 (2015)

contention alleging that final supplemental environmental impact statement fails to provide an adequate baseline groundwater characterization or demonstrate that groundwater samples were collected in a scientifically defensible manner is decided; LBP-15-16, 81 NRC 618 (2015)

contention that final supplemental environmental impact statement fails to analyze environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits is decided; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

contention that final supplemental environmental impact statement fails to comply with NRC regulations and NEPA because it lacks an adequate description of the present baseline (i.e., original or pre-mining) groundwater quality and fails to demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies is decided; LBP-15-3, 81 NRC 65 (2015)

decision of the board or Commission becomes the record of decision, which may also incorporate the final supplemental environmental impact statement; CLI-15-6, 81 NRC 340 (2015)

distribution requirements for an FEIS (and a supplement thereto) are imposed by 10 C.F.R. 51.93; LBP-15-3, 81 NRC 65 (2015)

even if contentions are based on NRC Staff's FSEIS, intervenor still bears the responsibility of demonstrating that a new contention merits admission and meets all six admission requirements; LBP-15-16, 81 NRC 618 (2015)

FEIS or supplement thereto must be considered in the agency's decisionmaking; LBP-15-3, 81 NRC 65 (2015)

FEIS as amplified by both board and Commission decisions, provides adequate consideration of environmental impacts of near-surface waste disposal; CLI-15-6, 81 NRC 340 (2015)

FEISs must be supplemented to provide complete, accurate, and up-to-date sources of information for members of the public and state and local governments; CLI-15-10, 81 NRC 535 (2015)

FSEIS is a snapshot in time of expected environmental consequences; CLI-15-6, 81 NRC 340 (2015)

FSEIS must include an analysis of cultural impacts; LBP-15-16, 81 NRC 618 (2015)

hearing on environmental issues must await issuance of FEIS; LBP-15-3, 81 NRC 65 (2015)

intervenors fail to establish the validity of their various challenges to the adequacy of the final supplemental environmental impact statement description of the baseline water quality at the in situ recovery site; LBP-15-3, 81 NRC 65 (2015)

legal requirements applicable to a draft EIS, as specified in sections 51.70(b) and 51.71, are imposed on a final EIS; LBP-15-3, 81 NRC 65 (2015)

NRC Staff must include in the FSEIS an analysis of significant problems and objections raised by any affected Indian tribes and other interested persons; LBP-15-16, 81 NRC 618 (2015)

purpose of the final supplemental environmental impact statement is to inform the decisionmaking agency and the public of a broad range of environmental impacts that will result, with a fair degree of likelihood, from a proposed project, rather than to speculate about worst-case scenarios and how to prevent them; CLI-15-6, 81 NRC 340 (2015)

supplemental environmental impact statement is supplemented by the board's decision as well as by the hearing record; CLI-15-6, 81 NRC 340 (2015)

when considering continued storage in licensing reviews with previously completed final environmental impact statements, NRC Staff is expected to use a consistent and transparent process to ensure that all stakeholders are aware of how the environmental impacts of continued storage are considered in each licensing action affected by this regulation; CLI-15-10, 81 NRC 535 (2015)

where environmental impacts are practically quantifiable, NRC has a duty to discuss them in those terms in the final supplemental environmental impact statement; LBP-15-3, 81 NRC 65 (2015)

**FINAL SAFETY ANALYSIS REPORT**

contention that FSAR is deficient because it does not include information provided in applicant's seismic evaluation process report is rejected; LBP-15-14, 81 NRC 591 (2015)

report must take into account any pertinent information developed since the submittal of the preliminary SAR; LBP-15-14, 81 NRC 591 (2015)

**FINALITY**

agency action is final at the consummation of the agency's decisionmaking process, and when rights or obligations have been determined; LBP-15-2, 81 NRC 48 (2015)

given the need for finality in adjudications, reopening the record is an extraordinary action imposing a deliberately heavy burden on intervenor; LBP-15-14, 81 NRC 591 (2015)

licensing board's ruling resolving the last pending contention is equivalent to a final decision under 10 C.F.R. 2.341, and a licensing board's jurisdiction ends after it has rendered a final decision; LBP-15-9, 81 NRC 396 (2015)

**FINANCIAL ASSURANCE**

admissibility of contention that applicant submit a decommissioning plan and related updated financial plans is decided; LBP-15-15, 81 NRC 598 (2015)

## SUBJECT INDEX

admissibility of contention that environmental documents lack an adequate description of financial assurances sufficient to pay the costs of restoration and long-term monitoring of up to 30 years is decided; LBP-15-15, 81 NRC 598 (2015)

applicant must submit information that demonstrates that it possesses or has reasonable assurance of obtaining the funds necessary to cover estimated operating costs for the period of the license; CLI-15-8, 81 NRC 500 (2015)

decommissioning funding requirements encompass costs of low-level waste burial; CLI-15-8, 81 NRC 500 (2015)

license transfer applicant must show reasonable assurance of sufficient funds to decommission the facility; CLI-15-8, 81 NRC 500 (2015)

license transfer applicant must submit estimates for total annual operating costs for each of the first 5 years of facility operation; CLI-15-8, 81 NRC 500 (2015)

**FINANCIAL ASSURANCE PLAN**

financial surety arrangements must be established by each mill operator before the commencement of operations to ensure that sufficient funds will be available to carry out decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas; LBP-15-15, 81 NRC 598 (2015)

**FINDING OF NO SIGNIFICANT IMPACT**

environmental assessment, and associated FONSI, must contain sufficient discussion of environmental impacts and the reasons why the proposed action will not have a significant effect on the quality of the human environment; LBP-15-13, 81 NRC 456 (2015)

if an agency determines that a particular action will have no effect on an endangered or threatened species, the U.S. Fish & Wildlife Service consultation requirements are not triggered; LBP-15-11, 81 NRC 401 (2015)

issuance of an environmental assessment is appropriate where NRC Staff determines that the proposed project will result in no significant impacts; LBP-15-11, 81 NRC 401 (2015)

**FINDINGS OF FACT**

board did not err in factual finding that applicant was not under foreign ownership, control, or domination; CLI-15-7, 81 NRC 481 (2015)

Commission defers to board's factual findings unless they are clearly erroneous and generally steps in only to correct factual findings not even plausible in light of the record reviewed in its entirety; CLI-15-6, 81 NRC 340 (2015); CLI-15-9, 81 NRC 512 (2015)

fact-finding administrative body, such as a licensing board, with authority to develop an evidentiary record, is distinguished from reviewing adjudicatory and judicial bodies, generally with a more limited record-creating authority; LBP-15-3, 81 NRC 65 (2015)

licensing boards are the appropriate finders of fact in most circumstances, and referral of a matter for a fact-specific dispute occurs in the ordinary course of business; CLI-15-14, 81 NRC 729 (2015)

**FIRES**

contention that environmental report does not satisfy NEPA because it does not consider a range of measures to mitigate the risk of catastrophic fires in densely packed, closed-frame spent fuel storage pools is decided; LBP-15-5, 81 NRC 249 (2015)

contention that environmental report is inadequate insofar as it does not consider the risk of spent fuel pool fires is inadmissible; LBP-15-5, 81 NRC 249 (2015)

in its Waste Confidence Decision, NRC failed to consider environmental impacts of a repository never becoming available, its analysis of spent fuel pool leaks was not forward-looking, and it had not sufficiently considered the consequences of spent fuel pool fires; CLI-15-4, 81 NRC 221 (2015)

**FISH AND WILDLIFE SERVICE**

admissibility of contention that environmental assessment failed to conduct the required hard look at impacts of the proposed mine and fails to consult with the FWS is decided; LBP-15-11, 81 NRC 401 (2015)

concurrence by FWS discharges NRC's consultation responsibilities; LBP-15-11, 81 NRC 401 (2015)

consultation with FWS is legally mandated for any agency action that may affect listed species or critical habitat; LBP-15-11, 81 NRC 401 (2015)

federal agency is required to consult if an action may affect listed species or designated critical habitat, even if the effects are expected to be beneficial; LBP-15-11, 81 NRC 401 (2015)



## SUBJECT INDEX

federal agency need not initiate formal consultation if, as a result of the preparation of a biological assessment under section 402.12 or as a result of informal consultation with the Service under section 402.13, the federal agency determines, with the written concurrence of the FWS Director, that the proposed action is not likely to adversely affect any listed species or critical habitat; LBP-15-11, 81 NRC 401 (2015)

if an agency determines that a particular action will have no effect on an endangered or threatened species, the FWS consultation requirements are not triggered; LBP-15-11, 81 NRC 401 (2015)

“informal” consultation is an optional process that includes all discussions, correspondence, etc., between FWS and the federal agency designed to assist the federal agency in determining whether formal consultation or a conference is required with the Service under section 402.13; LBP-15-11, 81 NRC 401 (2015)

only species listed as threatened or endangered under the Endangered Species Act are covered by the act’s formal consultation requirements; LBP-15-11, 81 NRC 401 (2015)

when engaging in informal consultation, an agency must provide its determination as to whether the proposed action will affect threatened and endangered species to FWS and request FWS concurrence; LBP-15-11, 81 NRC 401 (2015)

### FLOOD PROTECTION

admissibility of contention that licensee is undertaking modifications for protection against severe flooding in the event of upstream dam failures that will require a license amendment is decided; CLI-15-5, 81 NRC 329 (2015)

NRC addressed concerns about flooding at GE Mark I and II boiling water reactors through a request for information; DD-15-1, 81 NRC 193 (2015)

NRC Staff may impose additional requirements to protect against a reevaluated flood hazard; DD-15-5, 81 NRC 877 (2015)

petitioner’s request that the NRC take escalated enforcement action against licensee concerning flooding protection is being addressed by the NRC’s request for information; DD-15-5, 81 NRC 877 (2015)

request for enforcement action based on support beam deficiencies, flood protection inadequacy, flood risks from upstream dams, and primary reactor containment electrical penetration seals containing Teflon is denied because petitioner’s requests have been addressed through other actions; DD-15-4, 81 NRC 869 (2015)

### FLOODS

flood hazard reevaluations being performed pursuant to a request for information are beyond the current design/licensing basis of operating plants; DD-15-4, 81 NRC 869 (2015)

### FOREIGN OWNERSHIP

board did not err in factual finding that applicant was not under foreign ownership, control, or domination; CLI-15-7, 81 NRC 481 (2015)

foreign ownership, control, or domination analysis should be given an orientation toward safeguarding the national defense and security; CLI-15-7, 81 NRC 481 (2015)

in determining foreign ownership issues, boards may consider aspects of control that do not affect nuclear safety or security; CLI-15-7, 81 NRC 481 (2015)

NRC is prohibited from issuing a utilization or production facility license to any alien or any corporation or other entity if NRC knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government; CLI-15-7, 81 NRC 481 (2015)

“owned, controlled or dominated” refers to relationships in which the will of one party is subjugated to the will of another; CLI-15-7, 81 NRC 481 (2015)

where the record did not show any means for foreign minority owner of applicant to control applicant’s decisions, or any attempts by the foreign owner to do so, the board could permissibly conclude that the foreign minority owner did not “control” the applicant; CLI-15-7, 81 NRC 481 (2015)

whether a foreign entity has the ability to restrict or inhibit compliance with security or other regulations of the Commission is of greatest significance to a foreign ownership, control, or domination review; CLI-15-7, 81 NRC 481 (2015)

### FRACTURE TOUGHNESS

applicant requests an operating license amendment to implement alternate fracture toughness requirements for protection against pressurized thermal shock events; LBP-15-17, 81 NRC 753 (2015)

## SUBJECT INDEX

ASTM Standard E 185 anticipates that during the course of a nuclear power plant's life the surveillance capsule withdrawal schedule may need to be revised and allows and provides for such changes; LBP-15-20, 81 NRC 829 (2015)

if part of a reactor pressure vessel is expected to fall below the 50 ft-lb standard, licensee must demonstrate that lower values of Charpy upper-shelf energy will provide margins of safety against fracture equivalent to those required by the ASME Boiler and Pressure Vessel Code; LBP-15-20, 81 NRC 829 (2015)

licensees have the option of demonstrating that values of Charpy upper-shelf energy below 50 ft-lb will provide margins of safety against fracture equivalent to those required by Appendix G of Section XI of the ASME BPV Code; LBP-15-20, 81 NRC 829 (2015)

licensees must attach a particular number of surveillance capsules to specified areas within the reactor vessel, typically near the inside vessel wall at the beltline; LBP-15-20, 81 NRC 829 (2015)

long-term exposure to neutron radiation and elevated temperatures in a reactor vessel decrease the vessel materials' fracture toughness, or resistance to fracture; LBP-15-20, 81 NRC 829 (2015)

materials in a reactor vessel must maintain a minimum level of 50 ft-lb of Charpy upper-shelf energy, which is a measurement of the amount of energy the material can absorb at high temperatures before it fractures and fails; LBP-15-20, 81 NRC 829 (2015)

minimum frequency with which surveillance capsules must be tested is set by ASTM Standard E 185 (1982 version), which is incorporated into Appendix H; LBP-15-20, 81 NRC 829 (2015)

neutron radiation embrittlement of reactor pressure vessel walls, decreasing their fracture toughness, is discussed; LBP-15-17, 81 NRC 753 (2015)

petitioners are not barred from contending that additional testing is necessary to show margins of safety equivalent to those of the ASME BPV Code, Section XI, Appendix G because the petitioners allege noncompliance with 10 C.F.R. Part 50, Appendix G and not Appendix H; LBP-15-20, 81 NRC 829 (2015)

physical specimens must come from near the inside vessel wall in the beltline region so that the specimen irradiation history duplicates the neutron spectrum, temperature history, and maximum neutron fluence experienced by the reactor vessel inner surface; LBP-15-17, 81 NRC 753 (2015)

plant-specific surveillance data must be integrated into the transition fracture toughness reference temperature estimate; LBP-15-17, 81 NRC 753 (2015)

results from plant-specific surveillance program must be integrated into the fracture toughness estimate if the plant-specific surveillance data have been deemed credible; LBP-15-17, 81 NRC 753 (2015)

**FUEL LOADING**

holder of a combined license for a newly built reactor may not load fuel or operate except as provided in accordance with Part 50, Appendix E; LBP-15-4, 81 NRC 156 (2015)

**FUEL REMOVAL**

"permanent fuel removal" from a nuclear power reactor facility is defined as a certification by licensee to NRC that it has permanently removed all fuel assemblies from the reactor vessel; LBP-15-4, 81 NRC 156 (2015)

**FUKUSHIMA ACCIDENT**

as part of the NRC post-Fukushima lessons-learned activities, NRC is requiring all licensees to reevaluate seismic hazards at their sites, and to this end, issued a request for information; DD-15-1, 81 NRC 193 (2015)

current regulatory approach and the resultant plant capabilities provide confidence to conclude that a sequence of events similar to the Fukushima accident is unlikely to occur in the U.S.; DD-15-6, 81 NRC 884 (2015); DD-15-6, 81 NRC 884 (2015)

NRC Staff review of combined license application relative to regulatory actions that the NRC has taken in response to lessons learned from the accident is discussed; CLI-15-13, 81 NRC 555 (2015)

petitioners asserted that NRC actions following the events of September 11, 2001, and the accident at Fukushima Dai-ichi were insufficient to satisfy NRC's general obligation under the Atomic Energy Act to protect public health and safety; CLI-15-4, 81 NRC 221 (2015)

post-Fukushima spent fuel pool concerns are being addressed through rulemaking on mitigation of beyond-design-basis events; DD-15-1, 81 NRC 193 (2015)

request for suspension of proceedings and other relief after the Fukushima Dai-ichi accident was denied; CLI-15-13, 81 NRC 555 (2015)

## SUBJECT INDEX

request that NRC order the immediate suspension of the operating licenses of all General Electric boiling-water reactors that use the Mark I primary containment system, citing the Fukushima Dai-ichi accident in Japan as its basis, is resolved; DD-15-1, 81 NRC 193 (2015)

### GENERAL LICENSES

all Part 50 and Part 52 reactor licensees may be granted a general license to store spent fuel in an independent spent fuel storage installation; CLI-15-4, 81 NRC 221 (2015)

### GENERATORS

See Diesel Generators

### GENERIC ENVIRONMENTAL IMPACT STATEMENT

absent a rule waiver, NRC Staff is not expected to revisit the impact determinations made in the Continued Storage GEIS as part of its site-specific NEPA reviews; CLI-15-10, 81 NRC 535 (2015)  
although NRC has issued a GEIS for in situ uranium recovery facilities that assesses potential ISR facility construction/operation/decommissioning impacts, for the initial licensing of each individual ISR facility, NRC Staff will first prepare a draft supplemental environmental impact statement; LBP-15-3, 81 NRC 65 (2015)

assumptions used in the analysis of impacts of continued storage of spent fuel are sufficiently conservative to bound the impacts such that variances that may occur between sites are unlikely to result in environmental impact determinations greater than those presented in the continued storage GEIS; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

board improperly allowed petitioner to challenge the GEIS's generic finding regarding severe accident consequences; CLI-15-6, 81 NRC 340 (2015)

Commission adopted a GEIS to identify and analyze the environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors; LBP-15-12, 81 NRC 452 (2015)

Commission directed licensing boards to reject pending waste confidence contentions after adopting a GEIS to identify and analyze environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors; LBP-15-5, 81 NRC 249 (2015)

contention that supplementation of the environmental impact statement is necessary to allow members of the public to lodge placeholder contentions challenging Commission reliance, in individual licensing proceedings, on the Continued Storage GEIS and Rule is inadmissible; CLI-15-10, 81 NRC 535 (2015)

Continued Storage Rule and supporting GEIS to assess the environmental impacts of spent fuel storage after the end of a reactor's license term were approved; CLI-15-10, 81 NRC 535 (2015)

GEIS findings with respect to severe accident consequences are not subject to challenge in individual license renewal proceedings; CLI-15-6, 81 NRC 340 (2015)

GEIS for in-situ leach uranium milling facilities addresses, among other topics, matters specified in section 51.45; LBP-15-3, 81 NRC 65 (2015)

GEIS for ISL mining is subject to an appropriate challenge in an adjudicatory proceeding; LBP-15-11, 81 NRC 401 (2015)

generic analyses of the environmental impacts of continued storage and disposal in the context of NRC reactor licensing proceedings are acceptable; CLI-15-4, 81 NRC 221 (2015)

generic environmental analysis is incorporated into NRC regulations, and thus Category 1 generic findings may not be challenged in individual licensing proceedings unless accompanied by a petition for rule waiver; CLI-15-6, 81 NRC 340 (2015)

impact determinations in the Continued Storage GEIS shall be deemed incorporated into the environmental impact statements associated with combined license and license renewal applications; CLI-15-10, 81 NRC 535 (2015)

impacts of continued storage will not vary significantly across sites and can be analyzed generically; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

it is not clear NRC Staff relied upon the GEIS when preparing the draft supplemental environmental impact statement because it was not incorporated by reference or mentioned in any other manner; LBP-15-11, 81 NRC 401 (2015)

license renewal applicant's environmental report may adopt the findings of the GEIS, but must also include site-specific analyses of Category 2 issues; CLI-15-6, 81 NRC 340 (2015)

license renewal provisions cover environmental issues relating to onsite spent fuel storage generically, and all such issues, including accident risk, fall outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

## SUBJECT INDEX

NRC adopted a GEIS identifying and analyzing environmental impacts of continued storage of spent nuclear fuel and associated revisions to the Temporary Storage Rule in 10 C.F.R. 51.23; LBP-15-1, 81 NRC 15 (2015); LBP-15-5, 81 NRC 249 (2015)

NRC need not incorporate a GEIS by reference where the Commission has already taken public comment and performed a comprehensive analysis of the environmental consequences of continued spent fuel storage; CLI-15-10, 81 NRC 535 (2015)

NRC Staff uses applicant's environmental report as a starting point for its own environmental review of a license renewal application, the results of which are published as a supplement to the GEIS; CLI-15-6, 81 NRC 340 (2015)

spent fuel pool GEIS is not limited to discussing only normal operations, but also discusses potential accidents and other nonroutine events, and thus need not be included in the severe accident mitigation alternatives analysis for license renewal; LBP-15-5, 81 NRC 249 (2015)

### GENERIC ISSUES

Commission approval of a rule waiver could allow a contention on a Category 1 issue to proceed where special circumstances exist; CLI-15-6, 81 NRC 340 (2015)

generic determinations are appropriately excluded from litigation in individual proceedings; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

licensing proceedings are not the appropriate venue for generic rulemaking issues; CLI-15-9, 81 NRC 512 (2015)

NRC's use of rulemaking to address generic issues has been approved by the Supreme Court; CLI-15-6, 81 NRC 340 (2015)

pointing to alleged new and significant information is not enough to allow boards to adjudicate an issue resolved generically by regulation; LBP-15-5, 81 NRC 249 (2015)

where special circumstances make a generic rule inapplicable to a particular proceeding, participant may petition for a rule waiver or exception; CLI-15-6, 81 NRC 340 (2015)

### GENERIC SAFETY ISSUES

Continued Storage Rule makes generic safety findings concerning feasibility and capacity of spent fuel disposal; LBP-15-9, 81 NRC 396 (2015)

### GOVERNMENT PARTIES

Commission grants standing to a governmental body within close proximity of a proposed nuclear reactor under the proximity presumption, effectively dispensing with the need to make an affirmative showing of injury, causation, and redressability; LBP-15-19, 81 NRC 815 (2015)

### GROUNDWATER

admissibility of contention that environmental assessment fails to adequately describe and analyze aquifer restoration goals in light of new standards for determining alternative control limits is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that environmental assessment fails to analyze impacts on the project from earthquakes, especially concerning secondary porosity and adequate confinement is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that NRC Staff must conduct a new baseline groundwater characterization study of the license renewal area rather than relying on the baseline study conducted during the original license application is decided; LBP-15-11, 81 NRC 401 (2015)

"baseline" data describe results of applicant's preoperational or baseline groundwater quality sampling program providing data on project-wide groundwater conditions; LBP-15-16, 81 NRC 618 (2015)

Commission-approved background cannot be established until after an ISR license has been issued; LBP-15-3, 81 NRC 65 (2015)

contention that environmental assessment violates the National Environmental Policy Act in its failure to analyze groundwater quantity impacts of the project is decided; LBP-15-11, 81 NRC 401 (2015)

contention that final supplemental environmental impact statement fails to provide an adequate baseline groundwater characterization or demonstrate that groundwater samples were collected in a scientifically defensible manner is decided; LBP-15-16, 81 NRC 618 (2015)

EPA drinking water maximum contaminant levels continue to be an accepted groundwater restoration standard; LBP-15-3, 81 NRC 65 (2015)

in situ recovery license applicant is barred from installing a complete wellfield and associated monitor well networks until after a license is issued; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

intervenor fail to establish the validity of their various challenges to the adequacy of the final supplemental environmental impact statement description of the baseline water quality at the ISR site; LBP-15-3, 81 NRC 65 (2015)

prelicensing monitoring program to characterize site groundwater constituents need not be coextensive with the Criterion 7A preoperational monitoring, license condition-based program intended to provide the information needed for setting Criterion 5B groundwater protection standards and UCLs; LBP-15-16, 81 NRC 618 (2015)

“primary groundwater restoration” is to return the constituent to background levels; LBP-15-3, 81 NRC 65 (2015)

restoration to an alternate concentration limit is permitted only when restoration to a primary or the secondary Table 5C standard is not practically achievable; LBP-15-3, 81 NRC 65 (2015)

“secondary groundwater restoration” is restoration of constituent levels to the drinking water limits enumerated in Appendix A, Table 5C; LBP-15-3, 81 NRC 65 (2015)

waiting until after licensing, although before mining operations begin, to definitively establish the groundwater quality baselines and upper control limits is consistent with industry practice and NRC methodology, given the sequential development of in situ leach wellfields; LBP-15-16, 81 NRC 618 (2015)

**GROUNDWATER CONTAMINATION**

activities associated with, and the data coming from, prelicensing groundwater monitoring activities are associated with compliance with the dictates of 10 C.F.R. Part 40, Appendix A, Criterion 7; LBP-15-3, 81 NRC 65 (2015)

although the Part 40, Appendix A criteria were developed for conventional uranium milling facilities, they have since been applied in limited fashion to ISR facilities; LBP-15-3, 81 NRC 65 (2015)

applicant for a uranium ISR license is required to provide data from a groundwater monitoring program that are sufficient to establish a prelicensing site characterization baseline for assessing the potential effects of facility operations on local groundwater quality; LBP-15-3, 81 NRC 65 (2015)

applicant’s monitoring program for establishing existing site characterization baseline values for certain site groundwater constituents prior to issuance of a source materials license for ISR facility construction and operation need not, to comply with NEPA and NRC’s Part 51 implementing regulations, be conducted so as to also provide background information needed to set Appendix A, Criterion 5B groundwater protection standards; LBP-15-3, 81 NRC 65 (2015)

background water quality data are used to establish existing hazardous constituent concentrations in an aquifer, which can then be used to set post-operational concentration limits; LBP-15-16, 81 NRC 618 (2015)

bounding analysis provided in the final supplemental environmental impact statement, as supplemented in the record, provides sufficient information about a reasonable range of hazardous constituent concentration values associated with potential post-operational alternate concentration limits so as to provide an appropriate NEPA assessment of the environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits; LBP-15-3, 81 NRC 65 (2015)

contention that environmental assessment has not adequately addressed environmental impacts associated with saltwater intrusion arising from saline water migration from the plant into surrounding waters, and applicant’s use of aquifer withdrawals to lower salinity and temperature is admissible; LBP-15-13, 81 NRC 456 (2015)

contention that environmental review documents fail to identify source data of the chemical concentrations for ethylbenzene, heptachlor, tetrachloroethylene, and toluene in groundwater is inadmissible as untimely; LBP-15-19, 81 NRC 815 (2015)

contention that final supplemental environmental impact statement fails to analyze environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits is decided; LBP-15-3, 81 NRC 65 (2015)

contention that final supplemental environmental impact statement fails to comply with NRC regulations and NEPA because it lacks an adequate description of the present baseline (i.e., original or pre-mining) groundwater quality and fails to demonstrate that groundwater samples were collected in a scientifically defensible manner is decided; LBP-15-3, 81 NRC 65 (2015)

determination of background groundwater quality to include sampling of wells that are hydraulically upgradient of the waste management area is not required if non-upgradient well sampling will provide

## SUBJECT INDEX

an indication of background groundwater quality that is representative, or more representative, than that provided by upgradient wells; LBP-15-3, 81 NRC 65 (2015)

in exempting an aquifer from MCLs, EPA has to find that the aquifer cannot and will not serve as a source of drinking water because it is mineral producing and can be demonstrated to contain minerals that, considering their quantity and location, are expected to be commercially producible; LBP-15-3, 81 NRC 65 (2015)

licensee shall establish a detection monitoring program needed for NRC to set the site-specific groundwater protection standards, and the monitoring program must be in place when specified by NRC in license conditions; LBP-15-3, 81 NRC 65 (2015)

nineteen factors must be considered in making the “present and potential hazard” finding requisite to Commission approval of an alternate concentration limit; LBP-15-3, 81 NRC 65 (2015)

no in situ recovery facility has ever requested that all OZ aquifer groundwater hazardous constituents be restored to CAB concentrations or Criterion 5B(5)(b) MCLs, as those are currently defined; LBP-15-3, 81 NRC 65 (2015)

nothing in 10 C.F.R. Part 40, Appendix A, Criterion 5B precludes an inquiry, based on a well-pleaded contention, into whether the particular measures used in applicant’s precicensing program were adequate to provide the necessary information to characterize properly the environmental impacts of employing an ISR mining process in the aquifers below a proposed site; LBP-15-3, 81 NRC 65 (2015)

nothing in the definition of “construction” in 10 C.F.R. 40.4 precludes the installation of wells or the use of monitoring protocols as needed to provide those background data; LBP-15-3, 81 NRC 65 (2015)

NRC regulations explicitly allow the use of alternate concentration limits for hazardous constituents; LBP-15-11, 81 NRC 401 (2015)

post-licensing, preoperational activities conducted to comply with Part 40, Appendix A, Criterion 7 are associated with compliance with the dictates of 10 C.F.R. Part 40, Appendix A, Criteria 5B and 7A; LBP-15-3, 81 NRC 65 (2015)

proper sampling plan for establishing baseline values is described; LBP-15-3, 81 NRC 65 (2015)

requirements for groundwater restoration standards for ISR mining operations are set forth in 10 C.F.R. Part 40, Appendix A, Criterion 5B(5); LBP-15-3, 81 NRC 65 (2015)

results of review by NRC Staff and Indian tribe of applicant’s newly disclosed well log data did not paint a seriously different picture of the environmental landscape; LBP-15-16, 81 NRC 618 (2015)

site-specific data to confirm proper baseline quality values, and confirm whether existing rock units provide adequate confinement cannot be collected until an in situ leach well field has been installed; LBP-15-3, 81 NRC 65 (2015)

subset of the production and injection wells to be drilled within the boundaries of the ISR wellfield is to be used to sample groundwater from the aquifer prior to the commencement of operations to establish hazardous constituent Commission-approved background concentrations; LBP-15-3, 81 NRC 65 (2015)

to have an alternate concentration limit approved, licensee must demonstrate that the hazardous constituent value is as low as reasonably achievable, after considering practicable corrective actions, and that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the ACL is not exceeded; LBP-15-3, 81 NRC 65 (2015)

waiting until after licensing (although before mining operations begin) to establish definitively the groundwater quality baselines and upper control limits is consistent with industry practice and NRC methodology, given the sequential development of in situ leach well fields; LBP-15-3, 81 NRC 65 (2015)

water samples taken from one well located hydrologically upgradient are part of the groundwater sampling protocol; LBP-15-3, 81 NRC 65 (2015)

**HAZARDOUS MATERIALS**

contention that environmental review documents fail to identify source data of the chemical concentrations for ethylbenzene, heptachlor, tetrachloroethylene, and toluene in groundwater is inadmissible as untimely; LBP-15-19, 81 NRC 815 (2015)

NRC regulations explicitly allow the use of alternate concentration limits for hazardous constituents; LBP-15-11, 81 NRC 401 (2015)

## SUBJECT INDEX

### HAZARDOUS WASTE

admissibility of contention that environmental assessment fails to adequately describe and analyze the impacts of maintaining post-operational wellfields as long-term hazardous waste facilities is decided; LBP-15-15, 81 NRC 598 (2015)

### HEALTH AND SAFETY

admissibility of contention that final environmental assessment fails to adequately evaluate adverse impacts on public health and safety is decided; LBP-15-15, 81 NRC 598 (2015)

as a matter of policy, applicant's decision to improve an existing program to promote health and safety or to boost public support and confidence ought not ordinarily be viewed as conferring petitioners with an automatic opportunity to advance a new contention; LBP-15-1, 81 NRC 15 (2015)

because the shield building functions as a radiation and biological shield, failure or collapse of the shield building due to cracking propagation could lead to health and safety impacts and thus petitioner's contention concerns a subject matter that could impact the grant or denial of a pending license application; LBP-15-1, 81 NRC 15 (2015)

contention alleging a material deficiency must link the claimed deficiency to a public health and safety or an environmental impact; LBP-15-1, 81 NRC 15 (2015)

license transfer proceedings do not encompass a full-scale health-and-safety review of a plant; CLI-15-8, 81 NRC 500 (2015)

material condition of a plant's reactor vessel obviously bears on the health and safety of members of the public who reside in the plant's vicinity; LBP-15-20, 81 NRC 829 (2015)

NRC can issue nuclear power reactor licenses to applicants only upon a finding that utilization of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public; CLI-15-4, 81 NRC 221 (2015)

petitioners asserted that NRC actions following the events of September 11, 2001, and the accident at Fukushima Dai-ichi were insufficient to satisfy NRC's general obligation under the Atomic Energy Act to protect public health and safety; CLI-15-4, 81 NRC 221 (2015)

prior to license issuance NRC must find reasonable assurance that activities authorized by the amendment can be conducted without endangering the health and safety of the public, and in compliance with Commission regulations; LBP-15-20, 81 NRC 829 (2015)

### HEALTH EFFECTS

to challenge a Category I issue such as public health, petitioner must request a waiver and show that unique circumstances warrant a site-specific determination; LBP-15-5, 81 NRC 249 (2015)

### HEARING REQUESTS

Commission denies portions of a hearing request but refers petitioner's underlying concerns to the Executive Director for Operations for consideration as an enforcement action; CLI-15-14, 81 NRC 729 (2015)

in proceedings for which a Federal Register notice of agency action is published, a hearing request must be filed not later than the time specified in the notice or if no notice is specified, 60 days from the date of publication of the notice; CLI-15-5, 81 NRC 329 (2015)

in proceedings for which a notice of agency action is not published, a hearing request must be filed not later than the latest of 60 days after publication of notice on the NRC Web site or 60 days after the requestor receives actual notice of a pending application but not more than 60 days after agency action on the application; CLI-15-5, 81 NRC 329 (2015)

### HEARING RIGHTS

agency actions not formally labeled as license amendments nevertheless can constitute de facto license amendments and accordingly trigger hearing rights for the public under Atomic Energy Act § 189a; CLI-15-5, 81 NRC 329 (2015); CLI-15-14, 81 NRC 729 (2015)

agency approval or authorization is a necessary component of Commission action that affords a hearing opportunity under AEA § 189a, but not all agency approvals granted to licensees constitute de facto licensee amendments; CLI-15-14, 81 NRC 729 (2015)

Commission refers a limited portion of the hearing request to the licensing board to determine whether petitioner has identified an NRC activity that requires an opportunity to request an adjudicatory hearing; CLI-15-14, 81 NRC 729 (2015)

Congress intentionally limited the opportunity for a hearing to certain designated agency actions which do not include exemptions; LBP-15-18, 81 NRC 793 (2015)

## SUBJECT INDEX

direction is given on what licensee actions do and do not constitute a de facto license amendment triggering hearing rights; CLI-15-14, 81 NRC 729 (2015)

exemptions ordinarily do not trigger hearing rights when an already-licensed facility is asking for relief from performing a duty imposed by NRC regulations; LBP-15-18, 81 NRC 793 (2015)

hearing on exemption-related matters is necessary insofar as resolution of the exemption request directly affects the licensability of a proposed fuel storage site and the exemption raises material questions directly connected to an agency licensing action; LBP-15-18, 81 NRC 793 (2015)

hearing rights are provided in licensing actions concerning the granting of any license upon the request of any person whose interest may be affected by the proceeding; LBP-15-16, 81 NRC 618 (2015)

licensing actions that alter the terms of a license or otherwise authorize additional operating activities trigger hearing rights for the public under section 189a of the Atomic Energy Act; CLI-15-5, 81 NRC 329 (2015)

NRC approvals of plant restart and lifting suspensions did not trigger AEA §189a hearing rights; CLI-15-14, 81 NRC 729 (2015)

NRC must afford interested persons an opportunity for a hearing on the granting, suspending, revoking, or amending of any license; CLI-15-5, 81 NRC 329 (2015); LBP-15-17, 81 NRC 753 (2015); LBP-15-18, 81 NRC 793 (2015)

NRC Staff inspections and confirmatory action letters are oversight activities normally conducted to ensure that licensees comply with existing NRC requirements and license conditions and therefore do not typically trigger the opportunity for a hearing under the AEA; CLI-15-5, 81 NRC 329 (2015)

opportunity for a hearing must be provided for an amendment to an operating license, combined license, or manufacturing license; LBP-15-17, 81 NRC 753 (2015)

oversight activities at times involve enforcement actions, including orders and civil penalties, to which a hearing right or opportunity attaches; CLI-15-5, 81 NRC 329 (2015)

petitioner must address its hearing request to a matter that triggers a hearing opportunity; CLI-15-5, 81 NRC 329 (2015)

scope of the referral is limited to whether NRC granted licensee greater authority than that provided by its existing licenses or otherwise altered the terms of its existing licenses, thereby entitling petitioner to an opportunity to request a hearing; CLI-15-14, 81 NRC 729 (2015)

when licensee requests an exemption in a related license amendment application, hearing rights on the amendment application are considered to encompass the exemption request as well; LBP-15-18, 81 NRC 793 (2015)

### HEAT SINK

plants must employ an ultimate heat sink to transfer heat from structures, systems, and components that are important to safety; LBP-15-13, 81 NRC 456 (2015)

### HIGH-LEVEL WASTE REPOSITORY

Congress expressly recognized and impliedly approved NRC's regulatory scheme and practice under which the safety of interim storage of high-level wastes at commercial nuclear power reactor sites has been determined separately from the safety of government-owned permanent storage facilities that have not yet been established; CLI-15-4, 81 NRC 221 (2015)

in its Waste Confidence Decision, NRC failed to consider environmental impacts of a repository never becoming available, its analysis of spent fuel pool leaks was not forward-looking, and it had not sufficiently considered the consequences of spent fuel pool fires; CLI-15-4, 81 NRC 221 (2015)

responsibility for constructing and operating a waste repository was assigned to the Department of Energy, not NRC; CLI-15-4, 81 NRC 221 (2015)

### HISTORIC SITES

agencies must take a hard look at preserving important historic and cultural aspects of our national heritage; LBP-15-16, 81 NRC 618 (2015)

Class III archeological survey involves a professionally conducted, pedestrian survey of an entire target area to identify properties that may be eligible for inclusion on the National Register of Historic Places; LBP-15-16, 81 NRC 618 (2015)

demolition of a historic unit to build a new unit will result in a finding of adverse effect under applicable criteria in 36 C.F.R. 800.5; CLI-15-13, 81 NRC 555 (2015)

federal agency must assess the effects of the undertaking on any eligible historic properties found; LBP-15-16, 81 NRC 618 (2015)



## SUBJECT INDEX

federal agency must confer with a State Historic Preservation Officer and seek the approval of the ACHP; LBP-15-16, 81 NRC 618 (2015)

federal agency must determine whether identified properties are eligible for listing on the National Register based on the criteria in 36 C.F.R. 60.4; LBP-15-16, 81 NRC 618 (2015)

federal agency must make a reasonable and good-faith effort to identify historic properties; LBP-15-16, 81 NRC 618 (2015)

in consultation with identified parties, agency must develop alternatives and proposed measures that might avoid, minimize, or mitigate any adverse effects of the undertaking on historic properties and describe them in the environmental assessment or draft environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

materials license application must provide analyses that are adequate, accurate, and complete in all material respects to demonstrate that cultural and historic resources are identified and protected; LBP-15-16, 81 NRC 618 (2015)

### HYDRODYNAMICS

contention that draft EIS is deficient because its evaluation of the operation of the radial collector wells does not preclude the possibility that they will change the plume dynamics of the industrial wastewater facility/cooling canal contaminant plume is inadmissible; LBP-15-19, 81 NRC 815 (2015)

### HYDROGEOLOGY

admissibility of contention that environmental assessment failed to analyze impacts on the project from earthquakes, especially concerning secondary porosity and adequate confinement is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that environmental assessment fails to describe and analyze the environmental impacts of new porosity and permeability in the aquifer caused by mining activity is decided; LBP-15-15, 81 NRC 598 (2015)

site-specific data to confirm proper baseline quality values, and confirm whether existing rock units provide adequate confinement, cannot be collected until an in situ leach wellfield has been installed; LBP-15-3, 81 NRC 65 (2015)

### IMMEDIATE EFFECTIVENESS

license amendment will be effective on issuance, even if adverse public comments have been received and even if an interested person meeting the provisions for intervention has filed a request for a hearing; LBP-15-17, 81 NRC 753 (2015)

NRC Staff may determine that exigent circumstances exist such that there is insufficient time for a full 30-day public comment period on a license amendment request; LBP-15-13, 81 NRC 456 (2015)

when an adjudicatory proceeding has been initiated with respect to a license amendment issued with a no significant hazards determination, once the presiding officer's initial decision becomes effective, the appropriate official shall take action with respect to that amendment in accordance with the initial decision; LBP-15-13, 81 NRC 456 (2015)

### IN SITU LEACH MINING

admissibility of contention that environmental assessment fails to adequately describe and analyze impacts of maintaining post-operational wellfields as long-term hazardous waste facilities is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that environmental assessment fails to adequately describe and analyze proposed mitigation measures is decided; LBP-15-11, 81 NRC 401 (2015)

admissibility of contention that environmental assessment fails to conduct the required hard look at impacts of the proposed mine and fails to consult with the U.S. Fish & Wildlife Service is decided; LBP-15-11, 81 NRC 401 (2015)

although 10 C.F.R. Part 40 applies to ISL mining, some of the specific requirements in Part 40, such as many of those found in Appendix A, address hazards posed only by conventional uranium milling operations, and do not carry over to ISL mining; LBP-15-16, 81 NRC 618 (2015)

although NRC has issued a generic environmental impact statement for in situ uranium recovery facilities that assesses potential ISR facility construction/operation/decommissioning impacts, for the initial licensing of each individual ISR facility, NRC Staff will first prepare a draft supplemental environmental impact statement; LBP-15-3, 81 NRC 65 (2015)

although the Part 40, Appendix A criteria were developed for conventional uranium milling facilities, they have since been applied in limited fashion to ISR facilities; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

applicant for a license to possess and use source and AEA §11e(2) byproduct material for the purpose of in situ uranium recovery must submit an environmental report with its application; LBP-15-3, 81 NRC 65 (2015)

applicant for a uranium ISR license is required to provide data from a groundwater monitoring program that are sufficient to establish a precensuring site characterization baseline for assessing the potential effects of facility operations on local groundwater quality; LBP-15-3, 81 NRC 65 (2015)

applicant's monitoring program for establishing existing site characterization baseline values for certain site groundwater constituents prior to issuance of a source materials license for ISR facility construction and operation need not, to comply with NEPA and NRC's Part 51 implementing regulations, be conducted so as to also provide background information needed to set Appendix A, Criterion 5B groundwater protection standards; LBP-15-3, 81 NRC 65 (2015)

"construction" does not include site exploration, including preconstruction monitoring to establish background information related to the environmental impacts of construction or operation, or the protection of environmental values; LBP-15-3, 81 NRC 65 (2015)

contention that environmental assessment fails to adequately describe air quality impacts is inadmissible as untimely; LBP-15-11, 81 NRC 401 (2015)

contention that environmental assessment violates the National Environmental Policy Act in its failure to analyze groundwater quantity impacts of the project is decided; LBP-15-11, 81 NRC 401 (2015)

contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with air emissions and liquid waste disposal is admissible in part; LBP-15-11, 81 NRC 401 (2015)

contention that FSEIS fails to analyze environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits is decided; LBP-15-3, 81 NRC 65 (2015)

environmental impact statement must discuss any adverse environmental effects that cannot be avoided should the proposal be implemented and must provide a reasonably complete discussion of possible mitigation measures; LBP-15-11, 81 NRC 401 (2015)

generic environmental impact statement for in-situ leach mining is subject to an appropriate challenge in an adjudicatory proceeding; LBP-15-11, 81 NRC 401 (2015)

generic environmental impact statement for in-situ leach uranium milling facilities addresses, among other topics, matters specified in section 51.45; LBP-15-3, 81 NRC 65 (2015)

in situ recovery license applicant is barred from installing a complete wellfield and associated monitor well networks until after a license is issued; LBP-15-3, 81 NRC 65 (2015)

intervenor fail to establish the validity of their various challenges to the adequacy of the FSEIS description of the baseline water quality at the ISR site; LBP-15-3, 81 NRC 65 (2015)

licensee shall establish a detection monitoring program needed for NRC to set the site-specific groundwater protection standards, and the monitoring program must be in place when specified by NRC in license conditions; LBP-15-3, 81 NRC 65 (2015)

no in situ recovery facility has ever requested that all OZ aquifer groundwater hazardous constituents be restored to CAB concentrations or Criterion 5B(5)(b) MCLs, as those are currently defined; LBP-15-3, 81 NRC 65 (2015)

nothing in 10 C.F.R. Part 40, Appendix A, Criterion 5B precludes an inquiry, based on a well-pleaded contention, into whether the particular measures used in applicant's precensuring program were adequate to provide the necessary information to characterize properly the environmental impacts of employing an ISR mining process in the aquifers below a proposed site; LBP-15-3, 81 NRC 65 (2015)

NRC regulations explicitly allow the use of alternate concentration limits for hazardous constituents; LBP-15-11, 81 NRC 401 (2015)

NRC Staff must prepare an environmental impact statement in connection with a license to possess and use source and AEA §11e(2) byproduct material for the purpose of in situ uranium recovery; LBP-15-3, 81 NRC 65 (2015)

relative to an individual ISR facility, when NRC Staff formulates its draft and final supplemental environmental impact statement conclusions regarding the environmental impacts of a proposed action or alternative actions, it uses as guidance a standard scheme to categorize or quantify the impacts; LBP-15-3, 81 NRC 65 (2015)

requirements for groundwater restoration standards for ISR mining operations are set forth in 10 C.F.R. Part 40, Appendix A, Criterion 5B(5); LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

site-specific data to confirm proper baseline quality values, and confirm whether existing rock units provide adequate confinement cannot be collected until an in situ leach well field has been installed; LBP-15-3, 81 NRC 65 (2015)

“source material” is defined as uranium being extracted through the ISL process; LBP-15-16, 81 NRC 618 (2015)

subset of the production and injection wells to be drilled within the boundaries of the ISR wellfield is to be used to sample groundwater from the aquifer prior to the commencement of operations to establish hazardous constituent Commission-approved background concentrations; LBP-15-3, 81 NRC 65 (2015)

waiting until after licensing (although before mining operations begin) to establish definitively the groundwater quality baselines and upper control limits is consistent with industry practice and NRC methodology, given the sequential development of in situ leach well fields; LBP-15-3, 81 NRC 65 (2015)

### INCORPORATION BY REFERENCE

agencies can, consistent with NEPA regulations, incorporate by reference analyses and information from existing documents into an environmental assessment or environmental impact statement provided the material has been appropriately cited and described; LBP-15-11, 81 NRC 401 (2015)

Commission discourages incorporating pleadings or arguments by reference; LBP-15-5, 81 NRC 249 (2015)

“deemed incorporated” function of 10 C.F.R. 51.23(b) provides administrative efficiency by adding the environmental impacts of continued storage to site-specific environmental impact statements without additional work by the Staff; CLI-15-10, 81 NRC 535 (2015)

impact determinations in the continued storage generic environmental impact statement shall be deemed incorporated into the environmental impact statements associated with combined license and license renewal applications; CLI-15-10, 81 NRC 535 (2015)

it is not clear that NRC Staff relied upon the generic environmental impact statement when preparing the draft supplemental environmental impact statement because it was not incorporated by reference or mentioned in any other manner; LBP-15-11, 81 NRC 401 (2015)

latest edition and addenda of the ASME Boiler and Pressure Vessel Code has been incorporated by reference in 10 C.F.R. 50.55a(b)(2); LBP-15-20, 81 NRC 829 (2015)

NRC need not undertake incorporation by reference of a generic environmental impact statement where the Commission has already taken public comment and performed a comprehensive analysis of the environmental consequences of continued spent fuel storage; CLI-15-10, 81 NRC 535 (2015)

NRC Staff is incorporating the 2012 edition of the ASME code by reference into 10 C.F.R. 50.55a; CLI-15-13, 81 NRC 555 (2015)

wholesale incorporation by reference does not serve the purposes of a pleading; LBP-15-5, 81 NRC 249 (2015)

### INDEPENDENT SPENT FUEL STORAGE INSTALLATION

general license may be granted to all Part 50 and Part 52 reactor licensees to store spent fuel in an ISFSI; CLI-15-4, 81 NRC 221 (2015)

stringent safety requirements apply to construction and operation of reactor spent fuel pools and ISFSIs; CLI-15-4, 81 NRC 221 (2015)

### INITIAL DECISIONS

when an adjudicatory proceeding has been initiated with respect to a license amendment issued with a no significant hazards determination, once the presiding officer’s initial decision becomes effective, the appropriate official shall take action with respect to that amendment in accordance with the initial decision; LBP-15-13, 81 NRC 456 (2015)

### INJUNCTIVE RELIEF

irreparable harm element of the test for issuance of injunctive relief was met where the tribe’s evidence showed that a phase of the project would involve damage to at least one known site, and virtually ensure some loss or damage; LBP-15-2, 81 NRC 48 (2015)

movant must show that the harm is certain and great and of such imminence that there is a clear and present need for equitable relief; LBP-15-2, 81 NRC 48 (2015)

## SUBJECT INDEX

preliminary injunction halting a solar energy project was granted based on a tribal claim that the project would not avoid most of the 459 cultural sites identified, and that the NEPA and NHPA process had been insufficient; LBP-15-2, 81 NRC 48 (2015)

See also Stay

### INJURY IN FACT

party seeking a stay must specifically and reasonably demonstrate an injury, not merely allege generalized harm; LBP-15-2, 81 NRC 48 (2015)

See also Irreparable Injury

### INSPECTION

although intervenors disagree with applicant's opportunistic inspection strategy for managing rebar corrosion, they merely assert, and do not plausibly explain, how applicant's approach will lead to a material safety impact; LBP-15-1, 81 NRC 15 (2015)

inservice testing and inspection program for squib valves in combined license applications is discussed; CLI-15-13, 81 NRC 555 (2015)

inspection to determine effects of wet or underwater conditions on underground safety-related electrical cables is discussed; DD-15-1, 81 NRC 193 (2015)

intervenor must do more than point to issues with the shield building, but must also indicate what is wrong with applicant's response and its amended inspection program and why intervenor believes the particular inspection program makes the license renewal application unacceptable; LBP-15-1, 81 NRC 15 (2015)

NRC Staff inspections and confirmatory action letters are oversight activities normally conducted to ensure that licensees comply with existing NRC requirements and license conditions and therefore do not typically trigger the opportunity for a hearing under the AEA; CLI-15-5, 81 NRC 329 (2015)

request for an Office of the Inspector General inspection on why different NRC regions have different analysis criteria for similar primary coolant pump events was forwarded on to the OIG; DD-15-3, 81 NRC 713 (2015)

### INSTRUMENTATION

request for additional instrumentation for all Mark I spent fuel storage pools has been addressed through an order modifying licenses with regard to reliable spent fuel pool instrumentation; DD-15-1, 81 NRC 193 (2015)

### INTEGRATED PLANT ASSESSMENT

contention that does not actually challenge any specific part of the integrated plant assessment or time-limited aging analyses fails to demonstrate the existence of a genuine dispute with applicant; LBP-15-6, 81 NRC 314 (2015)

license renewal applicant must demonstrate that effects of aging for each structure and component will be managed so that the intended functions will be maintained consistent with the current licensing basis for the period of extended operation; CLI-15-6, 81 NRC 340 (2015)

license renewal applicant must perform an integrated plant assessment to identify structures and components that are subject to aging management review; CLI-15-6, 81 NRC 340 (2015)

### INTERESTED GOVERNMENTAL ENTITY

governmental entity is permitted to participate in the proceeding as an interested local governmental body and will thus have the opportunity to support intervenors' already-admitted contention; LBP-15-19, 81 NRC 815 (2015)

litigation opportunities available to an entity participating as a local governmental body pursuant to 10 C.F.R. 2.315(c) are discussed; LBP-15-19, 81 NRC 815 (2015)

representative of a governmental entity that wishes to participate as a nonparty in the proceeding must identify those contentions on which it will participate in advance of any hearing held; LBP-15-11, 81 NRC 401 (2015)

### INTERPRETATION

intervenors' allegations are viewed in a light favorable to intervenors; LBP-15-11, 81 NRC 401 (2015)

principle of *expressio unis est exclusio alterius* is discussed; LBP-15-11, 81 NRC 401 (2015)

See also Construction of Meaning; Regulations, Interpretation; Statutory Construction

### INTERVENORS

petitioners are obliged to present factual allegations and/or expert opinion necessary to support its contention; LBP-15-1, 81 NRC 15 (2015)

## SUBJECT INDEX

petitioners have the burden of going forward, which requires them to provide factual allegations or expert testimony to show a potential deficiency in applicant's aging management plan; LBP-15-5, 81 NRC 249 (2015)

### INTERVENTION

admissible contention is required for grant of a hearing request; LBP-15-17, 81 NRC 753 (2015)

Commission denies a request for a hearing and to intervene in this license transfer proceeding; CLI-15-8, 81 NRC 500 (2015)

contention admissibility criteria are strict by design but should not be turned into a fortress to deny intervention; LBP-15-20, 81 NRC 829 (2015)

hearing is granted where petitioner has proffered at least one admissible contention and established standing; LBP-15-5, 81 NRC 249 (2015); LBP-15-13, 81 NRC 456 (2015)

intervention petitioner must not only establish standing, but must also proffer at least one admissible contention that meets the requirements of 10 C.F.R. 2.309(f); LBP-15-17, 81 NRC 753 (2015)

licensing boards must consider the nature of petitioner's right under the AEA or the National Environmental Policy Act to be made a party to the proceeding, nature and extent of petitioner's property, financial, or other interest in the proceeding, and possible effect of any decision or order that may be issued in the proceeding on petitioner's interest; LBP-15-17, 81 NRC 753 (2015)

participation in a licensing proceeding requires a demonstration of standing; LBP-15-17, 81 NRC 753 (2015)

petitioners must articulate at the outset the specific issues they wish to litigate as a prerequisite to gaining formal admission as parties; CLI-15-9, 81 NRC 512 (2015)

See also Standing to Intervene

### INTERVENTION, DISCRETIONARY

intervention as a matter of discretion is permitted only where at least one petitioner has established standing and at least one admissible contention has been admitted, and petitioner is required to address six factors in its initial petition; CLI-15-14, 81 NRC 729 (2015)

### INTERVENTION PETITIONERS

petitioner has the right to file a reply; LBP-15-13, 81 NRC 456 (2015)

right to reply is intended to provide an opportunity to legitimately amplify arguments made in the intervention petition in response to applicant and NRC Staff answers; LBP-15-13, 81 NRC 456 (2015)

### INTERVENTION PETITIONS

arguments not raised before the board or not clearly articulated in the petition for review are deemed waived; LBP-15-5, 81 NRC 249 (2015)

Commission denies hearing request, but refers the matters raised to the Executive Director of Operations for consideration as a request for enforcement action; CLI-15-5, 81 NRC 329 (2015)

hearing request is granted where petitioners have submitted a timely petition, established representational standing, and proffered an admissible contention; LBP-15-20, 81 NRC 829 (2015)

intervention petition must be filed within the time specified in any notice of proposed action; LBP-15-13, 81 NRC 456 (2015)

issues raised in an intervention petition or answer are within the appropriate scope of a reply brief; LBP-15-5, 81 NRC 249 (2015)

license amendment will be effective on issuance, even if adverse public comments have been received and even if an interested person meeting the provisions for intervention has filed a request for a hearing; LBP-15-17, 81 NRC 753 (2015)

name, address, and phone number of the requestor or petitioner must be provided; LBP-15-20, 81 NRC 829 (2015)

petitioner must satisfy the six pleading requirements of 10 C.F.R. 2.309(f)(1); LBP-15-13, 81 NRC 456 (2015)

petitioner must set forth with particularity the contentions it seeks to have litigated in a hearing; CLI-15-8, 81 NRC 500 (2015)

petitioner must state the nature of petitioner's statutory right to be made a party to the proceeding, nature and extent of petitioner's property, financial, or other interest in the proceeding, and possible effect of any decision or order that may be issued on petitioner's interest; LBP-15-13, 81 NRC 456 (2015); LBP-15-19, 81 NRC 815 (2015)

## SUBJECT INDEX

petitions must be timely, demonstrate standing, and proffer at least one admissible contention; CLI-15-5, 81 NRC 329 (2015); LBP-15-6, 81 NRC 314 (2015)

pleadings submitted by pro se petitioners are afforded greater leniency than petitions drafted with the assistance of counsel; LBP-15-5, 81 NRC 249 (2015)

timeliness of an initial hearing petition in different situations is defined as being filed between 20 and 60 days after certain specified events; LBP-15-11, 81 NRC 401 (2015)

### INTERVENTION PETITIONS, LATE-FILED

determination as to whether requests or petitions are filed in a timely manner shall be subject to a reasonableness standard and are not subject to the 30-day deadline applicable to motions by existing parties to add or amend contentions; LBP-15-6, 81 NRC 314 (2015)

lack of prejudice, standing alone, does not excuse an untimely filing, but it is a factor the Commission has considered in determining whether good cause exists; LBP-15-4, 81 NRC 156 (2015)

persons not currently parties may file timely petitions to intervene provided that they satisfy the good-cause criteria; LBP-15-6, 81 NRC 314 (2015)

State intervenor provided good cause for its late E-filing submission because the State submitted its petition to NRC by e-mail before the deadline lapsed and the delay was purely a matter of obtaining digital credentials for the system, not an attempt to gain extra time to prepare a pleading or otherwise to flout NRC's procedural requirements; LBP-15-4, 81 NRC 156 (2015)

### INTERVENTION RULINGS

board examines the information, facts, and expert opinions provided by petitioners to confirm that they do indeed provide adequate support for the contention; LBP-15-20, 81 NRC 829 (2015)

board is obliged to independently assess petitioners' standing, even if it is unchallenged; LBP-15-5, 81 NRC 249 (2015); LBP-15-17, 81 NRC 753 (2015)

Commission affirmed the board's standing ruling, but declined to accept review of challenges to the board's admission of two contentions because petitioner had failed to perfect its appeal by challenging the validity of the board's admissibility rulings regarding other contentions; LBP-15-3, 81 NRC 65 (2015)

limited interlocutory appeal right attaches only when the board has fully ruled on the initial intervention petition, i.e., when it has admitted or rejected all proposed contentions; LBP-15-1, 81 NRC 15 (2015)

proximity-based standing based on frequent contacts is a determination to be made by a licensing board after weighing all the information provided; LBP-15-17, 81 NRC 753 (2015)

### IRREPARABLE INJURY

even if a party moving for a stay fails to show irreparable injury, a board may still grant a stay if movant has made an overwhelming showing or a demonstration of virtual certainty that it will prevail on the merits; LBP-15-2, 81 NRC 48 (2015)

for a potential injury to be irreparable, it must be shown to be imminent, certain, and great; LBP-15-2, 81 NRC 48 (2015)

harming Native American artifacts would constitute an irreparable injury because artifacts are, by their nature, unique, and their historical and cultural significance make them difficult to value monetarily; LBP-15-2, 81 NRC 48 (2015)

injury that has never been the focus of a lawsuit cannot constitute irreparable harm; LBP-15-2, 81 NRC 48 (2015)

irreparable injury is the most important of the factors for grant or denial of a stay; LBP-15-2, 81 NRC 48 (2015)

test for issuance of injunctive relief was met where the tribe's evidence showed that a phase of the project would involve damage to at least one known site, and virtually ensure some loss or damage; LBP-15-2, 81 NRC 48 (2015)

to qualify as an irreparable injury, the potential harm cited by stay movant first must be related to the underlying claim that is the focus of the adjudication; LBP-15-2, 81 NRC 48 (2015)

upon a strong showing of irreparable injury, stay movant need not always establish a high probability of success on the merits; LBP-15-2, 81 NRC 48 (2015)

See also Injury in Fact

### JURISDICTION

radon emissions are regulated by EPA; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

### LABOR ISSUES

licensee is obliged to give local union notice and an opportunity to bargain over the effects of its decision to implement changes in the terms and conditions of the employees' employment regarding behavioral observations of security concerns; CLI-15-16, 81 NRC 810 (2015)

### LEAKAGE

in its Waste Confidence Decision, NRC failed to consider environmental impacts of a repository never becoming available, its analysis of spent fuel pool leaks was not forward-looking, and it had not sufficiently considered the consequences of spent fuel pool fires; CLI-15-4, 81 NRC 221 (2015)  
intervenor's reliance on long-available documents regarding leakages and notices of violation made a contention untimely as filed; LBP-15-11, 81 NRC 401 (2015)  
request for immediate action on leakage from the safety injection refueling water tank did not meet the criteria for review; DD-15-3, 81 NRC 713 (2015)

### LEGAL AUTHORITIES

grant of discretionary review must show that a board's ruling was a departure from, or contrary to, established law; CLI-15-7, 81 NRC 481 (2015)  
petition for review must raise a substantial question with respect to whether a necessary legal conclusion is without governing precedent or is contrary to established law; CLI-15-7, 81 NRC 481 (2015)  
specific regulations control over general regulations; CLI-15-10, 81 NRC 535 (2015)

### LICENSE AMENDMENTS

agency actions not formally labeled as license amendments nevertheless can constitute de facto license amendments and accordingly trigger hearing rights for the public under section 189a of the AEA; CLI-15-14, 81 NRC 729 (2015)  
agency approval or authorization is a necessary component of Commission action that affords a hearing opportunity under AEA § 189a, but not all agency approvals granted to licensees constitute de facto licensee amendments; CLI-15-14, 81 NRC 729 (2015)  
considerations that NRC should review for grant of a license amendment are defined in 10 C.F.R. 50.40; LBP-15-17, 81 NRC 753 (2015)  
direction is given on what licensee actions do and do not constitute a de facto license amendment triggering hearing rights; CLI-15-14, 81 NRC 729 (2015)  
if a license were amended, the public's only means to participate in future schedule changes would be through a request for action under 10 C.F.R. 2.206; LBP-15-17, 81 NRC 753 (2015)  
in determining whether a license or permit amendment will be issued to applicant, the Commission is to be guided by the considerations that govern issuance of initial licenses, construction permits, or early site permits to the extent applicable and appropriate; LBP-15-17, 81 NRC 753 (2015)  
licensee action without NRC approval of an increase in authority or alteration of the terms of the license does not constitute a de facto amendment; CLI-15-14, 81 NRC 729 (2015)  
licensee cannot amend the terms of its license unilaterally; CLI-15-14, 81 NRC 729 (2015)  
petitioners' premise that a series of NRC Staff communications relating to plant oversight should be considered as an element of a single, overarching de facto license amendment was rejected; CLI-15-14, 81 NRC 729 (2015)  
whenever licensee desires to amend the license, application for an amendment must be filed with the Commission; CLI-15-14, 81 NRC 729 (2015)

### LICENSE APPLICATIONS

See Combined License Application; Contested License Applications; License Renewal Applications; Materials License Applications; Operating License Applications; Uncontested License Applications

### LICENSE CONDITIONS

although the Commission found NRC Staff's review of combined license applications rigorous, it imposed a condition requiring implementation of a squib-valve surveillance program prior to fuel load; CLI-15-13, 81 NRC 555 (2015)  
boards cannot assume that applicants will not comply with its regulatory responsibilities, including its license conditions; LBP-15-3, 81 NRC 65 (2015)  
Commission may incorporate in any license at the time of issuance, or thereafter, by appropriate rule, regulation, or order, such additional requirements and conditions with respect to licensee's receipt, possession, use, and transfer of source or byproduct material as it deems appropriate or necessary in order to protect health or to minimize danger of life or property; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

if a board determines after full adjudication that the license amendment should not have been granted, it may be revoked or conditioned; LBP-15-16, 81 NRC 618 (2015)

in granting a proposed license, board may condition it upon some precautionary measures required at the chosen site; LBP-15-16, 81 NRC 618 (2015)

in NEPA context, path that licensee and NRC Staff must follow relative to a license condition is sufficiently clear that continuing to hold the hearing open while it is completed would be an unnecessary extension of the adjudicatory process; LBP-15-3, 81 NRC 65 (2015)

in setting license conditions, NRC Staff may assume that a licensee will comply with all requirements imposed by the license; LBP-15-16, 81 NRC 618 (2015)

issued licenses can be revoked, conditioned, modified, or affirmed based on the evidence reviewed at the evidentiary hearing; LBP-15-16, 81 NRC 618 (2015)

licensee shall establish a detection monitoring program needed for NRC to set the site-specific groundwater protection standards, and the monitoring program must be in place when specified by NRC in license conditions; LBP-15-3, 81 NRC 65 (2015)

NRC Staff may impose additional requirements to protect against a reevaluated flood hazard; DD-15-5, 81 NRC 877 (2015)

request under 10 C.F.R. 50.54(f) is to enable the Commission to determine whether or not the license should be modified, suspended, or revoked; CLI-15-14, 81 NRC 729 (2015)

**LICENSE EXPIRATION**

existing license will not be deemed to have expired until the license renewal application has been finally determined; CLI-15-6, 81 NRC 340 (2015)

when licensee has made timely and sufficient application for a renewal, a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency; LBP-15-2, 81 NRC 48 (2015; LBP-15-11, 81 NRC 401 (2015)

**LICENSE RENEWAL**

See Operating License Renewal

**LICENSE RENEWAL APPLICATIONS**

contention fails because it contests NRC Staff's safety review rather than the license renewal application; LBP-15-15, 81 NRC 598 (2015)

NRC Staff must take steps necessary to identify the presence of historic properties within the area encompassed by the source materials license renewal application; LBP-15-2, 81 NRC 48 (2015)

timing of license issuance is informed by instruction for NRC Staff to promptly issue its approval or denial of the application consistent with its findings, and despite the pendency of a hearing; LBP-15-2, 81 NRC 48 (2015)

when licensee has made timely and sufficient application for a license renewal, a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency; LBP-15-2, 81 NRC 48 (2015; LBP-15-11, 81 NRC 401 (2015)

**LICENSE TRANSFER APPLICATIONS**

applicant must show reasonable assurance of sufficient funds to decommission the facility; CLI-15-8, 81 NRC 500 (2015)

applicant must submit estimates for total annual operating costs for each of the first 5 years of facility operation; CLI-15-8, 81 NRC 500 (2015)

environmental analysis under NEPA need not be included; CLI-15-8, 81 NRC 500 (2015)

formulas, based on reactor type and power level, are provided in 10 C.F.R. 50.75(c) for determining minimum dollar amounts required to demonstrate reasonable assurance of decommissioning funding; CLI-15-8, 81 NRC 500 (2015)

issuance of a request for additional information does not alone establish deficiencies in an application or that NRC Staff will go on to find any of applicant's clarifications, justifications, or other responses to be unsatisfactory; CLI-15-8, 81 NRC 500 (2015)

NEPA and 10 C.F.R. Part 52 requirements do not apply in the license transfer context; CLI-15-8, 81 NRC 500 (2015)

subject areas that license transfer applications must address are outlined in 10 C.F.R. 50.80(b)(1)(i), (2); CLI-15-8, 81 NRC 500 (2015)



## SUBJECT INDEX

### LICENSE TRANSFER PROCEEDINGS

Commission denies a request for a hearing and to intervene in a license transfer proceeding; CLI-15-8, 81 NRC 500 (2015)

full-scale health-and-safety reviews of a plant are not required; CLI-15-8, 81 NRC 500 (2015)  
provisions of 10 C.F.R. Part 2, Subpart M, together with the generally applicable intervention provisions in 10 C.F.R. Part 2, Subpart C, govern adjudicatory proceedings on license transfer applications; CLI-15-8, 81 NRC 500 (2015)

### LICENSE TRANSFERS

written consent from NRC is required for all direct or indirect license transfers; CLI-15-8, 81 NRC 500 (2015)

### LICENSEE CHARACTER

Commission has long declined to assume that licensees will refuse to meet their obligations under their licenses or NRC regulations; LBP-15-4, 81 NRC 156 (2015)

See also Management Character and Competence

### LICENSEE EMPLOYEES

licensee is obliged to give local union notice and an opportunity to bargain over the effects of its decision to implement changes in the terms and conditions of the employees' employment regarding behavioral observations of security concerns; CLI-15-16, 81 NRC 810 (2015)

### LICENSEES

responsibility for constructing and operating a waste repository was assigned to the Department of Energy, not NRC; CLI-15-4, 81 NRC 221 (2015)

### LICENSES

licensing board takes official notice of NRC-issued licenses; LBP-15-3, 81 NRC 65 (2015)

### LICENSING BOARD DECISIONS

board is directed to rule within 140 days of the date of the referral on whether the hearing request should be granted; CLI-15-14, 81 NRC 729 (2015)

Commission affords substantial deference to licensing boards' contention admission decisions; CLI-15-6, 81 NRC 340 (2015); CLI-15-9, 81 NRC 512 (2015)

Commission will not overturn a board's factual findings unless they are not even plausible in light of the record viewed in its entirety; CLI-15-9, 81 NRC 512 (2015)

decision of the board or Commission becomes the record of decision, which may also incorporate the final supplemental environmental impact statement; CLI-15-6, 81 NRC 340 (2015)

final environmental impact statement or supplement thereto must be considered in the agency's decisionmaking; LBP-15-3, 81 NRC 65 (2015)

final supplemental environmental impact statement is supplemented by the board's decision as well as by the hearing record; CLI-15-6, 81 NRC 340 (2015)

ruling that supplements the record should state clearly what evidence the board found credible, whether the evidence supports or alters NRC Staff's conclusions in the environmental impact statement, and what the impact of the proposed action for the specific issue is expected to be; CLI-15-6, 81 NRC 340 (2015)

### LICENSING BOARDS, AUTHORITY

although boards are accorded considerable discretion to manage proceedings before them, they need not exercise it; LBP-15-15, 81 NRC 598 (2015)

although boards do not decide the merits or resolve conflicting evidence at the contention admission stage, materials cited as the basis for a contention are subject to scrutiny by the board to determine whether they actually support the facts alleged; LBP-15-20, 81 NRC 829 (2015)

board admitted a contention without deciding if it was a contention of omission or a contention of inadequacy; LBP-15-5, 81 NRC 249 (2015)

board considered a letter written after the original petition was filed and submitted with petitioner's reply; LBP-15-5, 81 NRC 249 (2015)

board considered evidence submitted with petitioner's reply to which opposing parties didn't object; LBP-15-5, 81 NRC 249 (2015)

board has discretion to consider an untimely motion to reopen if the motion presents an exceptionally grave issue; LBP-15-14, 81 NRC 591 (2015)

## SUBJECT INDEX

board may appropriately view a petitioner's support for its contention in a light that is favorable to petitioner, but cannot do so by ignoring the requirements set forth in current 10 C.F.R. 2.309(f)(1); LBP-15-5, 81 NRC 249 (2015); LBP-15-20, 81 NRC 829 (2015)

boards are given broad discretion in the conduct of NRC adjudicatory proceedings, and the Commission generally defers to board case-management decisions; LBP-15-15, 81 NRC 598 (2015)

boards cannot prohibit what regulations allow except under specific conditions; LBP-15-17, 81 NRC 753 (2015)

boards do not sit to "flyspeck" environmental documents or to add details or nuances, but the environmental report or environmental impact statement must come to grips with all important considerations; LBP-15-5, 81 NRC 249 (2015)

boards have considerable discretion in their evidentiary rulings; CLI-15-6, 81 NRC 340 (2015)

boards have the authority to reformulate contentions to consolidate issues for a more efficient proceeding; LBP-15-17, 81 NRC 753 (2015)

boards have the power to take necessary and appropriate actions consistent with the Atomic Energy Act to conduct a fair hearing; LBP-15-15, 81 NRC 598 (2015)

boards may examine both the statements in the document that support petitioner's assertions and those that do not; LBP-15-20, 81 NRC 829 (2015)

boards may reformulate contentions to eliminate extraneous issues or to consolidate issues for a more efficient proceeding; LBP-15-5, 81 NRC 249 (2015); LBP-15-13, 81 NRC 456 (2015)

boards must request Commission approval to undertake sua sponte review; CLI-15-1, 81 NRC 1 (2015)

fact-finding administrative body, such as a licensing board, with authority to develop an evidentiary record, is distinguished from reviewing adjudicatory and judicial bodies, generally with a more limited record-creating authority; LBP-15-3, 81 NRC 65 (2015)

in granting a proposed license, board may condition it upon some precautionary measures required at the chosen site; LBP-15-16, 81 NRC 618 (2015)

it is for the Commission, not licensing boards, to revise its ruling; LBP-15-18, 81 NRC 793 (2015)

licensing boards are the appropriate finders of fact in most circumstances, and referral of a matter for a fact-specific dispute occurs in the ordinary course of business; CLI-15-14, 81 NRC 729 (2015)

licensing boards can refer potentially significant safety issues that cannot be addressed through the adjudicatory process to NRC Staff for review; LBP-15-1, 81 NRC 15 (2015)

licensing boards cannot superintend the conduct of NRC Staff's technical reviews; LBP-15-2, 81 NRC 48 (2015)

licensing boards may appropriately view petitioner's supporting information in a light favorable to petitioner, but failure to provide such information requires that the contention be rejected; LBP-15-1, 81 NRC 15 (2015)

NRC Rules of Practice provide the board with substantial authority to regulate hearing procedures; LBP-15-15, 81 NRC 598 (2015)

to eliminate the inadmissible issue of tribal notification and to clarify the scope of the subsistence consumption issue, board narrows and reformulates a contention; LBP-15-5, 81 NRC 249 (2015)

when petitioner neglects to provide the requisite support for its contentions, it is not within the board's power to make assumptions or draw inferences that favor petitioner, nor may the board supply information that is lacking; LBP-15-1, 81 NRC 15 (2015)

when the Commission has determined that compliance with a regulation is sufficient to provide for reasonable assurance of public health and safety, a licensing board cannot impose requirements that exceed those in the regulation; LBP-15-20, 81 NRC 829 (2015)

where no Staff guidance was available for the particular type of facility undergoing license review, the board reasonably selected a standard for a facility most like the facility under review; CLI-15-6, 81 NRC 340 (2015)

where NRC guidance document is not directly applicable to the issue at hand, the presiding officer is afforded greater leeway in its application; CLI-15-6, 81 NRC 340 (2015)

with Commission's express approval, a licensing board may make findings on a serious safety, environmental, or common defense and security matter not put into controversy by the parties; CLI-15-1, 81 NRC 1 (2015)

## SUBJECT INDEX

### LICENSING BOARDS, JURISDICTION

board's jurisdiction terminates when there are no longer any contested matters pending before it; CLI-15-13, 81 NRC 555 (2015); LBP-15-12, 81 NRC 452 (2015)

licensing board lacks authority to hold a hearing on the adequacy of a different agency's regulations; LBP-15-5, 81 NRC 249 (2015)

licensing board's ruling resolving the last pending contention is equivalent to a final decision under 10 C.F.R. 2.341, and a licensing board's jurisdiction ends after it has rendered a final decision; LBP-15-9, 81 NRC 396 (2015)

NRC's transfer of regulatory authority to the State of New Jersey is now final and the licensing board no longer has the jurisdiction it had retained over the proceeding, and the board terminates the proceeding; LBP-15-10, 81 NRC 399 (2015)

### LIMITED WORK AUTHORIZATION

transmission lines are expressly excluded from the delineated construction activities that would require NRC approval before being undertaken; CLI-15-1, 81 NRC 1 (2015)

See also Preconstruction Activities

### MAINTENANCE

monitoring a component's performance or condition is required by the maintenance rule; CLI-15-6, 81 NRC 340 (2015)

power reactor licensees are required to monitor the performance or condition of systems, structures, and components against licensee-established goals in a manner sufficient to provide reasonable assurance that these SSCs are capable of fulfilling their intended functions; CLI-15-6, 81 NRC 340 (2015)

### MAINTENANCE PROGRAMS

all structures and components that are important to safety must be maintained to manage the effects of aging, but most systems, structures, and components are adequately maintained under existing programs as required by the Maintenance Rule; CLI-15-6, 81 NRC 340 (2015)

any member of the public may seek enforcement action associated with matters affecting plant operation, including the vitality of component maintenance programs; CLI-15-6, 81 NRC 340 (2015)

relay switches and snubbers do not rely on time-limited assumptions based on the plant's operating term, but rather are subject to ongoing maintenance programs; LBP-15-6, 81 NRC 314 (2015)

### MANAGEMENT CHARACTER AND COMPETENCE

claims of past and current mismanagement are outside the scope of the license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

proximity presumption was applied in a license amendment proceeding where management's lack of the required character and competence was alleged; LBP-15-17, 81 NRC 753 (2015)

See also Licensee Character

### MANDATORY HEARINGS

Commission does not review combined license application de novo, but rather considers the sufficiency of NRC Staff's review of the application; CLI-15-13, 81 NRC 555 (2015)

environmental issues that the Commission must consider in the mandatory portion of a combined license proceeding are outlined; CLI-15-13, 81 NRC 555 (2015)

hearing must be held on each application to construct a nuclear power plant, regardless of whether an interested member of the public requests a hearing on the application; CLI-15-13, 81 NRC 555 (2015)

NRC regulations appropriately require a hearing before the proposed license amendment becomes effective whenever the amendment creates the possibility of a new or different kind of accident; LBP-15-20, 81 NRC 829 (2015)

safety issues that the Commission must consider in the mandatory portion of a combined license proceeding are outlined; CLI-15-13, 81 NRC 555 (2015)

### MATERIAL CONTROL AND ACCOUNTING

accuracy is an integral component of the portion of the regulatory requirement that addresses item presence verification; CLI-15-9, 81 NRC 512 (2015)

any statistical sampling plan for verifying the presence and integrity of strategic special nuclear material items must have at least 99 percent power of detecting item losses that total 5 formula kg or more, plantwide, within 30 calendar days for Category IA items and 60 calendar days for Category IB items contained in a vault or in a permanently controlled access area isolated from the rest of the material access area; CLI-15-9, 81 NRC 512 (2015)

## SUBJECT INDEX

applicant for a license to possess and use strategic special nuclear material must establish, implement, and maintain a Commission-approved MC&A system that will address the loss or theft of such material; CLI-15-9, 81 NRC 512 (2015)

contention that applicant's revised MC&A plan is deficient because its item monitoring program does not have the capability to verify, on a statistical sampling basis, the presence and integrity of strategic special nuclear material losses within the time frames specified by the regulation is inadmissible; CLI-15-9, 81 NRC 512 (2015)

contention that applicant's revised MC&A plan is inadequate to satisfy the alarm resolution requirements is inadmissible; CLI-15-9, 81 NRC 512 (2015)

contention that applicant's revised MC&A plan fails to show how confirmation and verification of theft of plutonium will be carried out in the specified timelines is inadmissible; CLI-15-9, 81 NRC 512 (2015)

"formula kilogram" means strategic special nuclear material in any combination in a quantity of 1000 grams computed by the formula,  $\text{grams} = (\text{grams contained U-235}) + 2.5 (\text{grams U-233} + \text{grams plutonium})$ ; CLI-15-9, 81 NRC 512 (2015)

licensee must be able to rapidly assess the validity of alleged thefts; CLI-15-9, 81 NRC 512 (2015)

licensee must show with reasonable assurance that its proposed methodology for MC&A will not be inimical to the common defense and security and will not constitute an unreasonable risk to the health and safety of the public; CLI-15-9, 81 NRC 512 (2015)

licensees must verify on a statistical sampling basis, the presence and integrity of strategic special nuclear material items; CLI-15-9, 81 NRC 512 (2015)

meaning of "verify" in the context of item presence verification is discussed; CLI-15-9, 81 NRC 512 (2015)

"strategic special nuclear material" means uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium; CLI-15-9, 81 NRC 512 (2015)

"tamper-safing" refers to use of devices on containers or vaults in a manner and at a time that ensures a clear indication of any violation of the integrity of previously made measurements of special nuclear material within the container or vault; CLI-15-9, 81 NRC 512 (2015)

"unit process" means an identifiable segment or segments of processing activities for which the amounts of input and output strategic special nuclear material are based on measurements; CLI-15-9, 81 NRC 512 (2015)

### MATERIAL INFORMATION

licensee or applicant must inform the NRC of information that applicant or licensee has identified as having a significant implication for public health and safety or common defense and security; LBP-15-15, 81 NRC 598 (2015)

### MATERIALITY

contention must explain what specific deficiencies exist and why they materially impact the license renewal application or environmental impact statement; LBP-15-1, 81 NRC 15 (2015)

if a contention makes a prima facie allegation that the application omits information required by law, it necessarily presents a genuine dispute with applicant on a material issue and raises an issue plainly material to an essential finding of regulatory compliance needed for license issuance; LBP-15-5, 81 NRC 249 (2015)

in explaining why there is a genuine material dispute, contention must give the board a reason to believe that the alleged deficiency will lead to a material safety or environmental outcome, based on factual or expert support; LBP-15-1, 81 NRC 15 (2015)

inadequacy in the severe accident mitigation alternatives analysis is material if license renewal applicant failed to consider complete information without justifying why particular information was omitted; LBP-15-5, 81 NRC 249 (2015)

issue of alleged failure to consult with a tribe is material and within the scope of materials license proceeding; LBP-15-16, 81 NRC 618 (2015)

issue raised must fall within the scope of the proceeding and be material to the findings that the NRC must make; CLI-15-8, 81 NRC 500 (2015)

new contention is inadmissible because it relies on information that is not materially different from information previously available and already in the record; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

petitioner must demonstrate that a contention asserts an issue of law or fact that is material to the findings the NRC must make to support the action that is involved in the proceeding; LBP-15-19, 81 NRC 815 (2015); LBP-15-20, 81 NRC 829 (2015)  
petitioner must show why the alleged error or omission is of possible significance to the result of the proceeding; LBP-15-20, 81 NRC 829 (2015)  
subject matter of contentions must impact the grant or denial of a pending license application; LBP-15-20, 81 NRC 829 (2015)

### MATERIALS LICENSE AMENDMENT PROCEEDINGS

contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with air emissions and liquid waste disposal is admissible in part; LBP-15-11, 81 NRC 401 (2015)  
generic environmental impact statement for ISL mining is subject to an appropriate challenge in an adjudicatory proceeding; LBP-15-11, 81 NRC 401 (2015)

### MATERIALS LICENSE APPLICATIONS

applicant for a license to possess and use source and AEA § 11e(2) byproduct material for the purpose of in situ uranium recovery must submit an environmental report with its application; LBP-15-3, 81 NRC 65 (2015)  
applicant must provide analyses that are adequate, accurate, and complete in all material respects to demonstrate that cultural and historic resources are identified and protected; LBP-15-16, 81 NRC 618 (2015)  
environmental reports must contain a description of the proposed action, a statement of its purposes, and a description of the environment affected; LBP-15-3, 81 NRC 65 (2015)  
environmental reports must discuss the five elements of 10 C.F.R. 51.45(b)(1)-(5); LBP-15-3, 81 NRC 65 (2015)  
timing of source materials license renewal application enables licensee to operate under NRC's timely renewal provision until the agency renews the license; LBP-15-2, 81 NRC 48 (2015)

### MATERIALS LICENSE PROCEEDINGS

issue of alleged failure to consult with a tribe is material and within the scope of materials license proceeding; LBP-15-16, 81 NRC 618 (2015)

### MATERIALS LICENSE RENEWAL

admissibility of contention that applicant submit a decommissioning plan and updated financial plans related to decommissioning is decided; LBP-15-15, 81 NRC 598 (2015)  
admissibility of contention that environmental documents lack an adequate description of financial assurances sufficient to pay the costs of restoration and long-term monitoring of up to 30 years is decided; LBP-15-15, 81 NRC 598 (2015)  
admissibility of contention that final environmental assessment fails to satisfy NRC's requirement for an environmental impact statement when there are unresolved conflicts concerning reasonable alternatives is decided; LBP-15-15, 81 NRC 598 (2015)  
admissibility of contention that NRC Staff must conduct a new baseline groundwater characterization study of the license renewal area rather than relying on the baseline study conducted during the original license application is decided; LBP-15-11, 81 NRC 401 (2015)  
notification of renewal of source materials license triggers the 5-day filing deadline to apply for a stay of the license; LBP-15-2, 81 NRC 48 (2015)  
NRC Staff must take steps necessary to identify the presence of historic properties within the area encompassed by the source materials license renewal application; LBP-15-2, 81 NRC 48 (2015)  
stay of an NRC license is an extraordinary remedy, and a rare occurrence in NRC practice; LBP-15-2, 81 NRC 48 (2015)  
timing of license issuance is informed by instruction for NRC Staff to promptly issue its approval or denial of the application consistent with its findings, and despite the pendency of a hearing; LBP-15-2, 81 NRC 48 (2015)  
timing of source materials license renewal application enables licensee to operate under NRC's timely renewal provision until the agency renews the license; LBP-15-2, 81 NRC 48 (2015)  
when licensee has made timely and sufficient application for a renewal, a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency; LBP-15-2, 81 NRC 48 (2015); LBP-15-11, 81 NRC 401 (2015)

## SUBJECT INDEX

### MATERIALS LICENSES

See Byproduct Materials Licenses; Source Materials Licenses

### MAXIMUM CONTAMINANT LEVELS

EPA drinking water MCLs continue to be an accepted groundwater restoration standard; LBP-15-3, 81 NRC 65 (2015)

in exempting an aquifer from MCLs, EPA has to find that the aquifer cannot and will not serve as a source of drinking water because it is mineral producing and can be demonstrated to contain minerals that, considering their quantity and location, are expected to be commercially producible; LBP-15-3, 81 NRC 65 (2015)

no in situ recovery facility has ever requested that all OZ aquifer groundwater hazardous constituents be restored to CAB concentrations or Criterion 5B(5)(b) MCLs, as those are currently defined; LBP-15-3, 81 NRC 65 (2015)

### MIGRATION TENET

board may construe an admitted contention contesting applicant's environmental report as a challenge to a subsequently issued draft or final environmental impact statement without the necessity for intervenors to file a new or amended contention; LBP-15-11, 81 NRC 401 (2015)

migration of a contention is appropriate only where the environmental analysis or discussion at issue is essentially in pari materia with applicant's analysis or discussion that is the focus of the contention; LBP-15-11, 81 NRC 401 (2015)

when information in the draft environmental impact statement is sufficiently similar to information in applicant's environmental report, previously admitted contentions challenging the environmental report apply to relevant portions of the DSEIS; LBP-15-16, 81 NRC 618 (2015)

### MITIGATION PLANS

admissibility of contention that environmental assessment fails to adequately describe or analyze proposed mitigation measures is decided; LBP-15-11, 81 NRC 401 (2015)

agency preparing the NEPA document must explain the statutory or regulatory requirements it is relying on and its reasons for concluding that the application of those requirements will actually result in the mitigation and monitoring it assumes will occur; LBP-15-11, 81 NRC 401 (2015)

agency's record of decision must include a concise discussion of mitigation measures; LBP-15-16, 81 NRC 618 (2015)

alternate pressurized thermal shock rule specifies mitigation processes for licensees if they project they will exceed (or they do exceed) the rules' screening criteria; LBP-15-17, 81 NRC 753 (2015)

courts decide whether a mitigation plan was adequately or inadequately discussed, but the line between these two options is not well defined; LBP-15-16, 81 NRC 618 (2015)

environmental impact statement must discuss any adverse environmental effects that cannot be avoided should the proposal be implemented and must provide a reasonably complete discussion of possible mitigation measures; LBP-15-11, 81 NRC 401 (2015)

in consultation with identified parties, agency must develop alternatives and proposed measures that might avoid, minimize, or mitigate any adverse effects of the undertaking on historic properties and describe them in the environmental assessment or draft environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

lead agency must make available to the public the results of relevant monitoring of mitigation measures; LBP-15-16, 81 NRC 618 (2015)

licensees must develop strategies to mitigate a simultaneous loss of all a.c. power and loss of normal access to the ultimate heat sink; DD-15-5, 81 NRC 877 (2015)

merely listing possible mitigation options does not satisfy NEPA; LBP-15-16, 81 NRC 618 (2015)

monitoring and enforcement program must be adopted where applicable for any mitigation; LBP-15-16, 81 NRC 618 (2015)

NEPA does not demand the presence of a fully developed plan that will mitigate environmental harm before an agency can act; LBP-15-16, 81 NRC 618 (2015)

NRC issued an order on station blackout mitigation strategies requiring strategies to protect against, among many other hazards, postulated seismic events; DD-15-1, 81 NRC 193 (2015)

reasonably complete discussion of possible mitigation measures must be included in a NEPA document, to allow the agency and the public a chance to properly evaluate the severity of the adverse effects; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

though mitigation measures must be discussed in an environmental impact statement, NEPA does not guarantee that federally approved projects will have no adverse impacts; LBP-15-16, 81 NRC 618 (2015)

when the adequacy of an EIS mitigation strategy is challenged, the determining issue is whether the agency took a sufficiently hard look at environmental consequences, and ensured that its decision was supported by a completely informed record; LBP-15-16, 81 NRC 618 (2015)

where the agency has found mitigation strategies necessary to alleviate a potential impact, the associated discussion should be reasonably complete to properly evaluate the severity of the adverse effects; LBP-15-11, 81 NRC 401 (2015)

### MODELS/MODELING

agency's failure to adequately validate a quantitative model on which it relies may lead the reviewing court to conclude that the agency's decision is arbitrary, capricious, or contrary to law; LBP-15-20, 81 NRC 829 (2015)

### MODIFICATION ORDER

request for additional instrumentation for all Mark I spent fuel storage pools has been addressed through an order modifying licenses with regard to reliable spent fuel pool instrumentation; DD-15-1, 81 NRC 193 (2015)

### MONITORING

activities associated with, and the data coming from, preclicensing groundwater monitoring activities are associated with compliance with the dictates of 10 C.F.R. Part 40, Appendix A, Criterion 7; LBP-15-3, 81 NRC 65 (2015)

agencies may provide for monitoring to ensure that their decisions are carried out and should do so in important cases; LBP-15-16, 81 NRC 618 (2015)

although the Part 40, Appendix A criteria were developed for conventional uranium milling facilities, they have since been applied in limited fashion to ISR facilities; LBP-15-3, 81 NRC 65 (2015)

applicant for a uranium ISR license is required to provide data from a groundwater monitoring program that are sufficient to establish a preclicensing site characterization baseline for assessing the potential effects of facility operations on local groundwater quality; LBP-15-3, 81 NRC 65 (2015)

applicant must establish a preoperational monitoring program that must be conducted to provide complete baseline data on a milling site and its environs; LBP-15-16, 81 NRC 618 (2015)

applicant's monitoring program for establishing existing site characterization baseline values for certain site groundwater constituents prior to issuance of a source materials license for ISR facility construction and operation need not, to comply with NEPA and NRC's Part 51 implementing regulations, be conducted so as to also provide background information needed to set Appendix A, Criterion 5B groundwater protection standards; LBP-15-3, 81 NRC 65 (2015)

contention that final supplemental environmental impact statement fails to comply with NRC regulations and NEPA because it lacks an adequate description of the present baseline (i.e., original or pre-mining) groundwater quality and fails to demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies is decided; LBP-15-3, 81 NRC 65 (2015)

determination of background groundwater quality to include sampling of wells that are hydraulically upgradient of the waste management area is not required if non-upgradient well sampling will provide an indication of background groundwater quality that is representative, or more representative, than that provided by upgradient wells; LBP-15-3, 81 NRC 65 (2015)

ERDS is a direct electronic data link between licensees of operating reactors and the NRC Operations Center, and its objective is to allow NRC to monitor critical parameters during an emergency; LBP-15-4, 81 NRC 156 (2015)

if, as intervenors allege, applicant's enhanced monitoring program is inadequate, then applicant's unenhanced monitoring program embodied in its license renewal application was *a fortiori* inadequate, and intervenors had a regulatory obligation to challenge it in their original petition to intervene; LBP-15-1, 81 NRC 15 (2015)

in situ recovery license applicant is barred from installing a complete wellfield and associated monitor well networks until after a license is issued; LBP-15-3, 81 NRC 65 (2015)

licensee shall establish a detection monitoring program needed for NRC to set the site-specific groundwater protection standards, and the monitoring program must be in place when specified by NRC in license conditions; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

licensees must monitor structures, systems, and components in a manner sufficient to provide reasonable assurance that the SSCs are capable of supporting their intended function; DD-15-3, 81 NRC 713 (2015)

monitoring and enforcement program must be adopted where applicable for any mitigation; LBP-15-16, 81 NRC 618 (2015)

nothing in 10 C.F.R. Part 40, Appendix A, Criterion 5B precludes an inquiry, based on a well-pleaded contention, into whether the particular measures used in applicant's precertification program were adequate to provide the necessary information to characterize properly the environmental impacts of employing an ISR mining process in the aquifers below a proposed site; LBP-15-3, 81 NRC 65 (2015)

nothing in the definition of "construction" in 10 C.F.R. 40.4 precludes the installation of wells or the use of monitoring protocols as needed to provide those background data; LBP-15-3, 81 NRC 65 (2015)

post-certification, preoperational activities conducted to comply with Part 40, Appendix A, Criterion 7 are associated with compliance with the dictates of 10 C.F.R. Part 40, Appendix A, Criteria 5B and 7A; LBP-15-3, 81 NRC 65 (2015)

precertification monitoring program to characterize site groundwater constituents need not be coextensive with the Criterion 7A preoperational monitoring, license condition-based program intended to provide the information needed for setting Criterion 5B groundwater protection standards and UCLs; LBP-15-16, 81 NRC 618 (2015)

subset of the production and injection wells to be drilled within the boundaries of the ISR wellfield is to be used to sample groundwater from the aquifer prior to the commencement of operations to establish hazardous constituent Commission-approved background concentrations; LBP-15-3, 81 NRC 65 (2015)

surveillance program to monitor pressurized water reactor pressure vessel is described; LBP-15-17, 81 NRC 753 (2015)

waiting until after licensing, but before mining operations begin, to definitively establish groundwater quality baselines and upper control limits is consistent with industry practice and NRC methodology, given the sequential development of in situ leach well fields; LBP-15-3, 81 NRC 65 (2015)

water samples taken from one well located hydrologically upgradient are part of the groundwater sampling protocol; LBP-15-3, 81 NRC 65 (2015)

### MOOTNESS

if applicant cures the omission cited in a contention, the contention will become moot unless revised by intervenors; LBP-15-5, 81 NRC 249 (2015)

### MOTIONS

when a party requests action from the presiding officer in an NRC adjudicatory proceeding, the request must come in the form of a motion; CLI-15-13, 81 NRC 555 (2015)

### MOTIONS TO REOPEN

affidavits accompanying motions to reopen must be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised; LBP-15-14, 81 NRC 591 (2015)

board has discretion to consider an untimely motion to reopen if the motion presents an exceptionally grave issue; LBP-15-14, 81 NRC 591 (2015)

contention that final safety analysis report is deficient because it does not include information provided in applicant's seismic evaluation process report is rejected; LBP-15-14, 81 NRC 591 (2015)

evidence contained in affidavits accompanying motions to reopen must meet admissibility standards; LBP-15-14, 81 NRC 591 (2015)

motion that relates to a contention not previously in controversy must satisfy the section 2.309(c) requirements for new or amended contentions filed after the original hearing petition deadline; LBP-15-14, 81 NRC 591 (2015)

motions must be accompanied by affidavits that set forth the factual and/or technical bases for movant's claim; LBP-15-14, 81 NRC 591 (2015)

motions must be timely, address a significant safety or environmental issue, and demonstrate that a materially different result would be or would have been likely had the newly proffered evidence been considered initially; LBP-15-14, 81 NRC 591 (2015)

placeholder contentions that challenge the 2014 Continued Storage Rule and associated Generic Environmental Impact Statement for Continued Storage are inadmissible; CLI-15-15, 81 NRC 803 (2015)



## SUBJECT INDEX

### NATIONAL ENVIRONMENTAL POLICY ACT

actual range of alternatives must be considered so that agencies are precluded from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only applicant's proposed project; LBP-15-15, 81 NRC 598 (2015)

adverse environmental effects that must be assessed under NEPA include aesthetic, historic, cultural, economic, social, or health effects; LBP-15-16, 81 NRC 618 (2015)

agencies are given broad discretion to keep their NEPA inquiries within appropriate and manageable boundaries; LBP-15-3, 81 NRC 65 (2015)

agencies must take a hard look at preserving important historic and cultural aspects of our national heritage; LBP-15-16, 81 NRC 618 (2015)

agency is required to consider all reasonable alternatives under the National Environmental Policy Act; LBP-15-15, 81 NRC 598 (2015)

alternative energy sources that will be dependent on future environmental safeguards and technological developments may be excluded from the NEPA alternatives discussion; LBP-15-3, 81 NRC 65 (2015)

alternatives discussion need not include every possible alternative, but rather every reasonable alternative; LBP-15-3, 81 NRC 65 (2015)

although an agency may coordinate and, where practicable, integrate its National Environmental Policy Act and National Historic Preservation Act review efforts, the two statutes impose separate and distinct obligations; LBP-15-16, 81 NRC 618 (2015)

appeal board's ruling that the environmental impact statement was deemed modified by the parties' stipulations at hearing did not violate the letter or spirit of NEPA; CLI-15-6, 81 NRC 340 (2015)

board's ultimate NEPA judgments can be made on the basis of the entire adjudicatory record in addition to NRC Staff's final environmental impact statement; LBP-15-3, 81 NRC 65 (2015)

burden of NEPA compliance lies with NRC Staff; LBP-15-2, 81 NRC 48 (2015); LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

consideration of alternatives under NEPA that are technologically unproven is unnecessary; LBP-15-3, 81 NRC 65 (2015)

contention of omission on a matter related to NEPA must describe the information that should have been included in applicant's environmental report and provide the legal basis that requires the omitted information to be included; LBP-15-5, 81 NRC 249 (2015)

contention that environmental assessment violates NEPA in its failure to analyze groundwater quantity impacts of the project is decided; LBP-15-11, 81 NRC 401 (2015)

Continued Storage Rule and supporting generic environmental impact statement to assess the environmental impacts of spent fuel storage after the end of a reactor's license term were approved; CLI-15-10, 81 NRC 535 (2015)

court may not substitute its own judgment for that of an agency, and agencies are not constrained by NEPA to select only the most environmentally benign option; LBP-15-16, 81 NRC 618 (2015)

defining the scope of effects of a project requires engagement with governments of affected tribes through an early and open process aimed at identifying concerns, potential impacts, relevant effects of past actions, and possible alternative actions; LBP-15-16, 81 NRC 618 (2015)

discussion of alternatives that present severe engineering requirements or are imprudent for reasons including their high cost, safety hazards, and operational difficulties is excluded under NEPA; LBP-15-3, 81 NRC 65 (2015)

environmental considerations that the environmental report must discuss are equivalent to, and in most instances verbatim restatements of, environmental considerations that NEPA requires the agency to describe in detail in the environmental impact statement; LBP-15-5, 81 NRC 249 (2015)

Exec. Order No. 12898 did not, in itself, create new substantive authority for federal agencies and thus NRC determined that it would endeavor to carry out the environmental justice principles as part of the agency's responsibilities under NEPA; CLI-15-6, 81 NRC 340 (2015)

federal agencies are required to take a hard look at the environmental impacts of a proposed action, as well as reasonable alternatives to that action; LBP-15-3, 81 NRC 65 (2015)

federal agencies must prepare a detailed environmental impact statement for proposed actions significantly affecting the quality of the human environment; LBP-15-16, 81 NRC 618 (2015)

hard look at the environmental effects of the planned action, not a circular restatement of NRC Staff's own conclusions, is required; LBP-15-11, 81 NRC 401 (2015)

## SUBJECT INDEX

hard look is subject to a rule of reason, and consideration of environmental impacts need not address all theoretical possibilities, but only those that have some reasonable possibility of occurring; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

hard look must emerge from an engagement in informed and reasoned decisionmaking, as the agency obtains opinions from its own experts and experts outside the agency and gives careful scientific scrutiny and responds to all legitimate concerns that are raised; LBP-15-16, 81 NRC 618 (2015)

hard look under NEPA is intended to foster both informed agency decisionmaking and informed public participation so as to ensure that the agency does not act upon incomplete information, only to regret its decision after it is too late to correct; LBP-15-3, 81 NRC 65 (2015)

importing analysis from a previously completed environmental assessment while disregarding intervening events would render meaningless NEPA's requirement to supplement an environmental impact statement or environmental assessment; LBP-15-13, 81 NRC 456 (2015)

in NEPA context, path that licensee and NRC Staff must follow relative to a license condition is sufficiently clear that continuing to hold the hearing open while it is completed would be an unnecessary extension of the adjudicatory process; LBP-15-3, 81 NRC 65 (2015)

in uncontested hearings, it is NRC's duty to ensure, among other things, that it has adhered to its obligations under NEPA; CLI-15-1, 81 NRC 1 (2015)

intervenors litigated whether the performance-based licensing complies with the Atomic Energy Act and NEPA, and whether undue discretion was accorded to licensee; LBP-15-16, 81 NRC 618 (2015)

it is NRC Staff, not petitioners, that has the burden of complying with NEPA; LBP-15-5, 81 NRC 249 (2015)

it would be incongruous with NEPA's approach to environmental protection, and with the Act's manifest concern with preventing uninformed action, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior to the completion of agency action simply because the relevant proposal has received initial approval; LBP-15-13, 81 NRC 456 (2015)

license transfer applications need not include an environmental analysis under NEPA; CLI-15-8, 81 NRC 500 (2015)

mandate to federal agencies is to consider a broad range of environmental effects that are reasonably likely to ensue as a result of a major federal action; CLI-15-6, 81 NRC 340 (2015)

neither certainty nor precision is called for, but rather an estimate of anticipated, not unduly speculative, impacts; LBP-15-16, 81 NRC 618 (2015)

NEPA does not demand the presence of a fully developed plan that will mitigate environmental harm before an agency can act; LBP-15-16, 81 NRC 618 (2015)

NEPA does not mandate particular results, but simply prescribes the necessary process that agencies must follow in evaluating environmental impacts; LBP-15-19, 81 NRC 815 (2015)

NEPA does not require adoption of best practices, particularly in the face of a potentially significant resource commitment; LBP-15-3, 81 NRC 65 (2015)

NEPA does not require NRC Staff to analyze every conceivable aspect of the proposed project; LBP-15-16, 81 NRC 618 (2015)

NEPA requires a reasonably complete discussion of possible mitigation measures; LBP-15-11, 81 NRC 401 (2015)

NEPA requires acknowledgment of tribal hunting and fishing rights, as well as an analysis of how the project will affect those rights; LBP-15-5, 81 NRC 249 (2015)

NEPA review in license renewal proceedings is not limited to aging management-related issues; LBP-15-5, 81 NRC 249 (2015)

non-NEPA document, let alone one prepared and adopted by a state government, cannot satisfy a federal agency's obligations under NEPA; LBP-15-11, 81 NRC 401 (2015)

NRC hearings on NEPA issues focus entirely on the adequacy of NRC Staff's work; LBP-15-16, 81 NRC 618 (2015)

NRC must make a diligent effort to involve the public in implementation of NEPA procedures; LBP-15-16, 81 NRC 618 (2015)

NRC Staff is not required to examine very conceivable aspect of federally licensed projects in preparing its environmental impact statement; LBP-15-3, 81 NRC 65 (2015)

NRC Staff must assess the relationship between local short-term uses and long-term productivity of the environment, consider alternatives, and describe the unavoidable adverse environmental impacts and the

## SUBJECT INDEX

irreversible and irretrievable commitments of resources associated with the proposed action; CLI-15-13, 81 NRC 555 (2015)

NRC's AEA safety review under Part 54 does not compromise or limit NEPA; LBP-15-5, 81 NRC 249 (2015)

preliminary injunction halting a solar energy project was granted based on a tribal claim that the project would not avoid most of the 459 cultural sites identified, and that the NEPA and NHPA process had been insufficient; LBP-15-2, 81 NRC 48 (2015)

reasonable alternatives under NEPA do not include alternatives that are impractical, that present unique problems, or that cause extraordinary costs; LBP-15-3, 81 NRC 65 (2015)

reliance on a state permit, let alone one prepared and adopted by a state government, cannot satisfy a federal agency's obligations under NEPA; LBP-15-11, 81 NRC 401 (2015)

severe accident mitigation alternatives analysis is conducted pursuant to NEPA, and thus is an environmental issue, not a safety issue; LBP-15-1, 81 NRC 15 (2015)

there is no NEPA requirement to use the best scientific methodology, and NEPA should be construed in the light of reason if it is not to demand virtually infinite study and resources; LBP-15-3, 81 NRC 65 (2015)

though mitigation measures must be discussed in an environmental impact statement, NEPA does not guarantee that federally approved projects will have no adverse impacts; LBP-15-16, 81 NRC 618 (2015)

to the extent there are important NEPA qualitative considerations or factors that cannot be quantified, these considerations or factors will be discussed in qualitative terms; LBP-15-5, 81 NRC 249 (2015)

when NEPA contentions are involved, the burden of proof shifts to NRC Staff; LBP-15-16, 81 NRC 618 (2015)

with regard to reasonably foreseeable impacts, NEPA does not call for certainty or precision, but an estimate of anticipated (not unduly speculative) impacts; LBP-15-3, 81 NRC 65 (2015)

**NATIONAL HISTORIC PRESERVATION ACT**

although an agency may coordinate and, where practicable, integrate its National Environmental Policy Act and NHPA review efforts, the two statutes impose separate and distinct obligations; LBP-15-16, 81 NRC 618 (2015)

Commission approved NRC Staff completion of some NHPA documents after the environmental impact statement process was complete, but before the license was issued; LBP-15-16, 81 NRC 618 (2015)

compliance with NHPA does not relieve a federal agency of the duty of complying with the environmental impact statement requirement to the fullest extent possible; LBP-15-16, 81 NRC 618 (2015)

demolition of a historic unit to build a new unit will result in a finding of adverse effect under applicable criteria in 36 C.F.R. 800.5; CLI-15-13, 81 NRC 555 (2015)

federal agency must assess the effects of the undertaking on any eligible historic properties found; LBP-15-16, 81 NRC 618 (2015)

federal agency must confer with a State Historic Preservation Officer and seek the approval of the ACHP; LBP-15-16, 81 NRC 618 (2015)

federal agency must determine whether identified properties are eligible for listing on the National Register based on the criteria in 36 C.F.R. 60.4; LBP-15-16, 81 NRC 618 (2015)

in consultation with identified parties, agency must develop alternatives and proposed measures that might avoid, minimize, or mitigate any adverse effects of the undertaking on historic properties and describe them in the environmental assessment or draft environmental impact statement; LBP-15-16, 81 NRC 618 (2015)

it is the duty of NRC Staff, not applicant, to consult with interested tribes concerning the proposed site in the context of a National Historic Preservation Act contention; LBP-15-5, 81 NRC 249 (2015)

NRC Staff must take steps necessary to identify the presence of historic properties within the area encompassed by the source materials license renewal application; LBP-15-2, 81 NRC 48 (2015)

preliminary injunction halting a solar energy project was granted based on a tribal claim that the project would not avoid most of the 459 cultural sites identified, and that the NEPA and NHPA process had been insufficient; LBP-15-2, 81 NRC 48 (2015)

programmatic agreement may be used to implement the NHPA §106 process in situations where the effects on historic properties cannot be fully determined prior to the approval of an undertaking, such

## SUBJECT INDEX

as where an applicant proposes a phased approach to developing its project; LBP-15-16, 81 NRC 618 (2015)

though the materials license has already been issued, the land disturbance in the project area will proceed in stages in compliance with NHPA § 106; LBP-15-16, 81 NRC 618 (2015)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT**

it is appropriate for NRC Staff to give substantial weight to state agency's decision that issuing the NPDES permit would be environmentally acceptable; LBP-15-11, 81 NRC 401 (2015)

**NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT**

NRC Staff must take steps necessary to identify the presence of historic properties within the area encompassed by the source materials license renewal application; LBP-15-2, 81 NRC 48 (2015)

**NATIVE AMERICANS**

agencies are to ensure that the federal government operates within a government-to-government relationship with federally recognized Native American tribes, reflecting respect for the rights of self-government due the sovereign tribal governments; LBP-15-16, 81 NRC 618 (2015)

consultation must provide an Indian tribe with a reasonable opportunity to identify its concerns about historic properties and advise on their identification and evaluation, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects; LBP-15-16, 81 NRC 618 (2015)

contention claiming that NRC Staff's consultation was inadequate does not ripen until issuance of NRC Staff's draft environmental impact statement; LBP-15-5, 81 NRC 249 (2015)

federal agencies must consult with any Indian tribe that attaches religious and cultural significance to the sites; LBP-15-16, 81 NRC 618 (2015)

harming Native American artifacts would constitute an irreparable injury because artifacts are, by their nature, unique, and their historical and cultural significance make them difficult to value monetarily; LBP-15-2, 81 NRC 48 (2015)

Indian tribe's treaty-based claims of ownership of mining site and international treaty-based claims cannot support the admission of environmental assessment contention; LBP-15-11, 81 NRC 401 (2015)

irreparable harm element of the test for issuance of injunctive relief was met where the tribe's evidence showed that a phase of the project would involve damage to at least one known site, and virtually ensure some loss or damage; LBP-15-2, 81 NRC 48 (2015)

issue of alleged failure to consult with a tribe is material and within the scope of materials license proceeding; LBP-15-16, 81 NRC 618 (2015)

it is the duty of NRC Staff, not applicant, to consult with interested tribes concerning the proposed site in the context of a National Historic Preservation Act contention; LBP-15-5, 81 NRC 249 (2015)

NEPA requires acknowledgment of tribal hunting and fishing rights, as well as an analysis of how the project will affect those rights; LBP-15-5, 81 NRC 249 (2015)

NRC must prepare an environmental impact statement that adequately evaluates the environmental impacts of relicensing, including impacts to tribal hunting and fishing rights and subsistence consumption; LBP-15-5, 81 NRC 249 (2015)

NRC Staff must include in the final supplemental environmental impact statement an analysis of significant problems and objections raised by any affected Indian tribes, and by other interested persons; LBP-15-16, 81 NRC 618 (2015)

preliminary injunction halting a solar energy project was granted based on a tribal claim that the project would not avoid most of the 459 cultural sites identified, and that the NEPA and NHPA process had been insufficient; LBP-15-2, 81 NRC 48 (2015)

to eliminate the inadmissible issue of tribal notification and to clarify the scope of the subsistence consumption issue, board narrows and reformulates a contention; LBP-15-5, 81 NRC 249 (2015)

under NEPA, defining the scope of effects of a project requires engagement with governments of affected tribes through an early and open process aimed at identifying concerns, potential impacts, relevant effects of past actions, and possible alternative actions; LBP-15-16, 81 NRC 618 (2015)

**NEUTRON FLUENCE**

consistency check is required if three or more surveillance data points measured at three or more different neutron fluences exist for a specific material; LBP-15-17, 81 NRC 753 (2015)

## SUBJECT INDEX

consistency check seeks to compare, for a specific material type, the model's projected embrittlement with the actual embrittlement values at the same fluence provided by material samples; LBP-15-17, 81 NRC 753 (2015)

if three or more surveillance data points measured at three or more different neutron fluences exist for a specific material, licensee shall determine if the surveillance data show a significantly different trend than the embrittlement model predicts; LBP-15-17, 81 NRC 753 (2015)

in calculating embrittlement reference temperatures, licensee must calculate neutron flux through the reactor pressure vessel using a methodology that has been benchmarked to experimental measurements and with quantified uncertainties and possible biases; LBP-15-17, 81 NRC 753 (2015)

surveillance data must be used in the consistency check when it is a heat-specific match for one or more of the materials for which the reference temperature is being calculated and three or more different neutron fluences exist for a specific material; LBP-15-17, 81 NRC 753 (2015)

### NEUTRON IRRADIATION

embrittlement of reactor pressure vessel walls, decreasing their fracture toughness, is discussed; LBP-15-17, 81 NRC 753 (2015)

exemption from the surveillance program is allowed if a reactor's lifetime irradiation levels are below a certain threshold; LBP-15-17, 81 NRC 753 (2015)

long-term exposure to neutron radiation and elevated temperatures in a reactor vessel decrease the vessel materials' fracture toughness, or resistance to fracture; LBP-15-20, 81 NRC 829 (2015)

### NO SIGNIFICANT HAZARDS DETERMINATION

determination is a procedural decision barred from litigation; LBP-15-13, 81 NRC 456 (2015); LBP-15-17, 81 NRC 753 (2015)

final determination allows the Commission to issue the challenged license amendment before the petitioner's request for a hearing is adjudicated; LBP-15-17, 81 NRC 753 (2015)

final determination does not either prevent the adjudication from proceeding or restrict the licensing board's substantive determination on public health and safety issues; LBP-15-17, 81 NRC 753 (2015)

when an adjudicatory proceeding has been initiated with respect to a license amendment issued with such a determination, once the presiding officer's initial decision becomes effective, the appropriate official shall take action with respect to that amendment in accordance with the initial decision; LBP-15-13, 81 NRC 456 (2015)

when licensee submits its license amendment application to NRC, it must provide the agency with its analysis about the issue using the standards in 10 C.F.R. 50.92; LBP-15-17, 81 NRC 753 (2015)

### NONPARTIES

persons who are not parties may file an amicus curiae brief if a matter is taken up by the Commission under 10 C.F.R. 2.341 or sua sponte; CLI-15-1, 81 NRC 1 (2015)

representative of a governmental entity that wishes to participate as a nonparty in the proceeding must identify those contentions on which it will participate in advance of any hearing held; LBP-15-11, 81 NRC 401 (2015)

### NONSAFETY-RELATED

protection of regulatory treatment of nonsafety systems equipment from external hazards at the site is discussed; CLI-15-13, 81 NRC 555 (2015)

### NOTICE

Administrative Procedure Act requires no more than a description of the subjects and issues involved in a notice of proposed rulemaking; LBP-15-15, 81 NRC 598 (2015)

advance notice of proposed rulemaking is a formal invitation to participate in shaping the proposed rule; LBP-15-15, 81 NRC 598 (2015)

advance notice of proposed rulemaking was withdrawn due to changes in market demand; LBP-15-15, 81 NRC 598 (2015)

agency can cease a rulemaking all together after a notice of proposed rulemaking has been issued; LBP-15-15, 81 NRC 598 (2015)

agency is generally not required to issue a new notice of proposed rulemaking if it changes its position, as long as the final rule is a logical outgrowth of the proposed rule; LBP-15-15, 81 NRC 598 (2015)

agency need not submit a full draft of a rule in a notice of proposed rulemaking; LBP-15-15, 81 NRC 598 (2015)

## SUBJECT INDEX

contention quotes text from a notice of proposed rulemaking, but it never ties the statements from the NOPR to any specific section of the environmental assessment, and thus fails to raise a genuine dispute with the EA; LBP-15-15, 81 NRC 598 (2015)

preamble to notice of proposed rulemaking addresses agency's duty to identify and make available technical studies and data that it has employed in reaching the decisions to propose particular rules; LBP-15-15, 81 NRC 598 (2015)

requirement for a notice of proposed rulemaking is to sufficiently and fairly apprise interested parties of the issues involved, rather than to specify every precise proposal that the agency may ultimately adopt; LBP-15-15, 81 NRC 598 (2015)

where the basis behind the determination not to proceed with a rulemaking was a final agency ruling allowing for judicial review, the earlier advance notice of proposed rulemaking itself was not held to have any binding effect on the public; LBP-15-15, 81 NRC 598 (2015)

NOTICE AND COMMENT PROCEDURES

legislative history of the Administrative Procedure Act emphasized the notice requirement for proposed rulemaking in order to fairly apprise the public of the agency's potential action; LBP-15-15, 81 NRC 598 (2015)

many agency statements, including statements sometimes called "rules," do not have force and effect, and advance notice and public participation are required for rules that carry the force of law; LBP-15-15, 81 NRC 598 (2015)

NRC Staff may determine that exigent circumstances exist such that there is insufficient time for a full 30-day public comment period on a license amendment request; LBP-15-13, 81 NRC 456 (2015)

purpose of notice of proposed rulemaking is not to set binding law or policy, but instead to provide interested members of the public an opportunity to comment in a meaningful way on the agency's proposal; LBP-15-15, 81 NRC 598 (2015)

NOTICE OF VIOLATION

intervenor's reliance on long-available documents regarding leakages and notices of violation made a contention untimely as filed; LBP-15-11, 81 NRC 401 (2015)

NOTICE PLEADING

mere notice pleading is insufficient, but requirement for contention specificity and factual support rather than vague or conclusory statements is not intended to prevent intervention when material and concrete issues exist; LBP-15-20, 81 NRC 829 (2015)

NOTIFICATION

notice of renewal of source materials license triggers the 5-day filing deadline to apply for a stay of the license; LBP-15-2, 81 NRC 48 (2015)

publication in the Federal Register is legally sufficient notice to all affected people; LBP-15-5, 81 NRC 249 (2015)

to eliminate the inadmissible issue of tribal notification and to clarify the scope of the subsistence consumption issue, board narrows and reformulates a contention; LBP-15-5, 81 NRC 249 (2015)

NRC GUIDANCE DOCUMENTS

applicability of a guidance document may be challenged in an individual proceeding; LBP-15-20, 81 NRC 829 (2015)

boards should accord special weight to NRC Staff guidance; LBP-15-16, 81 NRC 618 (2015)

guidance documents set neither minimum nor maximum regulatory requirements; CLI-15-6, 81 NRC 340 (2015)

guidance documents that are developed to assist in compliance with applicable regulations are entitled to special weight; CLI-15-6, 81 NRC 340 (2015)

NRC has addressed pressure suppression containment system vulnerability to early failure under severe accident conditions including overpressurization in NUREG-0474; DD-15-1, 81 NRC 193 (2015)

NRC Staff guidance documents do not have the force of law and boards are not bound to follow them; CLI-15-6, 81 NRC 340 (2015)

NRC Staff guidance is entitled to special weight in a decision on the merits; LBP-15-20, 81 NRC 829 (2015)

processes that licensees use to define and deploy strategies to enhance their ability to cope with beyond-design-basis external events, including station blackout are provided; DD-15-5, 81 NRC 877 (2015)

## SUBJECT INDEX

such documents are not legally binding, and compliance with them is not required; LBP-15-20, 81 NRC 829 (2015)

where no Staff guidance was available for the particular type of facility undergoing license review, the board reasonably selected a standard for a facility most like the facility under review; CLI-15-6, 81 NRC 340 (2015)

where NRC guidance document is not directly applicable to the issue at hand, the presiding officer is afforded greater leeway in its application; CLI-15-6, 81 NRC 340 (2015)

See also Regulatory Guides

### NRC POLICY

intervention petitioner may not attack generic NRC requirements or regulations or express generalized grievances about NRC policies; CLI-15-9, 81 NRC 512 (2015)

### NRC PROCEEDINGS

Federal Rules of Evidence are not directly applicable to NRC proceedings, but NRC adjudicatory boards often look to those rules for guidance; LBP-15-20, 81 NRC 829 (2015)

### NRC STAFF

burden of NEPA compliance lies with NRC Staff; LBP-15-2, 81 NRC 48 (2015); LBP-15-16, 81 NRC 618 (2015)

there is nothing in the record to suggest that applicant or NRC Staff will not act in good faith to ensure that applicant's regulatory responsibilities, including its license conditions, are honored, and the board cannot assume noncompliance; LBP-15-11, 81 NRC 401 (2015)

### NRC STAFF REVIEW

absent a rule waiver, NRC Staff is not expected to revisit the impact determinations made in the Continued Storage GEIS as part of its site-specific NEPA reviews; CLI-15-10, 81 NRC 535 (2015)

absent compelling circumstances, NRC Staff is expected to accord sufficient priority and devote sufficient resources to meeting its current estimated safety and environmental review schedule; LBP-15-2, 81 NRC 48 (2015)

adequacy of NRC Staff's review is not a litigable issue in a licensing case; CLI-15-9, 81 NRC 512 (2015)

adequacy of Staff's review of transmission-corridor impacts might be appropriate for the board's consideration sua sponte; CLI-15-1, 81 NRC 1 (2015)

agencies are given broad discretion to keep their NEPA inquiries within appropriate and manageable boundaries; LBP-15-3, 81 NRC 65 (2015)

agency conducting a NEPA review shall independently evaluate the information submitted and shall be responsible for its accuracy; LBP-15-11, 81 NRC 401 (2015)

although a draft supplemental environmental impact statement may rely in part on applicant's environmental report, NRC Staff must independently evaluate and be responsible for the reliability of all information used in the DSEIS; LBP-15-3, 81 NRC 65 (2015)

although NRC regulations do not require NRC Staff to analyze the environmental impacts of NRC licensing actions on the environment of foreign nations, the Staff extended its outreach to international organizations to inform its analysis of the potential environmental impacts of the project; CLI-15-13, 81 NRC 555 (2015)

although the Commission found NRC Staff's review of combined license applications rigorous, it imposed a condition requiring implementation of a squib-valve surveillance program prior to fuel load; CLI-15-13, 81 NRC 555 (2015)

Commission does not review combined license application de novo, but rather considers the sufficiency of NRC Staff's review of the application; CLI-15-13, 81 NRC 555 (2015)

compliance with the environmental quality standards and requirements of the Federal Water Pollution Control Act is not a substitute for, and does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality; LBP-15-11, 81 NRC 401 (2015)

contention fails because it contests NRC Staff's safety review rather than the license renewal application; LBP-15-15, 81 NRC 598 (2015)

directing NRC Staff to investigate a safety issue that the board could not reach through the adjudicatory process may put the Commission in a position, after receiving views of applicant if it desired, to assure itself about the significance, or lack thereof, of the shield building cracking issues raised by intervenors,

## SUBJECT INDEX

and to direct such followup proceedings, if any, as it might deem appropriate; LBP-15-1, 81 NRC 15 (2015)

environmental impact statement must be prepared in connection with a license to possess and use source and AEA § 11e(2) byproduct material for the purpose of in situ uranium recovery; LBP-15-3, 81 NRC 65 (2015)

if applicant did not pursue an early site permit, all relevant site characteristics, including site geology, hydrology, seismology, and man-made hazards, as well as potential environmental impacts of the project, were studied as part of NRC Staff's combined license review and are within the scope of the Commission decision; CLI-15-13, 81 NRC 555 (2015)

in assessing whether applicant/licensee adequately carries out a licensing directive, boards are to assume that NRC Staff will be fair and judge the matter of applicant/licensee's compliance on the merits; LBP-15-3, 81 NRC 65 (2015)

in uncontested hearings, it is NRC's duty to ensure, among other things, that it has adhered to its obligations under the National Environmental Policy Act; CLI-15-1, 81 NRC 1 (2015)

it is appropriate for NRC Staff to give substantial weight to state agency's decision that issuing the NPDES permit would be environmentally acceptable; LBP-15-11, 81 NRC 401 (2015)

it is not clear that NRC Staff relied upon the generic environmental impact statement when preparing the draft supplemental environmental impact statement because it was not incorporated by reference or mentioned in any other manner; LBP-15-11, 81 NRC 401 (2015)

it is NRC Staff, not petitioners, that has the burden of complying with NEPA; LBP-15-5, 81 NRC 249 (2015)

it is the duty of NRC Staff, not applicant, to consult with interested tribes concerning the proposed site in the context of a National Historic Preservation Act contention; LBP-15-5, 81 NRC 249 (2015)

licensing boards can refer potentially significant safety issues that cannot be addressed through the adjudicatory process to NRC Staff for review; LBP-15-1, 81 NRC 15 (2015)

licensing boards cannot superintend the conduct of NRC Staff's technical reviews; LBP-15-2, 81 NRC 48 (2015)

NEPA does not require NRC Staff to examine every conceivable aspect of federally licensed projects in preparing its environmental impact statement; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

NEPA encourages state participation when appropriate and authorized, but coordination between a federal agency and a state requires active involvement between the two in order for the federal agency to meet its independent review burden; LBP-15-11, 81 NRC 401 (2015)

NEPA requires a hard look at the environmental effects of the planned action, not a circular restatement of NRC Staff's own conclusions; LBP-15-11, 81 NRC 401 (2015)

NRC hearings on NEPA issues focus entirely on the adequacy of NRC Staff's work; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

NRC Staff examined special pathways of exposure that could lead to a higher level of radiation exposure in minority and low-income populations in the area, including subsistence consumption of fish, native vegetation, surface waters, sediments, and local produce; CLI-15-6, 81 NRC 340 (2015)

NRC Staff must assess the relationship between local short-term uses and long-term productivity of the environment, consider alternatives, and describe the unavoidable adverse environmental impacts and the irreversible and irretrievable commitments of resources associated with the proposed action; CLI-15-13, 81 NRC 555 (2015)

NRC Staff must have some discretion to draw the line and move forward with decisionmaking; LBP-15-16, 81 NRC 618 (2015)

NRC Staff must provide a reasonably thorough discussion of the significant aspects of the probable environmental consequences of a proposed action; LBP-15-16, 81 NRC 618 (2015)

NRC Staff must take steps necessary to identify the presence of historic properties within the area encompassed by the source materials license renewal application; LBP-15-2, 81 NRC 48 (2015)

NRC Staff must weigh unavoidable adverse environmental impacts and resource commitments (costs) against the project's benefits; CLI-15-13, 81 NRC 555 (2015)

NRC Staff uses applicant's environmental report as a starting point for its own environmental review of a license renewal application, the results of which are published as a supplement to the generic environmental impact statement; CLI-15-6, 81 NRC 340 (2015)



## SUBJECT INDEX

petitioner's issue of NRC Staff's compliance with its NEPA obligation to undertake a full evaluation of the environmental impacts associated with a proposed federal action is within the scope of an operating license amendment proceeding and material to the findings NRC must make; LBP-15-13, 81 NRC 456 (2015)

relative to factual matters, to carry burden of proof, NRC Staff and/or applicant must establish that its position is supported by a preponderance of the evidence; LBP-15-3, 81 NRC 65 (2015)

review of combined license application relative to regulatory actions that the NRC has taken in response to lessons learned from the Fukushima Dai-ichi accident is discussed; CLI-15-13, 81 NRC 555 (2015)  
statutory obligation of complying with NEPA rests with NRC Staff; LBP-15-3, 81 NRC 65 (2015);  
LBP-15-16, 81 NRC 618 (2015)

the fact that a competent and responsible state authority has approved the environmental acceptability of a site or a project after extensive and thorough environmentally sensitive hearings is properly entitled to substantial weight in the conduct of NRC's own NEPA analysis; LBP-15-11, 81 NRC 401 (2015)

to evaluate a power reactor license renewal application, NRC reviews management of aging effects and time-limited aging analysis of particular safety-related functions of the plant's systems, structures, and components and environmental impacts and alternatives to the proposed action in accordance; LBP-15-5, 81 NRC 249 (2015)

when considering continued storage in licensing reviews with previously completed final environmental impact statements, NRC Staff is expected to use a consistent and transparent process to ensure that all stakeholders are aware of how the environmental impacts of continued storage are considered in each licensing action affected by this regulation; CLI-15-10, 81 NRC 535 (2015)

### NUCLEAR POWER PLANT OPERATIONS

holder of a combined license for a newly built reactor may not load fuel or operate except as provided in accordance with Part 50, Appendix E; LBP-15-4, 81 NRC 156 (2015)

"permanent cessation of operations" for a nuclear power reactor facility is defined as a certification by a licensee to NRC that it has permanently ceased or will permanently cease reactor operations; LBP-15-4, 81 NRC 156 (2015)

when licensees certify permanent cessation of operations and permanent removal of fuel from the reactor vessel, the license no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel, and physically the reactor can't be operated; LBP-15-4, 81 NRC 156 (2015)

### NUCLEAR POWER PLANTS

all operational nuclear power plants except Big Rock Point must participate in the ERDS program by providing onsite hardware at each unit to interface with the NRC receiving station; LBP-15-4, 81 NRC 156 (2015)

any facility with an operating reactor unit is required to provide ERDS for that unit, regardless of the status of other reactors at the facility; LBP-15-4, 81 NRC 156 (2015)

Congress expressly recognized and impliedly approved NRC's regulatory scheme and practice under which the safety of interim storage of high-level wastes at commercial nuclear power reactor sites has been determined separately from the safety of government-owned permanent storage facilities that have not yet been established; CLI-15-4, 81 NRC 221 (2015)

facility arguably exists until final decommissioning, which may take up to 60 years, or longer if approved by the Commission; LBP-15-4, 81 NRC 156 (2015)

section 50.72(a)(4) directing licensees to activate ERDS during exigent circumstances applies only to operating nuclear power reactors; LBP-15-4, 81 NRC 156 (2015)

### NUCLEAR REGULATORY COMMISSION, AUTHORITY

agencies must adhere to their own regulations; LBP-15-17, 81 NRC 753 (2015)

agency has discretion to choose between rulemaking and adjudication; CLI-15-11, 81 NRC 546 (2015);  
CLI-15-12, 81 NRC 551 (2015)

although contention ultimately was resolved in NRC Staff's favor, Commission takes review as a matter of discretion because the board's ruling raises substantial questions of precedential importance;  
CLI-15-6, 81 NRC 340 (2015)

although NRC rules do not provide for the filing of amicus curiae briefs in this circumstance, as a matter of discretion the Commission has reviewed the brief; CLI-15-5, 81 NRC 329 (2015)

although rules do not provide for filing of reply briefs, as a matter of discretion the Commission reviews a reply brief; CLI-15-7, 81 NRC 481 (2015)

## SUBJECT INDEX

amicus curiae filings are allowed at the Commission's discretion or sua sponte; CLI-15-1, 81 NRC 1 (2015); CLI-15-4, 81 NRC 221 (2015); CLI-15-10, 81 NRC 535 (2015)

basis for NRC authority to regulate the use of special nuclear material in facilities like nuclear power reactors is established; CLI-15-4, 81 NRC 221 (2015)

because the Commission finds that the suspension petition and new contention fail on the merits, and it considers and takes action on the petition and motions in its supervisory capacity, it need not address procedural issues; CLI-15-4, 81 NRC 221 (2015)

boards must request Commission approval to undertake sua sponte review; CLI-15-1, 81 NRC 1 (2015)

Commission exercised its inherent supervisory authority over agency adjudications to review motion and petition addressing the spent fuel storage issue; LBP-15-1, 81 NRC 15 (2015); LBP-15-9, 81 NRC 396 (2015)

Commission exercised its supervisory authority and dismissed proposed waste confidence safety contention and denied suspension petitions; CLI-15-13, 81 NRC 555 (2015)

Commission exercises its discretion to consider briefs that were not filed via the agency's E-Filing system; LBP-15-4, 81 NRC 156 (2015)

Commission may incorporate in any license at the time of issuance, or thereafter, by appropriate rule, regulation, or order, such additional requirements and conditions with respect to licensee's receipt, possession, use, and transfer of source or byproduct material as it deems appropriate or necessary in order to protect health or to minimize danger of life or property; LBP-15-16, 81 NRC 618 (2015)

Commission may, as a matter of discretion, grant review of a full or partial initial decision, giving due weight to the existence of a substantial question with respect to any of the considerations outlined in 10 C.F.R. 2.341(b)(4); CLI-15-2, 81 NRC 213 (2015)

Commission on its own motion may review a decision that modifies, suspends, or revokes a license; CLI-15-14, 81 NRC 729 (2015)

general scope of NRC's authority is established in Atomic Energy Act § 161, but it does not discuss spent fuel disposal; CLI-15-4, 81 NRC 221 (2015)

interpretation of statutes at issue and the regulations governing their implementation falls within the Commission's province; LBP-15-5, 81 NRC 249 (2015)

it is for the Commission, not licensing boards, to revise its rulings; LBP-15-18, 81 NRC 793 (2015)

NRC can issue nuclear power reactor licenses to applicants only upon a finding that utilization of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public; CLI-15-4, 81 NRC 221 (2015)

NRC is not required, as a precondition to issuing or renewing operating licenses for nuclear power plants, to make definitive findings concerning technical feasibility of a repository for the disposal of spent nuclear fuel; CLI-15-4, 81 NRC 221 (2015)

NRC's use of rulemaking to address generic issues has been approved by the Supreme Court; CLI-15-6, 81 NRC 340 (2015)

where petition fails on the merits, the Commission need not address procedural issues; CLI-15-10, 81 NRC 535 (2015)

written consent from NRC is required for all direct or indirect license transfers; CLI-15-8, 81 NRC 500 (2015)

### OBJECTIONS

evidentiary objections made for the first time after briefing has been completed unfairly deprive the petitioners of the opportunity to file the response expressly provided in the NRC's procedural rules; LBP-15-20, 81 NRC 829 (2015)

in absence of objection, hearsay evidence is treated as being properly admitted and may be given such probative effect and value to which it is entitled; LBP-15-20, 81 NRC 829 (2015)

petitioners would have no opportunity to be heard regarding a sua sponte objection by the board because they would only learn of it when they received the board's ruling and thus would be deprived of the opportunity to file the response expressly provided in procedural rules; LBP-15-5, 81 NRC 249 (2015)

### OFFICIAL NOTICE

licensing board takes official notice of NRC regulatory guide; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

### OFFSITE POWER

under its certified design, the Economic Simplified Boiling Water Reactor could maintain circulation long enough to permit safe shutdown of the reactor even if it were to lose offsite power and all of its backup generators failed to operate; LBP-15-5, 81 NRC 249 (2015)

### OPERATING LICENSE AMENDMENT APPLICATIONS

application to use alternate pressurized thermal shock rule must contain an assessment of flaws in the reactor pressure vessel; LBP-15-17, 81 NRC 753 (2015)

application to use alternate pressurized thermal shock rule must contain the projected embrittlement reference temperatures along various portions of the reactor pressure vessel, from the present to a future point, compared to the alternate screening criteria; LBP-15-17, 81 NRC 753 (2015)

when licensee requests an exemption in a related license amendment application, hearing rights on the amendment application are considered to encompass the exemption request as well; LBP-15-18, 81 NRC 793 (2015)

when licensee submits its license amendment application to NRC, it must provide the agency its analysis about the issue of no significant hazards consideration using the standards in 10 C.F.R. 50.92; LBP-15-17, 81 NRC 753 (2015)

### OPERATING LICENSE AMENDMENT PROCEEDINGS

challenges based on 10 C.F.R. 50.61a and the question of whether applicant demonstrated substantial advantage under 10 C.F.R. Part 50, Appendix H as a reason to not test capsules are beyond the scope of a license amendment proceeding, which concerns compliance with Appendix G of 10 C.F.R. Part 50; LBP-15-20, 81 NRC 829 (2015)

generic analyses of environmental impacts of continued storage and disposal in the context of NRC reactor licensing proceedings are acceptable; CLI-15-4, 81 NRC 221 (2015)

intervention petition was not sufficiently specific when it merely repeated the contents of petitioner's earlier petition concerning a prior license amendment; LBP-15-17, 81 NRC 753 (2015)

license amendments related to reactor pressure vessel embrittlement present an obvious potential for offsite public health and safety consequences; LBP-15-17, 81 NRC 753 (2015)

petitioners' contention challenges the sufficiency of the equivalent margins analysis to provide reasonable assurance of reactor safety and is therefore within the scope of the proceeding; LBP-15-20, 81 NRC 829 (2015)

prior to license issuance, NRC must find reasonable assurance that activities authorized by the amendment can be conducted without endangering the health and safety of the public and are in compliance with NRC regulations; LBP-15-17, 81 NRC 753 (2015)

proximity presumption applied where petitioners' contention concerned a license amendment to move the schedule for the withdrawal of reactor vessel material specimens from the technical specifications to the updated safety analysis report; LBP-15-17, 81 NRC 753 (2015)

proximity presumption applies in more limited license amendment proceedings only if the proposed amendment obviously entails an increased potential for offsite consequences; LBP-15-17, 81 NRC 753 (2015)

proximity presumption was applied in a license amendment proceeding where management's lack of the required character and competence was alleged; LBP-15-17, 81 NRC 753 (2015)

radiological claims that represent a direct challenge to prior license amendments authorizing extended power uprates are outside the scope of a license amendment proceeding; LBP-15-13, 81 NRC 456 (2015)

section 50.40 requires that NRC be persuaded that applicant will comply with all applicable regulations, that health and safety of the public will not be endangered, and that issuance of the amendment will not be inimical to the health and safety of the public; LBP-15-20, 81 NRC 829 (2015)

when an adjudicatory proceeding has been initiated with respect to a license amendment issued with a no significant hazards determination, once the presiding officer's initial decision becomes effective, the appropriate official shall take action with respect to that amendment in accordance with the initial decision; LBP-15-13, 81 NRC 456 (2015)

### OPERATING LICENSE AMENDMENTS

activities the licensee may pursue without submitting a license amendment request, including certain tests or experiments, are defined in 10 C.F.R. 50.59(c)(1); LBP-15-17, 81 NRC 753 (2015)

## SUBJECT INDEX

admissibility of contention that a license amendment will be required for licensee to update and maintain accurate design basis documents is decided; CLI-15-5, 81 NRC 329 (2015)

admissibility of contention that licensee is undertaking modifications for protection against severe flooding in the event of upstream dam failures that will require a license amendment is decided; CLI-15-5, 81 NRC 329 (2015)

agency actions not formally labeled as license amendments nevertheless can constitute de facto license amendments and accordingly trigger hearing rights for the public under Atomic Energy Act § 189a; CLI-15-5, 81 NRC 329 (2015)

any changes to the material specimen withdrawal schedule that conform to the ASTM standard referenced in Appendix H will not alter the plant's license; LBP-15-20, 81 NRC 829 (2015)

applicant requests an operating license amendment to implement alternate fracture toughness requirements for protection against pressurized thermal shock events; LBP-15-17, 81 NRC 753 (2015)

because current levels of emergency planning are required by regulation, licensee cannot make changes contemplated in its license amendment request without first receiving certain regulatory exemptions; LBP-15-18, 81 NRC 793 (2015)

claims of inadequacies in licensee's technical evaluations or noncompliance with its license, standing alone, do not identify an activity that may constitute a license amendment; CLI-15-14, 81 NRC 729 (2015)

court recognized the long-term nature of the concerns associated with spent fuel storage and disposal when it declined to vacate the license amendments that were the subject of the case, noting that doing so would effectively shut down the plants; CLI-15-4, 81 NRC 221 (2015)

in determining whether a license amendment, construction permit, or early site permit will be issued to applicant, the Commission is guided by the considerations that govern issuance of initial licenses, construction permits, or early site permits to the extent applicable and appropriate; LBP-15-20, 81 NRC 829 (2015)

key factors to consider when determining whether agency action constitutes a de facto license amendment are whether the agency action granted licensee any greater authority or otherwise altered the original terms of the license; CLI-15-5, 81 NRC 329 (2015)

license amendment will be effective on issuance, even if adverse public comments have been received and even if an interested person meeting the provisions for intervention has filed a request for a hearing; LBP-15-17, 81 NRC 753 (2015)

license amendments are not contingent upon any additional safety determination regarding spent fuel storage under the Atomic Energy Act; CLI-15-4, 81 NRC 221 (2015)

licensee cannot amend the terms of its license unilaterally, but rather must request and obtain agency approval; CLI-15-5, 81 NRC 329 (2015)

NRC regulations appropriately require a hearing before the proposed license amendment becomes effective whenever the amendment creates the possibility of a new or different kind of accident; LBP-15-20, 81 NRC 829 (2015)

NRC Staff may determine that exigent circumstances exist such that there is insufficient time for a full 30-day public comment period on a license amendment request; LBP-15-13, 81 NRC 456 (2015)

petitioners challenged NRC's approval of operating license amendments to allow for the use of higher-density spent-fuel-storage racks in the reactors' spent fuel pools; CLI-15-4, 81 NRC 221 (2015)

prior to license issuance NRC must find reasonable assurance that activities authorized by the amendment can be conducted without endangering the health and safety of the public, and in compliance with Commission regulations; LBP-15-20, 81 NRC 829 (2015)

to take advantage of the alternate pressurized thermal shock rule, licensee must request approval from the Office of Nuclear Reactor Regulation, in accordance with the procedures for submitting a license amendment; LBP-15-17, 81 NRC 753 (2015)

types of changes, tests, or experiments that may be undertaken without prior NRC approval as well as those that would require a license amendment are outlined in 10 C.F.R. 50.59(c); CLI-15-14, 81 NRC 729 (2015)

### OPERATING LICENSE APPLICATIONS

information is specified in Atomic Energy Act § 182 that must be provided by applicant for a license and it has no reference to spent fuel disposal; CLI-15-4, 81 NRC 221 (2015)

## SUBJECT INDEX

### OPERATING LICENSE PROCEEDINGS

environmental justice is a Category 2 issue, within the scope of a license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

### OPERATING LICENSE RENEWAL

active components are excluded from aging management review on the basis of existing regulatory requirements for maintenance and monitoring of structures, systems, and components; CLI-15-6, 81 NRC 340 (2015)

aging management review is required only for equipment that performs its intended function without moving parts or without a change in configuration or property; CLI-15-6, 81 NRC 340 (2015); LBP-15-6, 81 NRC 314 (2015)

applicant for a renewed license must first identify all structures, systems, and components that serve a function relating directly or indirectly to safety, as defined by this regulation; CLI-15-6, 81 NRC 340 (2015)

applicant has the burden of providing reasonable assurance that the current licensing basis will be maintained throughout the renewal period; LBP-15-5, 81 NRC 249 (2015)

applicant is required to show that safety features will fulfill their intended function, not that every structure will maintain its current licensing basis throughout the renewal period; LBP-15-5, 81 NRC 249 (2015)

applicant must perform an integrated plant assessment to identify structures and components that are subject to aging management review; CLI-15-6, 81 NRC 340 (2015)

applicant's environmental report may adopt the generic findings of the generic environmental impact statement, but must also include site-specific analyses of Category 2 issues; CLI-15-6, 81 NRC 340 (2015)

applicants must demonstrate how their programs will be effective in managing the effects of aging during the proposed period of extended operation, at a detailed component and structure level, rather than at a more generalized system level; LBP-15-5, 81 NRC 249 (2015)

applicants must reassess any time-limited aging analyses to show either that the analyses will remain valid throughout the period of extended operation or that the effects of aging on the subject component will be managed during that time period; CLI-15-6, 81 NRC 340 (2015)

application must demonstrate that licensee will adequately manage effects of aging on passive, long-lived components so that their intended functions will be maintained consistent with the current licensing basis for the period of extended operation; CLI-15-6, 81 NRC 340 (2015)

Category 2 issues are reviewed on a site-specific basis because they have not been determined to be essentially similar for all plants; LBP-15-5, 81 NRC 249 (2015)

effects of aging must be adequately managed so that intended functions will be maintained consistent with the current licensing basis for the period of extended operation; LBP-15-6, 81 NRC 314 (2015)

environmental justice is a Category 2 issue that must be considered in each license renewal review; CLI-15-6, 81 NRC 340 (2015)

environmental report for license renewal must consider alternatives to mitigate severe accidents for all plants that have not considered such alternatives; LBP-15-5, 81 NRC 249 (2015)

environmental report for license renewal need not contain environmental analysis of Category 1 issues identified in 10 C.F.R. Part 51, Subpart A, Appendix B; LBP-15-5, 81 NRC 249 (2015)

environmental report must analyze environmental impacts of a license renewal on matters identified as Category 2 issues in 10 C.F.R. Part 51, Subpart A, Appendix B; LBP-15-5, 81 NRC 249 (2015)

existing license will not be deemed to have expired until the license renewal application has been finally determined; CLI-15-6, 81 NRC 340 (2015)

focus of license renewal regulations in 10 C.F.R. Part 54 is to ensure that licensee can manage the effects of aging on certain long-lived, passive components that are important to safety; CLI-15-6, 81 NRC 340 (2015)

goal of NRC's license renewal safety review is to ensure that licensee can successfully manage the detrimental effects of aging; CLI-15-6, 81 NRC 340 (2015)

if, as intervenors allege, applicant's enhanced monitoring program is inadequate, then applicant's unenhanced monitoring program embodied in its license renewal application was *a fortiori* inadequate, and intervenors had a regulatory obligation to challenge it in their original petition to intervene; LBP-15-1, 81 NRC 15 (2015)

## SUBJECT INDEX

impact determinations in the Continued Storage generic environmental impact statement shall be deemed incorporated into the environmental impact statements associated with the applications; CLI-15-10, 81 NRC 535 (2015)

integrated plant assessment must demonstrate that effects of aging for each structure and component will be managed so that the intended functions will be maintained consistent with the current licensing basis for the period of extended operation; CLI-15-6, 81 NRC 340 (2015)

intervenors fail to specify what other alternatives to the license renewal application should be discussed in the draft supplemental environmental impact statement, much less show that any proposed alternative would satisfy the purpose of applicant's proposed action; LBP-15-1, 81 NRC 15 (2015)

intervenors opposed renewal of the nuclear power plant license, and proposed new contentions for increased ultrasonic testing of sand bed epoxy coating integrity; LBP-15-1, 81 NRC 15 (2015)

license renewal review is not intended to duplicate NRC's ongoing oversight of operating reactors; CLI-15-6, 81 NRC 340 (2015)

licensee commitment to develop a program by the time the 20-year extension begins does not demonstrate that the effects of aging will be adequately managed; LBP-15-1, 81 NRC 15 (2015)

NRC is not required, as a precondition to issuing or renewing operating licenses for nuclear power plants, to make definitive findings concerning technical feasibility of a repository for the disposal of spent nuclear fuel; CLI-15-4, 81 NRC 221 (2015)

NRC reviews management of aging effects and time-limited aging analysis of particular safety-related functions of the plant's systems, structures, and components and environmental impacts and alternatives to the proposed action in accordance; LBP-15-5, 81 NRC 249 (2015)

plant systems, structures, and components within the scope of license renewal are all non-safety-related systems, structures, and components whose failure could prevent the capability to shut down the reactor and maintain it in a safe shutdown condition; LBP-15-6, 81 NRC 314 (2015)

relay switches and snubbers are not subject to an aging management review; LBP-15-6, 81 NRC 314 (2015)

safety review is limited to licensee's management of aging for certain systems, structures, and components, and review of time-limited aging analyses; LBP-15-5, 81 NRC 249 (2015); LBP-15-6, 81 NRC 314 (2015)

safety significance of a structure, system, or component is defined in terms of its safety-related functions, and within the scope of license renewal are included those SSCs whose failure could prevent satisfactory accomplishment of the safety-related function; CLI-15-6, 81 NRC 340 (2015)

severe accident mitigation alternatives analysis must be considered as part of the environmental report and, ultimately, as part of NRC Staff's supplemental environmental impact statement for a power reactor license renewal; LBP-15-5, 81 NRC 249 (2015)

severe accident mitigation alternatives fall within Category 2 and must therefore be addressed on a site-specific basis; LBP-15-5, 81 NRC 249 (2015)

severe accident mitigation alternatives review identifies and assesses possible changes, such as improvements in hardware, training, or procedures, that could cost-effectively mitigate the environmental impacts that would otherwise flow from a potential severe accident; LBP-15-5, 81 NRC 249 (2015)

structures and components are subject to aging management review if they are not subject to routine replacement; CLI-15-6, 81 NRC 340 (2015)

structures and components are subject to aging management review if they perform an intended function without moving parts or without a change in configuration or properties; CLI-15-6, 81 NRC 340 (2015)

to grant a license renewal, NRC Staff must find that there is reasonable assurance that the effects of aging on relevant systems, structures, and components will be managed during the period of extended operation, that time-limited aging analyses have been identified for review, and that applicable environmental requirements have been met; LBP-15-6, 81 NRC 314 (2015)

transformers perform their intended function through a change in state similar to switchgear, power supplies, battery chargers, and power inverters which have been excluded from aging management review; CLI-15-6, 81 NRC 340 (2015)

**OPERATING LICENSE RENEWAL PROCEEDINGS**

adjudicatory hearings in individual proceedings will share the same scope of issues as NRC Staff review, for NRC's hearing process, like NRC Staff's review, necessarily examines only the questions NRC safety rules make pertinent; LBP-15-5, 81 NRC 249 (2015)

## SUBJECT INDEX

admissibility of contention that common-mode failures and/or mutually exacerbating catastrophes are entitled to severe accident mitigation alternatives analysis is decided; LBP-15-5, 81 NRC 249 (2015)

admissibility of contention that environmental report lacks site-specific safety and environmental findings regarding storage and disposal of spent fuel is decided; LBP-15-5, 81 NRC 249 (2015)

allegations of noncompliance with already-issued, existing, and open Commission orders are part of the current licensing basis and therefore cannot be challenged in a license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

because the probability of a spent fuel pool accident causing significant harm is remote, there is no need for applicants to assess mitigation alternatives as part of license renewal; LBP-15-5, 81 NRC 249 (2015)

because the shield building functions as a radiation and biological shield, failure or collapse of the shield building due to cracking propagation could lead to health and safety impacts and thus petitioner's contention concerns a subject matter that could impact the grant or denial of a pending license application; LBP-15-1, 81 NRC 15 (2015)

boards do not sit to "flyspeek" environmental documents or to add details or nuances, but the environmental report or environmental impact statement must come to grips with all important considerations; LBP-15-5, 81 NRC 249 (2015)

Category 1 issues are not subject to challenge in a relicensing proceeding, absent a waiver under 10 C.F.R. 2.335, because they involve environmental effects that are essentially similar for all plants and need not be assessed repeatedly on a site-specific basis; LBP-15-5, 81 NRC 249 (2015)

challenges to emergency planning fall outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

claims of past and current mismanagement are outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

compliance with orders issued as part of NRC's ongoing oversight program are enforcement issues that are not within the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

contention alleging that environmental assessment has not adequately addressed environmental impacts associated with saltwater intrusion arising from saline water migration from the plant into surrounding waters, and applicant's use of aquifer withdrawals to lower salinity and temperature is admissible; LBP-15-13, 81 NRC 456 (2015)

contention bases that do not pertain specifically to the license renewal application do not provide sufficient information to demonstrate a genuine dispute with the applicant on a material issue and is thus inadmissible; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

contention is within the scope of license renewal proceeding because NRC regulations require that the environmental report include a severe accident mitigation alternatives analysis; LBP-15-5, 81 NRC 249 (2015)

contention must explain what specific deficiencies exist and why they materially impact the license renewal application or environmental impact statement; LBP-15-1, 81 NRC 15 (2015)

contention that applicant has failed to establish in its aging management plan that the effects of aging will be adequately managed for the period of extended operation is inadmissible; LBP-15-6, 81 NRC 314 (2015)

contention that application has failed to establish that the effects of aging on relay switches and snubbers will be adequately managed for the period of extended operation is inadmissible; LBP-15-6, 81 NRC 314 (2015)

contention that does not actually challenge any specific part of the integrated plant assessment or time-limited aging analyses fails to demonstrate the existence of a genuine dispute with applicant; LBP-15-6, 81 NRC 314 (2015)

contention that environmental report does not satisfy NEPA because it does not consider a range of mitigation measures to mitigate the risk of catastrophic fires in densely packed, closed-frame spent fuel storage pools is decided; LBP-15-5, 81 NRC 249 (2015)

contention that environmental report is inadequate insofar as it does not consider the risk of spent fuel pool fires is inadmissible; LBP-15-5, 81 NRC 249 (2015)

contention that operating license should not be renewed unless and until applicant establishes that the plant can withstand and be safely shut down following an earthquake is not within the scope of license renewal proceedings; LBP-15-6, 81 NRC 314 (2015)

## SUBJECT INDEX

contention that severe accident mitigation alternatives analysis fails to evaluate the impact that a severe accident at one unit would have on the operation of a proposed nearby unit is within the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

current licensing basis issues cannot be challenged in license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

enforcement orders are outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

GEIS findings with respect to severe accident consequences are not subject to challenge in individual license renewal proceedings; CLI-15-6, 81 NRC 340 (2015)

generalized economic cost arguments, unsupported by asserted facts or expert opinion, are insufficient to show a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 15 (2015)

generic environmental analysis is incorporated into NRC regulations, and thus Category 1 generic findings may not be challenged in individual licensing proceedings unless accompanied by a petition for rule waiver; CLI-15-6, 81 NRC 340 (2015)

impacts to subsistence consumption must be evaluated as part of the site-specific environmental justice analysis; LBP-15-5, 81 NRC 249 (2015)

in theory, Commission approval of a rule waiver could allow a contention on a Category 1 issue to proceed where special circumstances exist; CLI-15-6, 81 NRC 340 (2015)

intervenor must do more than point to issues with the shield building, but must also indicate what is wrong with applicant's response and its amended inspection program and why intervenor believes the particular inspection program makes the license renewal application unacceptable; LBP-15-1, 81 NRC 15 (2015)

intervenors' requests for more testing, more methods of testing, and more information, without an explanation of why the current program is inadequate, do not create a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 15 (2015)

license renewal provisions cover environmental issues relating to onsite spent fuel storage generically, and all such issues, including accident risk, fall outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

licensee generally bears the ultimate burden of proof, but intervenors must give some basis for further inquiry; LBP-15-5, 81 NRC 249 (2015)

licensing actions that could increase reactor vessel embrittlement, such as license renewals, hold the potential for offsite consequences that are obvious; LBP-15-17, 81 NRC 753 (2015)

NEPA review in license renewal proceedings is not limited to aging management-related issues; LBP-15-5, 81 NRC 249 (2015)

no finding on emergency planning is necessary for issuance of a renewed nuclear power reactor operating license; CLI-15-6, 81 NRC 340 (2015)

petitioners can raise compliance issues only under 10 C.F.R. 2.206, which would allow them to petition NRC to take an enforcement action; LBP-15-5, 81 NRC 249 (2015)

petitioners have the burden of going forward, which requires them to provide factual allegations or expert testimony to show a potential deficiency in applicant's aging management plan; LBP-15-5, 81 NRC 249 (2015)

petitioners must provide site-specific support to show that the severe accident mitigation alternatives analysis is unreasonable; LBP-15-5, 81 NRC 249 (2015)

petitioners question applicant's failure to consider the qualitative benefits of installing engineered filters; LBP-15-5, 81 NRC 249 (2015)

safety culture issues are outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

safety issue that does not involve aging management is outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

severe accidents in spent fuel pools are Category 1 issues that do not need to be included in the severe accident mitigation alternatives analysis; LBP-15-5, 81 NRC 249 (2015)

to the extent petitioner is challenging the adequacy of computer modeling of plume variability, petitioner bears the burden of providing evidence specific to the license renewal applicant; LBP-15-5, 81 NRC 249 (2015)

unless petitioner sets forth a supported contention pointing to an apparent error or deficiency that may have significantly skewed the environmental conclusions, there is no genuine material dispute for hearing; LBP-15-5, 81 NRC 249 (2015)



## SUBJECT INDEX

when an application is alleged to be deficient, petitioner must identify the deficiencies and provide supporting reasons for its position that such information is required; LBP-15-1, 81 NRC 15 (2015)

### OPERATING LICENSES

Atomic Energy Act does not, as a prerequisite to licensing, require a finding of reasonable assurance that highly hazardous and long-lived radioactive materials can be disposed of safely; CLI-15-4, 81 NRC 221 (2015)

Congress did not intend in enacting the Atomic Energy Act to require a demonstration that nuclear wastes could be safely disposed of before licensing of nuclear plants was permitted; CLI-15-4, 81 NRC 221 (2015)

holder of a license under Part 50, or a combined license under Part 52, shall follow and maintain the effectiveness of an emergency plan that meets the requirements in Part 50, Appendix E; LBP-15-4, 81 NRC 156 (2015)

NRC is not required, as a precondition to issuing or renewing operating licenses for nuclear power plants, to make definitive findings concerning technical feasibility of a repository for the disposal of spent nuclear fuel; CLI-15-4, 81 NRC 221 (2015)

NRC's long-continued regulatory practice of issuing operating licenses, with an implied finding of reasonable assurance that safe permanent disposal of spent nuclear fuel can be available when needed, is in accord with the intent of Congress underlying the Atomic Energy Act and Energy Reorganization Act; CLI-15-4, 81 NRC 221 (2015)

unless the safety findings prescribed by the Atomic Energy Act and the regulations can be made, the reactor does not obtain a license, no matter how badly it is needed; CLI-15-4, 81 NRC 221 (2015)

### OPERATIONS

timing of source materials license renewal application enables licensee to operate under NRC's timely renewal provision until the agency renews the license; LBP-15-2, 81 NRC 48 (2015)

See also Nuclear Power Plant Operations

### OPINIONS

concurring opinions, by their nature, do not carry the force of law, except in very narrow circumstances; CLI-15-4, 81 NRC 221 (2015)

### ORDERS

See Executive Order 12898; Modification Order

### OVERPRESSURIZATION

NRC has addressed pressure suppression containment system vulnerability to early failure under severe accident conditions including overpressurization in NUREG-0474; DD-15-1, 81 NRC 193 (2015)

### PARTIAL INITIAL DECISIONS

Commission may, as a matter of discretion, grant review of a full or partial initial decision, giving due weight to the existence of a substantial question with respect to any of the considerations outlined in 10 C.F.R. 2.341(b)(4); CLI-15-2, 81 NRC 213 (2015)

### PARTIES

any other party to the proceeding may file an answer supporting or opposing Commission review; CLI-15-6, 81 NRC 340 (2015)

parties' duty to report material significant developments in a matter under adjudication arises immediately upon discovery of that information; CLI-15-16, 81 NRC 810 (2015)

### PASSIVE COMPONENTS

aging management review is required for components that function without moving parts and without a change in configuration or properties, and includes a non-exhaustive list of components that either do or do not fit this description; CLI-15-6, 81 NRC 340 (2015)

board examined how a transformer performs its intended function to determine whether it undergoes a change in configuration or properties; CLI-15-6, 81 NRC 340 (2015)

license renewal application must demonstrate that licensee will adequately manage effects of aging on passive, long-lived components so that their intended functions will be maintained consistent with the current licensing basis for the period of extended operation; CLI-15-6, 81 NRC 340 (2015)

static components such as transistors and battery chargers are specifically excluded from aging management review; CLI-15-6, 81 NRC 340 (2015)

## SUBJECT INDEX

### PERFORMANCE ASSESSMENT

intervenor litigated whether the performance-based licensing complies with the Atomic Energy Act and National Environmental Policy Act, and whether undue discretion was accorded to licensee; LBP-15-16, 81 NRC 618 (2015)

### PERMITS

deference can be given to a state permit's findings as to the acceptability of environmental impacts; LBP-15-11, 81 NRC 401 (2015)

in determining whether a license or permit amendment will be issued to applicant, the Commission is to be guided by the considerations that govern issuance of initial licenses, construction permits, or early site permits to the extent applicable and appropriate; LBP-15-17, 81 NRC 753 (2015)

non-NRC permits are interdependent parts of applicant's proposed action and thus are connected actions; LBP-15-16, 81 NRC 618 (2015)

reliance on a state permit, let alone one prepared and adopted by a state government, cannot satisfy a federal agency's obligations under NEPA; LBP-15-11, 81 NRC 401 (2015)

See also National Pollutant Discharge Elimination System Permit

### PETITIONERS

only the petitioning party may file reply briefs; CLI-15-7, 81 NRC 481 (2015)

### PHYSICAL SECURITY

"material access area" is any location which contains special nuclear material, within a vault or a building, the roof, walls, and floor of which constitute a physical barrier; CLI-15-9, 81 NRC 512 (2015)

"tamper-safing" refers to use of devices on containers or vaults in a manner and at a time that ensures a clear indication of any violation of the integrity of previously made measurements of special nuclear material within the container or vault; CLI-15-9, 81 NRC 512 (2015)

### PIPING

because petitioner has not shown how a proposed plan would fail to ensure that buried pipes continue to fulfill their intended safety purposes, the contention is inadmissible; LBP-15-5, 81 NRC 249 (2015)

### PLEADINGS

although a totally deficient pleading may not be justified on the basis that it was prepared without the assistance of counsel, pro se petitioners should not be held to those standards of clarity and precision to which a lawyer might reasonably be expected to adhere; LBP-15-13, 81 NRC 456 (2015)

any other party to the proceeding may file an answer supporting or opposing Commission review; CLI-15-6, 81 NRC 340 (2015)

Commission discourages incorporating pleadings or arguments by reference; LBP-15-5, 81 NRC 249 (2015)

when a party requests action from the presiding officer in an NRC adjudicatory proceeding, the request must come in the form of a motion; CLI-15-13, 81 NRC 555 (2015)

wholesale incorporation by reference does not serve the purposes of a pleading; LBP-15-5, 81 NRC 249 (2015)

See also Amicus Pleadings

### PLUTONIUM

contention that applicant's revised material control and accounting plan fails to show how confirmation and verification of theft of plutonium will be carried out in the specified timelines is inadmissible; CLI-15-9, 81 NRC 512 (2015)

### POLICY

Environmental Protection Agency is recognized as an expert in environmental protection, and its final policy determinations deserve consideration; LBP-15-15, 81 NRC 598 (2015)

### POPULATION DENSITY

contention that applicant's severe accident mitigation alternatives analysis is significantly flawed because of the use of inaccurate factual assumptions about population is admissible; LBP-15-5, 81 NRC 249 (2015)

### POST-HEARING RESOLUTION

post-hearing resolution must not be employed to obviate the basic findings prerequisite to a license; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

### POWER UPRATE

radiological claims that represent a direct challenge to prior license amendments authorizing extended power uprates are outside the scope of a license amendment proceeding; LBP-15-13, 81 NRC 456 (2015)

### PRECEDENTIAL EFFECT

although contention ultimately was resolved in NRC Staff's favor, Commission takes review as a matter of discretion because the board's ruling raises substantial questions of precedential importance; CLI-15-6, 81 NRC 340 (2015)  
concurring opinions, by their nature, do not carry the force of law, except in very narrow circumstances; CLI-15-4, 81 NRC 221 (2015)  
party may seek reconsideration of an earlier ruling whereby the party was not actually prejudiced, where the ruling could well have an impact upon the course of many licensing hearings; CLI-15-6, 81 NRC 340 (2015)

### PRECONSTRUCTION ACTIVITIES

applicant's monitoring program for establishing existing site characterization baseline values for certain site groundwater constituents prior to issuance of a source materials license for ISR facility construction and operation need not be conducted so as to also provide background information needed to set Appendix A, Criterion 5B groundwater protection standards; LBP-15-3, 81 NRC 65 (2015)  
See also Limited Work Authorization

### PREJUDICE

lack of prejudice, standing alone, does not excuse an untimely filing, but it is a factor the Commission has considered in determining whether good cause exists; LBP-15-4, 81 NRC 156 (2015)

### PRESSURIZED THERMAL SHOCK

alternate PTS rule changes how licensees derive projected reference temperatures for the components of their reactor pressure vessels; LBP-15-17, 81 NRC 753 (2015)  
alternate PTS rule is designed to enable all commercial pressurized water reactor licensees to assess the state of their reactor pressure vessels relative to a new criterion without the need to make new material property measurements, instead using only information that is currently available; LBP-15-17, 81 NRC 753 (2015)  
alternate PTS rule provides measures for ongoing reporting; LBP-15-17, 81 NRC 753 (2015)  
alternate PTS rule specifies mitigation processes for licensees if they project they will exceed (or they do exceed) the rules' screening criteria; LBP-15-17, 81 NRC 753 (2015)  
applicant requests an operating license amendment to implement alternate fracture toughness requirements for protection against PTS events; LBP-15-17, 81 NRC 753 (2015)  
application to use alternate PTS rule must contain an assessment of flaws in the reactor pressure vessel; LBP-15-17, 81 NRC 753 (2015)  
application to use alternate PTS rule must contain the projected embrittlement reference temperatures along various portions of the reactor pressure vessel, from the present to a future point, compared to the alternate screening criteria; LBP-15-17, 81 NRC 753 (2015)  
if NRC does not approve continued operation based on licensee's safety analysis, licensee must request an opportunity to modify the reactor pressure vessel or related reactor systems to reduce the potential for failure of the reactor vessel due to PTS events; LBP-15-17, 81 NRC 753 (2015)  
PTS rule and embrittlement screening program are discussed; LBP-15-17, 81 NRC (2015); LBP-15-17, 81 NRC 753 (2015)  
screening criterion is given for plates, forgings, and axial and circumferential weld materials; LBP-15-17, 81 NRC 753 (2015)  
to take advantage of the alternate PTS rule, licensee must request approval from the Office of Nuclear Reactor Regulation, in accordance with the procedures for submitting a license amendment; LBP-15-17, 81 NRC 753 (2015)  
when the reference temperature of a reactor pressure vessel is above the screening limit, the RPV is considered to have an unreasonably high risk of fracture from a PTS event; LBP-15-17, 81 NRC 753 (2015)

### PRESSURIZED-WATER REACTOR

surveillance program to monitor pressurized water reactor pressure vessel is described; LBP-15-17, 81 NRC 753 (2015)

## SUBJECT INDEX

### PRESUMPTION OF REGULARITY

boards cannot assume that applicants will not comply with its regulatory responsibilities, including its license conditions; LBP-15-3, 81 NRC 65 (2015)  
Commission has long declined to assume that licensees will refuse to meet their obligations under their licenses or NRC regulations; LBP-15-4, 81 NRC 156 (2015)

### PRIMA FACIE SHOWING

if a contention makes a prima facie allegation that the application omits information required by law, it necessarily presents a genuine dispute with applicant on a material issue and raises an issue plainly material to an essential finding of regulatory compliance needed for license issuance; LBP-15-5, 81 NRC 249 (2015)  
special circumstances required to obtain a rule waiver have been described as a prima facie showing that application of a rule in a particular way would not serve the purposes for which the rule was adopted; LBP-15-5, 81 NRC 249 (2015)

### PRO SE LITIGANTS

although a totally deficient pleading may not be justified on the basis that it was prepared without the assistance of counsel, pro se petitioners should not be held to those standards of clarity and precision to which a lawyer might reasonably be expected to adhere; LBP-15-13, 81 NRC 456 (2015)  
pleadings submitted by pro se petitioners are afforded greater leniency than petitions drafted with the assistance of counsel; LBP-15-5, 81 NRC 249 (2015); LBP-15-13, 81 NRC 456 (2015)

### PROBABILISTIC RISK ASSESSMENT

agency conducting a NEPA analysis must examine both the probability of a given harm occurring and the consequences of that harm if it does occur; CLI-15-6, 81 NRC 340 (2015)  
embrittlement model is used to predict future reference temperatures across the reactor pressure vessel, which is then verified by existing surveillance data in a process called the consistency check; LBP-15-17, 81 NRC 753 (2015)  
only if the probability of a severe accident is so small as to be effectively zero could NRC Staff dispense with the consequences portion of the analysis; CLI-15-6, 81 NRC 340 (2015)  
probability-weighted environmental consequences of severe accidents are small; CLI-15-6, 81 NRC 340 (2015)

### PROOF

See Burden of Proof; Standard of Proof

### PROPERTY INTERESTS

Atomic Energy Act authorizes NRC to accord protection from radiological injury to both health and property interests, and thus a genuine property interest is sufficient to accord petitioner proximity-based standing; LBP-15-17, 81 NRC 753 (2015)  
proximity presumption applies to persons who have a significant property interest in the area near a nuclear power plant; LBP-15-17, 81 NRC 753 (2015)

### PROXIMITY PRESUMPTION

Atomic Energy Act authorizes NRC to accord protection from radiological injury to both health and property interests, and thus a genuine property interest is sufficient to accord petitioner proximity-based standing; LBP-15-17, 81 NRC 753 (2015)  
Commission affirmed board ruling on standing and upheld the validity of the proximity presumption; CLI-15-13, 81 NRC 555 (2015)  
governmental body within close proximity of a proposed nuclear reactor has standing under the proximity presumption, effectively dispensing with the need to make an affirmative showing of injury, causation, and redressability; LBP-15-19, 81 NRC 815 (2015)  
license amendments related to reactor pressure vessel embrittlement present an obvious potential for offsite public health and safety consequences; LBP-15-17, 81 NRC 753 (2015)  
licensing actions that could increase reactor vessel embrittlement, such as license renewals, hold the potential for offsite consequences that are obvious; LBP-15-17, 81 NRC 753 (2015)  
living within 50 miles of a nuclear power reactor is enough to confer standing on an individual or group in proceedings for construction permits, operating licenses, or significant amendments thereto; LBP-15-5, 81 NRC 249 (2015); LBP-15-13, 81 NRC 456 (2015); LBP-15-17, 81 NRC 753 (2015); LBP-15-20, 81 NRC 829 (2015)

## SUBJECT INDEX

mother was denied standing based on her son's residence within 50 miles of a power plant, because she herself lived more than 50 miles away; LBP-15-17, 81 NRC 753 (2015)

organization members living within 50 miles of a reactor are presumed to have standing; LBP-15-5, 81 NRC 249 (2015)

petitioner could not rely on caretakers maintaining and farming the property in petitioner's absence as grounds for proximity-based standing; LBP-15-17, 81 NRC 753 (2015)

petitioner who lives, has frequent contacts, or has significant property interest in within 50 miles of a nuclear power reactor has standing without the need to make an individualized showing of injury, causation, and redressability; LBP-15-17, 81 NRC 753 (2015)

petitioners had proximity-based standing even though they did not provide a reactor vessel failure scenario; LBP-15-17, 81 NRC 753 (2015)

petitioning member's affidavit must be sufficiently specific to show frequent contact within 50 miles of the plant; LBP-15-17, 81 NRC 753 (2015)

presumption applies across the board to all proceedings regardless of type because the rationale underlying it is not based on the type of proceeding per se but on whether the proposed action involves a significant source of radioactivity producing an obvious potential for offsite consequences; LBP-15-17, 81 NRC 753 (2015)

presumption applies in more limited license amendment proceedings only if the proposed amendment obviously entails an increased potential for offsite consequences; LBP-15-17, 81 NRC 753 (2015)

presumption applies to persons who have a significant property interest in the area near a nuclear power plant; LBP-15-17, 81 NRC 753 (2015)

presumption applies to persons who have frequent contacts in the area near a nuclear power plant; LBP-15-17, 81 NRC 753 (2015)

presumption applies when there are clear implications for the offsite environment, or major alterations to the facility with a clear potential for offsite consequences; LBP-15-17, 81 NRC 753 (2015)

presumption applies where petitioners' contention concerns a license amendment to move the schedule for the withdrawal of reactor vessel material specimens from the technical specifications to the updated safety analysis report; LBP-15-17, 81 NRC 753 (2015)

presumption was applied in a license amendment proceeding where management's lack of the required character and competence was alleged; LBP-15-17, 81 NRC 753 (2015)

radius for the proximity presumption has to be at least as large as the range where obvious offsite consequences can occur; LBP-15-17, 81 NRC 753 (2015)

standing based on frequent contacts is a determination to be made by a licensing board after weighing all the information provided; LBP-15-17, 81 NRC 753 (2015)

statement that petitioner lives, recreates, and conducts business within the vicinity of the plant is too vague to demonstrate a substantial or regular presence within 50 miles of the plant; LBP-15-17, 81 NRC 753 (2015)

to demonstrate frequent contacts within the 50-mile site radius under the proximity presumption, petitioner must show that her contacts are substantial and regular, and must describe them with specificity; LBP-15-17, 81 NRC 753 (2015)

**PUBLIC COMMENTS**

members of the public had the opportunity to fully participate in the Continued Storage rulemaking proceeding; CLI-15-10, 81 NRC 535 (2015)

**PUBLIC PARTICIPATION**

NRC must make a diligent effort to involve the public in implementation of NEPA procedures; LBP-15-16, 81 NRC 618 (2015)

**PUMPS**

request for immediate action to prevent restart because a piece of primary coolant pump impeller was lodged between the reactor vessel and the flow skirt is denied; DD-15-3, 81 NRC 713 (2015)

request for licensee to replace the primary coolant pumps with others designed for their intended duty is denied; DD-15-3, 81 NRC 713 (2015)

**QUALITATIVE ANALYSIS**

although license requirements and other environmental quality standards are to be considered in assessing environmental impacts, they do not negate NRC Staff's responsibility to consider all environmental effects; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

important qualitative considerations or factors that cannot be quantified in the environmental impact statement will be discussed in qualitative terms; LBP-15-3, 81 NRC 65 (2015)  
petitioners question applicant's failure to consider the qualitative benefits of installing engineered filters; LBP-15-5, 81 NRC 249 (2015)

to the extent there are important NEPA qualitative considerations or factors that cannot be quantified, these considerations or factors will be discussed in qualitative terms; LBP-15-5, 81 NRC 249 (2015)

### QUALITY ASSURANCE

petitioners' concerns about tube leaks, unplanned power changes, and potential primary coolant contamination did not constitute any violations that were more than minor; DD-15-2, 81 NRC 205 (2015)

### QUANTITATIVE DATA

agency's failure to adequately validate a quantitative model on which it relies may lead the reviewing court to conclude that the agency's decision is arbitrary, capricious, or contrary to law; LBP-15-20, 81 NRC 829 (2015)

relative to an individual ISR facility, when NRC Staff formulates its draft and final supplemental environmental impact statement conclusions regarding the environmental impacts of a proposed action or alternative actions, it uses as guidance a standard scheme to categorize or quantify the impacts; LBP-15-3, 81 NRC 65 (2015)

to the extent there are important NEPA qualitative considerations or factors that cannot be quantified, these considerations or factors will be discussed in qualitative terms; LBP-15-5, 81 NRC 249 (2015)  
where environmental impacts are practically quantifiable, NRC has a duty to discuss them in those terms in the final supplemental environmental impact statement; LBP-15-3, 81 NRC 65 (2015)

### RADIOACTIVE PLUME

to the extent petitioner is challenging the adequacy of computer modeling of plume variability, petitioner bears the burden of providing evidence specific to the license renewal applicant; LBP-15-5, 81 NRC 249 (2015)

### RADIOACTIVE WASTE, HIGH-LEVEL

Atomic Energy Act does not, as a prerequisite to licensing, require a finding of reasonable assurance that highly hazardous and long-lived radioactive materials can be disposed of safely; CLI-15-4, 81 NRC 221 (2015)

NRC is not required to conduct a rulemaking proceeding or to withhold action on pending or future applications for nuclear power reactor operating licenses until it makes a determination that high-level radioactive wastes can be permanently disposed of safely; CLI-15-4, 81 NRC 221 (2015)

### RADIOACTIVE WASTE, LOW-LEVEL

decommissioning funding requirements encompass costs of low-level waste burial; CLI-15-8, 81 NRC 500 (2015)

### RADIOACTIVE WASTE DISPOSAL

Congress did not intend in enacting the Atomic Energy Act to require a demonstration that nuclear wastes could safely be disposed of before licensing of nuclear plants was permitted; CLI-15-4, 81 NRC 221 (2015)

decommissioning funding requirements encompass costs of low-level waste burial; CLI-15-8, 81 NRC 500 (2015)

final environmental impact statement as amplified by both board and Commission decisions, provides adequate consideration of environmental impacts of near-surface waste disposal; CLI-15-6, 81 NRC 340 (2015)

NRC is not required to conduct a rulemaking proceeding or to withhold action on pending or future applications for nuclear power reactor operating licenses until it makes a determination that high-level radioactive wastes can be permanently disposed of safely; CLI-15-4, 81 NRC 221 (2015)

statutory findings required by AEA § 103 do not apply to disposal activities that might result from the operation of a licensed facility; CLI-15-4, 81 NRC 221 (2015)

### RADIOACTIVE WASTE STORAGE

Atomic Energy Act does not, as a prerequisite to licensing, require a finding of reasonable assurance that highly hazardous and long-lived radioactive materials can be disposed of safely; CLI-15-4, 81 NRC 221 (2015)

See also Continued Storage Rule

## SUBJECT INDEX

### RADON EMISSIONS

Environmental Protection Agency regulates radon; LBP-15-16, 81 NRC 618 (2015)

### REACTOR CONTROL RODS

request for immediate action on flaws in the control rod drive mechanisms did not meet the criteria for review; DD-15-3, 81 NRC 713 (2015)

### REACTOR PRESSURE VESSEL

alternate pressurized thermal shock rule is designed to enable all commercial PWR licensees to assess the state of their reactor pressure vessels relative to a new criterion without the need to make new material property measurements, instead using only information that is currently available; LBP-15-17, 81 NRC 753 (2015)

alternate screening criteria consist of eighteen different reference temperature limits that depend on RPV wall thickness and the part of the RPV under consideration; LBP-15-17, 81 NRC 753 (2015)

application to use alternate pressurized thermal shock rule must contain an assessment of flaws in the RPV; LBP-15-17, 81 NRC 753 (2015)

ASTM Standard E 185 anticipates that during the course of a nuclear power plant's life the surveillance capsule withdrawal schedule may need to be revised and allows and provides for such changes; LBP-15-20, 81 NRC 829 (2015)

board has ample authority to ensure that evidence offered concerning microcracking is limited to that specific material issue and does not stray into issues outside the scope of the license amendment proceeding; LBP-15-20, 81 NRC 829 (2015)

if NRC does not approve continued operation based on licensee's safety analysis, licensee must request an opportunity to modify the RPV or related reactor systems to reduce the potential for failure of the reactor vessel due to pressurized thermal shock events; LBP-15-17, 81 NRC 753 (2015)

if part of an RPV is expected to fall below the 50 ft-lb standard, licensee must demonstrate that lower values of Charpy upper-shelf energy will provide margins of safety against fracture equivalent to those required by the ASME Boiler and Pressure Vessel Code; LBP-15-20, 81 NRC 829 (2015)

if the reference values projected at specific areas of the RPV for the end of life of the plant surpass the current screening criteria, licensee must submit a safety analysis and obtain NRC approval to continue to operate; LBP-15-17, 81 NRC 753 (2015)

in calculating embrittlement reference temperatures, licensee must calculate neutron flux through the RPV using a methodology that has been benchmarked to experimental measurements and with quantified uncertainties and possible biases; LBP-15-17, 81 NRC 753 (2015)

licensee must establish the nil-ductility reference temperature for the RPV material in the annealed state, before the reactor was operational for various key points along the RPV; LBP-15-17, 81 NRC 753 (2015)

licensees have the option of demonstrating that values of Charpy upper-shelf energy below 50 ft-lb will provide margins of safety against fracture equivalent to those required by Appendix G of Section XI of the ASME BPV Code; LBP-15-20, 81 NRC 829 (2015)

licensees must attach a particular number of surveillance capsules to specified areas within the reactor vessel, typically near the inside vessel wall at the beltline; LBP-15-20, 81 NRC 829 (2015)

licensing actions that could increase reactor vessel embrittlement, such as license renewals, hold the potential for offsite consequences that are obvious; LBP-15-17, 81 NRC 753 (2015)

long-term exposure to neutron radiation and elevated temperatures in a reactor vessel decrease the vessel materials' fracture toughness, or resistance to fracture; LBP-15-20, 81 NRC 829 (2015)

material condition of a plant's reactor vessel obviously bears on the health and safety of those members of the public who reside in the plant's vicinity; LBP-15-20, 81 NRC 829 (2015)

materials in a reactor vessel must maintain a minimum level of 50 ft-lb of Charpy upper-shelf energy, which is a measurement of the amount of energy the material can absorb at high temperatures before it fractures and fails; LBP-15-20, 81 NRC 829 (2015)

minimum frequency with which surveillance capsules must be tested is set by ASTM Standard E 185 (1982 version), which is incorporated into Appendix H; LBP-15-20, 81 NRC 829 (2015)

neutron radiation embrittlement of reactor pressure vessel walls, decreasing their fracture toughness, is discussed; LBP-15-17, 81 NRC 753 (2015)

NRC must preapprove the schedule for removing material samples from the reactor vessel; LBP-15-17, 81 NRC 753 (2015)

## SUBJECT INDEX

petitioners are not barred from contending that additional testing is necessary to show margins of safety equivalent to those of the ASME BPV Code, Section XI, Appendix G because the petitioners allege noncompliance with 10 C.F.R. Part 50, Appendix G and not Appendix H; LBP-15-20, 81 NRC 829 (2015)

physical specimens must come from near the inside vessel wall in the beltline region so that the specimen irradiation history duplicates the neutron spectrum, temperature history, and maximum neutron fluence experienced by the reactor vessel inner surface; LBP-15-17, 81 NRC 753 (2015)

pressurized water reactor pressure vessel surveillance program relies on physical material samples, also known as specimens, capsules, or coupons; LBP-15-17, 81 NRC 753 (2015)

probabilistic embrittlement model is used to predict future reference temperatures across the reactor pressure vessel, which is then verified by existing surveillance data in a process called the consistency check; LBP-15-17, 81 NRC 753 (2015)

reference temperature values are compared to the alternate screening criteria to determine whether the reactor pressure vessel is safe to operate; LBP-15-17, 81 NRC 753 (2015)

surveillance data need not be obtained from the same reactor pressure vessel that is the subject of the license amendment; LBP-15-17, 81 NRC 753 (2015)

surveillance program to monitor pressurized water reactor pressure vessel is described; LBP-15-17, 81 NRC 753 (2015)

when the reference temperature of an RPV is above the screening limit, the RPV is considered to have an unreasonably high risk of fracture from a pressurized thermal shock event; LBP-15-17, 81 NRC 753 (2015)

### REACTORS

See Boiling-Water Reactors; Economic Simplified Boiling Water Reactor

### REASONABLE ASSURANCE

applicant has the burden of providing reasonable assurance that the current licensing basis will be maintained throughout the renewal period; LBP-15-5, 81 NRC 249 (2015)

applicant is required to show that safety features will fulfill their intended function, not that every structure will maintain its current licensing basis throughout the renewal period; LBP-15-5, 81 NRC 249 (2015)

Atomic Energy Act does not, as a prerequisite to licensing, require a finding of reasonable assurance that highly hazardous and long-lived radioactive materials can be disposed of safely; CLI-15-4, 81 NRC 221 (2015)

court directed NRC to determine whether there is reasonable assurance that an offsite storage solution will be available by the end of a reactor's license term, and if not, whether there is reasonable assurance that the fuel can be stored safely at the sites beyond those dates; CLI-15-4, 81 NRC 221 (2015)

license transfer applicant must show reasonable assurance of sufficient funds to decommission the facility; CLI-15-8, 81 NRC 500 (2015)

licensee must show with reasonable assurance that its proposed methodology for material control and accounting will not be inimical to the common defense and security and will not constitute an unreasonable risk to the health and safety of the public; CLI-15-9, 81 NRC 512 (2015)

NRC's long-continued regulatory practice of issuing operating licenses with an implied finding of reasonable assurance that safe permanent disposal of spent nuclear fuel can be available when needed is in accord with the intent of Congress underlying the Atomic Energy Act and Energy Reorganization Act; CLI-15-4, 81 NRC 221 (2015)

prior to license issuance NRC must find reasonable assurance that activities authorized by the amendment can be conducted without endangering the health and safety of the public, and in compliance with Commission regulations; LBP-15-17, 81 NRC 753 (2015); LBP-15-20, 81 NRC 829 (2015)

to grant a license renewal, NRC Staff must find that there is reasonable assurance that the effects of aging on relevant systems, structures, and components will be managed during the period of extended operation, that time-limited aging analyses have been identified for review, and that applicable environmental requirements have been met; LBP-15-6, 81 NRC 314 (2015)

### REASONABLENESS STANDARD

determination as to whether requests or petitions are filed in a timely manner shall be subject to a reasonableness standard and are not subject to the 30-day deadline applicable to motions by existing parties to add or amend contentions; LBP-15-6, 81 NRC 314 (2015)



## SUBJECT INDEX

### REBUTTABLE PRESUMPTION

in any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation ability of state and local emergency plans; LBP-15-4, 81 NRC 156 (2015)

### RECONSIDERATION

party may seek reconsideration of an earlier ruling whereby the party was not actually prejudiced, where the ruling could well have an impact upon the course of many licensing hearings; CLI-15-6, 81 NRC 340 (2015)

### RECORD OF DECISION

agency's record of decision must include a concise discussion of mitigation measures; LBP-15-16, 81 NRC 618 (2015)

at the time of its decision, each agency shall prepare a concise public record of decision; LBP-15-16, 81 NRC 618 (2015)

board may incorporate material from another agency's environmental impact statement, which was submitted in the hearing record, as part of the record of decision; CLI-15-6, 81 NRC 340 (2015)

board's ultimate NEPA judgments can be made on the basis of the entire adjudicatory record in addition to NRC Staff's final environmental impact statement; LBP-15-3, 81 NRC 65 (2015)

decision of the board or Commission becomes the record of decision, which may also incorporate the final supplemental environmental impact statement; CLI-15-6, 81 NRC 340 (2015)

environmental impact statement may be deemed modified by the hearing record because hearing procedures allow for additional and a more rigorous public scrutiny of the FSEIS than does the usual circulation for comment; CLI-15-6, 81 NRC 340 (2015)

fact-finding administrative body, such as a licensing board, with authority to develop an evidentiary record, is distinguished from reviewing adjudicatory and judicial bodies, generally with a more limited record-creating authority; LBP-15-3, 81 NRC 65 (2015)

final supplemental environmental impact statement is supplemented by the board's decision as well as by the hearing record; CLI-15-6, 81 NRC 340 (2015)

in an NRC adjudicatory proceeding, even if a board finds an environmental impact statement prepared by NRC Staff inadequate in certain respects, the board's findings, as well as the adjudicatory record, become, in effect, part of the final EIS; LBP-15-16, 81 NRC 618 (2015)

initial decision of the presiding officer or final decision of the Commissioners acting as a collegial body will constitute the record of decision; CLI-15-6, 81 NRC 340 (2015)

objectives of the NRC adjudicatory procedures and policies include producing an informed adjudicatory record that supports agency decisionmaking on public health and safety, the common defense and security, and the environment; LBP-15-20, 81 NRC 829 (2015)

overall record for the licensing action includes a complete analysis of the cultural resources; LBP-15-16, 81 NRC 618 (2015)

### REFERRAL OF PROCEEDINGS

Commission refers a limited portion of the hearing request to the licensing board to determine whether petitioner has identified an NRC activity that requires an opportunity to request an adjudicatory hearing; CLI-15-14, 81 NRC 729 (2015)

referral to licensing board includes threshold issues such as standing, timeliness, and satisfaction of contention admissibility standards; CLI-15-14, 81 NRC 729 (2015)

scope of the referral is limited to whether NRC granted licensee greater authority than that provided by its existing licenses or otherwise altered the terms of its existing licenses thereby entitling petitioner to an opportunity to request a hearing; CLI-15-14, 81 NRC 729 (2015)

### REFERRED RULINGS

referred rulings or certified questions must raise significant and novel legal or policy issues or issues whose early resolution would materially advance the orderly disposition of the proceeding; CLI-15-1, 81 NRC 1 (2015)

### REGULATIONS

absent a waiver, no rule or regulation of the Commission, or any provision thereof, concerning the licensing of production and utilization facilities is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding; CLI-15-1, 81 NRC 1 (2015); LBP-15-4, 81

## SUBJECT INDEX

NRC 156 (2015); LBP-15-5, 81 NRC 249 (2015); LBP-15-6, 81 NRC 314 (2015); LBP-15-17, 81 NRC 753 (2015)

agencies must adhere to their own regulations; LBP-15-17, 81 NRC 753 (2015)

alternate pressurized thermal shock rule provides measures for ongoing reporting; LBP-15-17, 81 NRC 753 (2015)

boards cannot prohibit what regulations allow except under specific conditions; LBP-15-17, 81 NRC 753 (2015)

contention contesting adequacy of licensee's equivalent margins analysis is not a challenge to 10 C.F.R. Part 50, Appendix H; LBP-15-20, 81 NRC 829 (2015)

contention that regulatory provisions are themselves insufficient to protect the public health and safety constitutes an improper collateral attack upon NRC regulations; LBP-15-4, 81 NRC 156 (2015)

contentions calling for requirements in excess of those imposed by NRC regulations will be rejected as a collateral attack on the regulations; LBP-15-4, 81 NRC 156 (2015)

Council on Environmental Quality and the Advisory Council on Historic Preservation regulations provide guidance on agency compliance with NEPA and are not binding on NRC when the agency has not expressly adopted them, but are entitled to considerable deference; LBP-15-16, 81 NRC 618 (2015)

environmental impacts of continued storage have been incorporated into the environmental impact statements at issue in the proceedings by operation of law; CLI-15-10, 81 NRC 535 (2015)

focus of the license renewal regulations in 10 C.F.R. Part 54 is to ensure that licensee can manage the effects of aging on certain long-lived, passive components that are important to safety; CLI-15-6, 81 NRC 340 (2015)

intervention petitioner may not attack generic NRC requirements or regulations or express generalized grievances about NRC policies; CLI-15-9, 81 NRC 512 (2015)

latest edition and addenda of the ASME Boiler and Pressure Vessel Code has been incorporated by reference in 10 C.F.R. 50.55a(b)(2); LBP-15-20, 81 NRC 829 (2015)

licensing board lacks authority to hold a hearing on the adequacy of a different agency's regulations; LBP-15-5, 81 NRC 249 (2015)

licensing boards should not accept in individual license proceedings contentions that are, or are about to become, the subject of general rulemaking by the Commission; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

NRC has not expressly adopted Council on Environmental Quality regulations, but they are entitled to considerable deference; LBP-15-3, 81 NRC 65 (2015)

NRC Staff is incorporating the 2012 edition of the ASME code by reference into 10 C.F.R. 50.55a; CLI-15-13, 81 NRC 555 (2015)

proposed rule or proposed law may not support an admissible contention because its ultimate effect is at best speculative; LBP-15-15, 81 NRC 598 (2015)

proposed rules are not binding upon administrative agencies and are not ripe for review by NRC boards; LBP-15-15, 81 NRC 598 (2015)

provisions of 10 C.F.R. Part 2, Subpart M, together with the generally applicable intervention provisions in 10 C.F.R. Part 2, Subpart C, govern adjudicatory proceedings on license transfer applications; CLI-15-8, 81 NRC 500 (2015)

regulations can be challenged only under extremely limited circumstances; LBP-15-5, 81 NRC 249 (2015)

section 51.102(c) replaced a previous version that expressly permitted licensing boards to modify the content of an environmental impact statement; CLI-15-6, 81 NRC 340 (2015)

tentative conclusion articulated in a nonfinal, proposed rule does not command deference from the court nor is it binding on the agency; LBP-15-15, 81 NRC 598 (2015)

to challenge a Category 1 issue such as public health, petitioner must request a waiver and show that unique circumstances warrant a site-specific determination; LBP-15-5, 81 NRC 249 (2015)

to obtain waiver of a rule, the allegation of special circumstances must be set forth with particularity and supported by an affidavit or other proof; LBP-15-5, 81 NRC 249 (2015)

to the extent a contention would require licensee to maintain the ERDS link or to create another ERDS-like system after its reactor is permanently shut down and defueled, it is an impermissible collateral attack on a regulation; LBP-15-4, 81 NRC 156 (2015)

waiver of rule or regulation may be obtained upon a showing that applying provision at issue would not serve the purposes for which the rule or regulation was adopted; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

when an NRC regulation permits use of a particular analysis, a contention asserting that a different analysis or technique should be used is inadmissible because it indirectly attacks the Commission's regulations; LBP-15-17, 81 NRC 753 (2015)

See also Amendment of Regulations; Rules of Practice

### REGULATIONS, INTERPRETATION

although 10 C.F.R. Part 40 applies to ISL mining, some of the specific requirements in Part 40, such as many of those found in Appendix A, address hazards posed only by conventional uranium milling operations, and do not carry over to ISL mining; LBP-15-16, 81 NRC 618 (2015)

any alleged ambiguity in the exception provision of 10 C.F.R. Part 50, Appendix E, § VI is eliminated when the regulatory language is examined in light of the regulatory history and framework; LBP-15-4, 81 NRC 156 (2015)

because 10 C.F.R. 51.23(b) prescribes a specific procedure for incorporating the environmental impacts of continued storage into a site-specific analysis, this procedure, rather than a procedure set forth in the general provisions of Part 51, governs NRC environmental review; CLI-15-10, 81 NRC 535 (2015)

crux of the "genuine dispute" prong under 10 C.F.R. 2.309(f)(1)(vi) is the requirement for specificity, that a contention must have more than general allegations; LBP-15-1, 81 NRC 15 (2015)

"deemed incorporated" function of 10 C.F.R. 51.23(b) provides administrative efficiency by adding the environmental impacts of continued storage to site-specific environmental impact statements without additional work by the Staff; CLI-15-10, 81 NRC 535 (2015)

exception in 10 C.F.R. 50.72 is most reasonably interpreted as exempting from the ERDS program all nuclear reactors that have permanently ceased operations and defueled, i.e., that are permanently shut down; LBP-15-4, 81 NRC 156 (2015)

"good cause" in 10 C.F.R. 2.307 does not share the same definition that is used for good cause in section 2.309(c); LBP-15-1, 81 NRC 15 (2015)

if 10 C.F.R. Part 50, Appendix E, § VI were a one-time requirement that applied only to units existing in 1991, that would mean it was not intended to apply prospectively to newly built reactors; LBP-15-4, 81 NRC 156 (2015)

interpretation of statutes at issue and the regulations governing their implementation falls within the Commission's province; LBP-15-5, 81 NRC 249 (2015)

neither "baseline" nor "background" is explicitly defined in 10 C.F.R. Part 40, Appendix A; LBP-15-16, 81 NRC 618 (2015)

nothing in the definition of "construction" in 10 C.F.R. 40.4 precludes the installation of wells or the use of monitoring protocols as needed to provide those background data; LBP-15-3, 81 NRC 65 (2015)

nuclear power facility has shut down permanently within the meaning of 10 C.F.R. Part 50, Appendix E, § VI.2 when it has permanently ceased reactor operations, and permanently removed fuel from the reactor vessel, as those terms are defined in 10 C.F.R. 50.2; LBP-15-4, 81 NRC 156 (2015)

petitioners' argument that power reactor is being operated as a test reactor reflects a misreading of 10 C.F.R. 50.59; LBP-15-20, 81 NRC 829 (2015)

"prompt" issuance is not defined as an immediate one in 10 C.F.R. 2.1202(a); LBP-15-2, 81 NRC 48 (2015)

regulation's title can aid in construing regulatory text; LBP-15-4, 81 NRC 156 (2015)

regulatory history, like 10 C.F.R. Part 50, App. E, § VI itself, is focused entirely on implementation and maintenance of the ERDS operations with not one word about decommissioning the system; LBP-15-4, 81 NRC 156 (2015)

requirements in Part 40, such as many of the provisions in Appendix A, that, by their own terms, apply only to conventional uranium milling activities, cannot sensibly govern in situ leach mining; LBP-15-16, 81 NRC 618 (2015)

scope of the ERDS exception is informed by the regulatory history, which states that ERDS is to be used by licensees of operating reactors; LBP-15-4, 81 NRC 156 (2015)

specific regulations control over general regulations; CLI-15-10, 81 NRC 535 (2015)

### REGULATORY GUIDES

licensees may follow regulatory guides to determine equivalent safety margins, or may use any other methods, procedures, or selection of materials data and transients to demonstrate compliance with this regulation; LBP-15-20, 81 NRC 829 (2015)

licensing board takes official notice of NRC regulatory guide; LBP-15-3, 81 NRC 65 (2015)

## SUBJECT INDEX

petitioners may challenge a Staff guidance document such as a Regulatory Guide; LBP-15-20, 81 NRC 829 (2015)

See also NRC Guidance Documents

### REGULATORY OVERSIGHT PROCESS

compliance with orders issued as part of NRC's ongoing oversight program are enforcement issues that are not within the scope of a license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

except for the detrimental effects of aging on the functionality of certain plant systems, structures, and components in the period of extended operation, the regulatory process is adequate to ensure that the licensing bases of all currently operating plants provide and maintain an acceptable level of safety; LBP-15-6, 81 NRC 314 (2015)

license renewal review is not intended to duplicate NRC's ongoing oversight of operating reactors; CLI-15-6, 81 NRC 340 (2015)

NRC Staff inspections and confirmatory action letters are oversight activities normally conducted to ensure that licensees comply with existing NRC requirements and license conditions and therefore do not typically trigger the opportunity for a hearing under the AEA; CLI-15-5, 81 NRC 329 (2015)

NRC's ongoing regulatory process ensures that the current licensing basis of an operating plant remains acceptably safe; LBP-15-5, 81 NRC 249 (2015)

oversight activities at times involve enforcement actions, including orders and civil penalties, to which a hearing right or opportunity attaches; CLI-15-5, 81 NRC 329 (2015)

petitioners' premise that a series of NRC Staff communications relating to plant oversight should be considered as an element of a single, overarching de facto license amendment was rejected; CLI-15-14, 81 NRC 729 (2015)

Reactor Oversight Process Action Matrix reflects performance issues at plants and integrates NRC's inspection, assessment, and enforcement programs; DD-15-3, 81 NRC 713 (2015)

regulatory process continuously reassesses whether there is a need for additional oversight or regulations to protect public health and safety; LBP-15-4, 81 NRC 156 (2015)

### RELAYS

contention that license renewal application has failed to establish that the effects of aging on switches and snubbers will be adequately managed for the period of extended operation is inadmissible; LBP-15-6, 81 NRC 314 (2015)

switches and snubbers do not rely on time-limited assumptions based on the plant's operating term, but rather are subject to ongoing maintenance programs; LBP-15-6, 81 NRC 314 (2015)

### RENEWABLE ENERGY SOURCES

failure to provide a direct critique of the analysis in the environmental report discussing the potential for offshore power and interconnected wind farms is a failure to identify a genuine dispute with applicant; LBP-15-5, 81 NRC 249 (2015)

failure to reference specific sources showing that wind or other renewables are viable sources of baseload power within the service area, renders a contention inadmissible; LBP-15-5, 81 NRC 249 (2015)

it is not enough to demonstrate a theoretical possibility that wind farms spread across a wide area could provide consistent power, but rather petitioners must show concretely that wind could be a reliable, commercially viable source of baseload power during the license renewal period; LBP-15-5, 81 NRC 249 (2015)

### REOPENING A RECORD

given the need for finality in adjudications, reopening the record is an extraordinary action imposing a deliberately heavy burden on intervenor; LBP-15-14, 81 NRC 591 (2015)

heavy barrier to reopening applies whenever an adjudication has been closed and not merely after a case has been terminated following a full evidentiary hearing on the merits; LBP-15-14, 81 NRC 591 (2015)

petitioner has not satisfied reopening standards because it has not raised a significant environmental issue and has not demonstrated that a materially different result would be likely if the contention had been considered initially; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

petitioners have not raised an issue material to findings that NRC must make to support final decisions and they are unable to satisfy contention admissibility standards or meet the criteria to reopen a closed record; CLI-15-4, 81 NRC 221 (2015)

there would be little hope of completing administrative proceedings if each newly arising allegation required an agency to reopen its hearings; LBP-15-14, 81 NRC 591 (2015)

## SUBJECT INDEX

### REPLY BRIEFS

although rules do not provide for filing of reply briefs, as a matter of discretion the Commission reviews a reply brief; CLI-15-7, 81 NRC 481 (2015)

board considered a letter written after the original petition was filed and submitted with petitioner's reply; LBP-15-5, 81 NRC 249 (2015)

issues raised in an intervention petition or answer are within the appropriate scope of a reply brief; LBP-15-5, 81 NRC 249 (2015)

new arguments in support of petitioner's contentions cannot be raised for the first time in reply briefs; LBP-15-4, 81 NRC 156 (2015); LBP-15-5, 81 NRC 249 (2015); LBP-15-13, 81 NRC 456 (2015); LBP-15-17, 81 NRC 753 (2015)

only the petitioning party may file reply briefs; CLI-15-7, 81 NRC 481 (2015); LBP-15-13, 81 NRC 456 (2015)

petitioner may use its reply as an opportunity to cure potential defects in standing; LBP-15-5, 81 NRC 249 (2015); LBP-15-13, 81 NRC 456 (2015)

petitioners would have no opportunity to be heard regarding a sua sponte objection by the board because they would only learn of it when they received the board's ruling and thus would be deprived of the opportunity to file the response expressly provided in procedural rules; LBP-15-5, 81 NRC 249 (2015)

right to reply is intended to provide an opportunity to legitimately amplify arguments made in the intervention petition in response to applicant and NRC Staff answers; LBP-15-5, 81 NRC 249 (2015); LBP-15-13, 81 NRC 456 (2015)

### REPORTING REQUIREMENTS

alternate pressurized thermal shock rule provides measures for ongoing reporting; LBP-15-17, 81 NRC 753 (2015)

licensee is obliged to give local union notice and an opportunity to bargain over the effects of its decision to implement changes in the terms and conditions of the employees' employment regarding behavioral observations of security concerns; CLI-15-16, 81 NRC 810 (2015)

parties' duty to report material significant developments in a matter under adjudication arises immediately upon discovery of that information; CLI-15-16, 81 NRC 810 (2015)

### REQUEST FOR ACTION

any member of the public may seek enforcement action associated with matters affecting plant operation, including the vitality of component maintenance programs; CLI-15-6, 81 NRC 340 (2015)

challenges to licensee actions taken under 10 C.F.R. 50.59 may only be taken by means of a petition for enforcement action under 10 C.F.R. 2.206; CLI-15-5, 81 NRC 329 (2015)

Commission denies hearing request, but refers the matters raised to the Executive Director of Operations for consideration as a request for enforcement action; CLI-15-5, 81 NRC 329 (2015)

concerns about current design and operation of a nuclear power plant are more properly addressed through a petition for enforcement action; LBP-15-13, 81 NRC 456 (2015)

concerns about facility's emergency plans may be raised at any time pursuant to 10 C.F.R. 2.206; CLI-15-6, 81 NRC 340 (2015)

concerns about safety, licensee's compliance with regulatory requirements, and adequacy of NRC oversight are appropriately addressed as requests for enforcement action; CLI-15-8, 81 NRC 500 (2015); CLI-15-14, 81 NRC 729 (2015)

contention claiming that modifications to repair or replace inadequate structural beams and columns is more appropriately presented as a request for enforcement action; CLI-15-5, 81 NRC 329 (2015)

if a license were amended, the public's only means to participate in future schedule changes would be through a request for action under 10 C.F.R. 2.206; LBP-15-17, 81 NRC 753 (2015)

if petitioner has a credible basis to question the adequacy of licensee's compliance with 10 C.F.R. 50.54(q)(3), it may petition for enforcement action; LBP-15-4, 81 NRC 156 (2015)

NRC's 2.206 process affords a meaningful opportunity to seek review of and action on safety-related concerns; CLI-15-5, 81 NRC 329 (2015); LBP-15-4, 81 NRC 156 (2015); LBP-15-6, 81 NRC 314 (2015)

petition under 10 C.F.R. 2.206 will be reviewed only where petitioner specifies the bases for taking the requested action; DD-15-6, 81 NRC 884 (2015)

petitioner's request that the NRC take escalated enforcement action against licensee concerning flooding protection is being addressed by the NRC's request for information; DD-15-5, 81 NRC 877 (2015)

## SUBJECT INDEX

request for enforcement action based on support beam deficiencies, flood protection inadequacy, flood risks from upstream dams, and primary reactor containment electrical penetration seals containing Teflon is denied because petitioner's requests have been addressed through other actions; DD-15-4, 81 NRC 869 (2015)

request for immediate action on flaws in the control rod drive mechanisms did not meet the criteria for review; DD-15-3, 81 NRC 713 (2015)

request for immediate action on leakage from the safety injection refueling water tank did not meet the criteria for review; DD-15-3, 81 NRC 713 (2015)

request for immediate action to prevent restart because a piece of primary coolant pump impeller was lodged between the reactor vessel and the flow skirt is denied; DD-15-3, 81 NRC 713 (2015)

request for licensee to replace the primary coolant pumps with others designed for their intended duty is denied; DD-15-3, 81 NRC 713 (2015)

request that NRC order the immediate shutdown of all nuclear power reactors that are known to be located on or near an earthquake fault line is denied; DD-15-6, 81 NRC 884 (2015)

request that NRC order the immediate suspension of the operating licenses of all General Electric boiling-water reactors that use the Mark I primary containment system citing the Fukushima Dai-ichi accident in Japan as its rationale basis is resolved; DD-15-1, 81 NRC 193 (2015)

### REQUEST FOR ADDITIONAL INFORMATION

although an admissible contention requires no more than some minimal factual and legal foundation in support, the Commission expects that in almost all instances a petitioner must go beyond merely quoting a request for additional information to justify admission; LBP-15-1, 81 NRC 15 (2015)

as part of the NRC post-Fukushima lessons-learned activities, NRC is requiring all licensees to reevaluate seismic hazards at their sites, and to this end, issued a request for information; DD-15-1, 81 NRC 193 (2015)

issuance of an RAI does not alone establish deficiencies in an application or that NRC Staff will go on to find any of applicant's clarifications, justifications, or other responses to be unsatisfactory; CLI-15-8, 81 NRC 500 (2015)

petitioners must do more than rest on the mere existence of RAIs as a basis for their contention; CLI-15-8, 81 NRC 500 (2015)

RAIs are a routine means for NRC Staff to ask for clarification or additional corroborating information from an applicant; CLI-15-8, 81 NRC 500 (2015)

### RESOURCE CONSERVATION & RECOVERY ACT

admissibility of contention that environmental assessment fails to adequately describe and analyze the impacts of maintaining post-operational wellfields as long-term hazardous waste facilities is decided; LBP-15-15, 81 NRC 598 (2015)

proper sampling plan for establishing baseline values is described; LBP-15-3, 81 NRC 65 (2015)

### RESPONSE TIME

contention that applicant's revised material control and accounting plan is inadequate to satisfy the alarm resolution requirements is inadmissible; CLI-15-9, 81 NRC 512 (2015)

### RESTART

NRC approvals of plant restart and lifting suspensions did not trigger AEA §189a hearing rights; CLI-15-14, 81 NRC 729 (2015)

### REVERSAL OF RULING

Commission reviews board's legal rulings de novo and will reverse a board's legal rulings if they are contrary to established law; CLI-15-6, 81 NRC 340 (2015)

deficiency in a final environmental impact statement is not automatic ground for reversal of an order granting a permit although the issue has been opened for full consideration in an agency hearing; CLI-15-6, 81 NRC 340 (2015)

### REVIEW

See Appellate Review; Environmental Review; NRC Staff Review; Safety Review; Standard of Review; Standard Review Plans

### REVIEW, DISCRETIONARY

although contention ultimately was resolved in NRC Staff's favor, Commission takes review as a matter of discretion because the board's ruling raises substantial questions of precedential importance; CLI-15-6, 81 NRC 340 (2015)

## SUBJECT INDEX

Commission exercised its inherent supervisory authority over agency adjudications to review motion and petition addressing the spent fuel storage issue; LBP-15-1, 81 NRC 15 (2015); LBP-15-9, 81 NRC 396 (2015)

Commission on its own motion may review a decision that modifies, suspends, or revokes a license; CLI-15-14, 81 NRC 729 (2015)

grant of discretionary review must show that a board's ruling was a departure from, or contrary to, established law; CLI-15-7, 81 NRC 481 (2015)

petition for review will be granted at Commission discretion upon a showing that petitioner has raised a substantial question as to any of the five factors of 10 C.F.R. 2.341(b)(4)(i)-(v); CLI-15-1, 81 NRC 1 (2015); CLI-15-9, 81 NRC 512 (2015)

standard for discretionary review is described; CLI-15-7, 81 NRC 481 (2015)

**REVIEW, SUA SPONTE**

adequacy of NRC Staff's review of transmission-corridor impacts might be appropriate for the board's consideration sua sponte; CLI-15-1, 81 NRC 1 (2015)

authority shall be used only in extraordinary circumstances; CLI-15-1, 81 NRC 1 (2015)

boards must request Commission approval to undertake sua sponte review; CLI-15-1, 81 NRC 1 (2015)

persons who are not parties may file an amicus curiae brief if a matter is taken up by the Commission under 10 C.F.R. 2.341 or sua sponte; CLI-15-1, 81 NRC 1 (2015)

with Commission's express approval, a licensing board may make findings on a serious safety, environmental, or common defense and security matter not put into controversy by the parties; CLI-15-1, 81 NRC 1 (2015)

**REVOCATION OF LICENSES**

if a board determines after full adjudication that the license amendment should not have been granted, it may be revoked or conditioned; LBP-15-16, 81 NRC 618 (2015)

issued licenses can be revoked, conditioned, modified, or affirmed based on the evidence reviewed at the evidentiary hearing; LBP-15-16, 81 NRC 618 (2015)

request under 10 C.F.R. 50.54(f) is to enable the Commission to determine whether or not the license should be modified, suspended, or revoked; CLI-15-14, 81 NRC 729 (2015)

**RIPENESS**

courts decline to review tentative agency positions because doing so severely compromises the interests that the ripeness doctrine protects; LBP-15-15, 81 NRC 598 (2015)

nonfinal rulemaking action can be ripe for review; LBP-15-15, 81 NRC 598 (2015)

**RISK ASSESSMENT**

request for information instructed all licensees to reevaluate seismic hazards at their sites using updated seismic hazard information, present-day guidance and methodologies, and a risk evaluation; DD-15-6, 81 NRC 884 (2015)

**RISKS**

when the reference temperature of a reactor pressure vessel is above the screening limit, the RPV is considered to have an unreasonably high risk of fracture from a pressurized thermal shock event; LBP-15-17, 81 NRC 753 (2015)

**RULE OF REASON**

hard look under NEPA is subject to a rule of reason, and consideration of environmental impacts need not address all theoretical possibilities, but only those that have some reasonable possibility of occurring; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

there is no NEPA requirement to use the best scientific methodology, and NEPA should be construed in the light of reason if it is not to demand virtually infinite study and resources; LBP-15-3, 81 NRC 65 (2015)

with regard to reasonably foreseeable impacts, NEPA does not call for certainty or precision, but an estimate of anticipated (not unduly speculative) impacts; LBP-15-3, 81 NRC 65 (2015)

**RULEMAKING**

Administrative Procedure Act requires no more than a description of the subjects and issues involved in a notice of proposed rulemaking; LBP-15-15, 81 NRC 598 (2015)

advance notice of proposed rulemaking is a formal invitation to participate in shaping the proposed rule; LBP-15-15, 81 NRC 598 (2015)

## SUBJECT INDEX

advance notice of proposed rulemaking was withdrawn due to changes in market demand; LBP-15-15, 81 NRC 598 (2015)

agency can cease a rulemaking all together after a notice of proposed rulemaking has been issued; LBP-15-15, 81 NRC 598 (2015)

agency has discretion to choose between rulemaking and adjudication; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

agency is generally not required to issue a new notice of proposed rulemaking if it changes its position, as long as the final rule is a logical outgrowth of the proposed rule; LBP-15-15, 81 NRC 598 (2015)

agency need not submit a full draft of a rule in a notice of proposed rulemaking; LBP-15-15, 81 NRC 598 (2015)

choice made between proceeding by general rule or by individual, ad hoc litigation is one that lies primarily in the informed discretion of the administrative agency; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

contentions that are the subject of general rulemaking by NRC may not be litigated in individual licensing proceedings; LBP-15-4, 81 NRC 156 (2015); LBP-15-17, 81 NRC 753 (2015)

courts have relied on language accompanying proposed rulemakings to determine agency intent; LBP-15-15, 81 NRC 598 (2015)

if intervenor wishes to effect a substantive change to Part 50, Appendix E, § VI.2, it may petition for rulemaking; LBP-15-4, 81 NRC 156 (2015)

legislative history of the Administrative Procedure Act emphasized the notice requirement for proposed rulemaking in order to fairly apprise the public of the agency's potential action; LBP-15-15, 81 NRC 598 (2015)

licensing boards should not accept in individual license proceedings contentions that are, or are about to become, the subject of general rulemaking by the Commission; CLI-15-9, 81 NRC 512 (2015); CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

licensing proceedings are not the appropriate venue for generic rulemaking issues; CLI-15-9, 81 NRC 512 (2015)

many agency statements, including statements sometimes called "rules," do not have force and effect, and advance notice and public participation are required for rules that carry the force of law; LBP-15-15, 81 NRC 598 (2015)

members of the public had the opportunity to fully participate in the Continued Storage rulemaking proceeding; CLI-15-10, 81 NRC 535 (2015)

nonfinal rulemaking action can be ripe for review; LBP-15-15, 81 NRC 598 (2015)

NRC is not required to conduct a rulemaking proceeding or to withhold action on pending or future applications for nuclear power reactor operating licenses until it makes a determination that high-level radioactive wastes can be permanently disposed of safely; CLI-15-4, 81 NRC 221 (2015)

NRC regulations provide procedural mechanisms under 10 C.F.R. 2.206 and 2.802 by which petitioner may pursue its concerns about current deficiencies; LBP-15-6, 81 NRC 314 (2015)

NRC's use of rulemaking to address generic issues has been approved by the Supreme Court; CLI-15-6, 81 NRC 340 (2015)

post-Fukushima spent fuel pool concerns are being addressed through rulemaking on mitigation of beyond-design-basis events; DD-15-1, 81 NRC 193 (2015)

preamble to notice of proposed rulemaking addresses agency's duty to identify and make available technical studies and data that it has employed in reaching the decisions to propose particular rules; LBP-15-15, 81 NRC 598 (2015)

precedence requires a licensing board to let EPA's rulemaking run its course, allowing intelligent resolution of any remaining claims instead of piecemeal and repetitive litigation; LBP-15-15, 81 NRC 598 (2015)

purpose of notice of proposed rulemaking is not to set binding law or policy, but instead to provide interested members of the public an opportunity to comment in a meaningful way on the agency's proposal; LBP-15-15, 81 NRC 598 (2015)

requirement for a notice of proposed rulemaking is to sufficiently and fairly apprise interested parties of the issues involved, rather than to specify every precise proposal that the agency may ultimately adopt; LBP-15-15, 81 NRC 598 (2015)



## SUBJECT INDEX

suspension request that would have halted final licensing decisions pending action on a petition for rulemaking regarding NRC Staff's review of the potential expedited transfer of spent fuel from pools to dry casks was denied; CLI-15-13, 81 NRC 555 (2015)  
where the basis behind the determination not to proceed with a rulemaking was a final agency ruling allowing for judicial review, the earlier advance notice of proposed rulemaking itself was not held to have any binding effect on the public; LBP-15-15, 81 NRC 598 (2015)

### RULES

Administrative Procedure Act broadly defines "rule" to include nearly every statement an agency may make; LBP-15-15, 81 NRC 598 (2015)  
contention quotes text from a notice of proposed rulemaking, but it never ties the statements from the NOPR to any specific section of the environmental assessment, and thus fails to raise a genuine dispute with the EA; LBP-15-15, 81 NRC 598 (2015)  
intervenor was correct to file contentions on a newly adopted rule because, unlike a proposed rule, it now has indisputable legal effect; LBP-15-15, 81 NRC 598 (2015)  
See Continued Storage Rule; Regulations; Temporary Storage Rule; Waiver of Rule; Waste Confidence Rule

### RULES OF PRACTICE

absent a waiver, contentions that raise a direct or indirect challenge to a Commission regulation are inadmissible; LBP-15-3, 81 NRC 65 (2015); LBP-15-4, 81 NRC 156 (2015); LBP-15-5, 81 NRC 249 (2015)  
adequacy of NRC Staff's review of transmission-corridor impacts might be appropriate for the board's consideration sua sponte; CLI-15-1, 81 NRC 1 (2015)  
admissible contention is required for grant of a hearing request; LBP-15-17, 81 NRC 753 (2015)  
admissible contention must satisfy all six criteria of 10 C.F.R. 2.309(f)(1); LBP-15-5, 81 NRC 249 (2015); LBP-15-6, 81 NRC 314 (2015); LBP-15-17, 81 NRC 753 (2015); LBP-15-18, 81 NRC 793 (2015); LBP-15-20, 81 NRC 829 (2015)  
affidavits accompanying motions to reopen must be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised; LBP-15-14, 81 NRC 591 (2015)  
although rules do not provide for filing of reply briefs, as a matter of discretion the Commission reviews a reply brief; CLI-15-7, 81 NRC 481 (2015)  
amended regulations apply to obligations and disputes that arise after the effective date of the regulation; LBP-15-1, 81 NRC 15 (2015)  
amendment of 10 C.F.R. 2.309 in 2012 was to simplify the rules, not fundamentally change the rationale boards use to admit new/amended contentions; LBP-15-11, 81 NRC 401 (2015)  
amicus briefs may be filed for matters taken up at Commission discretion or sua sponte; CLI-15-4, 81 NRC 221 (2015); CLI-15-5, 81 NRC 329 (2015); CLI-15-10, 81 NRC 535 (2015)  
board has discretion to consider an untimely motion to reopen if the motion presents an exceptionally grave issue; LBP-15-14, 81 NRC 591 (2015)  
boards may afford an interested state, local governmental body, and federally recognized Indian tribe that has not been admitted as a party under section 2.309 a reasonable opportunity to participate in a hearing; LBP-15-19, 81 NRC 815 (2015)  
boards must request Commission approval to undertake sua sponte review; CLI-15-1, 81 NRC 1 (2015)  
Commission affirmed the board's standing ruling, but declined to accept review of challenges to the board's admission of two contentions because petitioner had failed to perfect its appeal by challenging the validity of the board's admissibility rulings regarding other contentions; LBP-15-3, 81 NRC 65 (2015)  
Commission may, as a matter of discretion, grant review of a full or partial initial decision, giving due weight to the existence of a substantial question with respect to any of the considerations outlined in 10 C.F.R. 2.341(b)(4); CLI-15-2, 81 NRC 213 (2015)  
conditions necessary for grant of a rule waiver are outlined; LBP-15-6, 81 NRC 314 (2015)  
contention admissibility requirements seek to ensure that NRC hearings serve to adjudicate genuine, substantive safety and environmental issues placed in contention by qualified intervenors; CLI-15-8, 81 NRC 500 (2015)

## SUBJECT INDEX

contention admissibility rules are strict by design and exist to focus litigation on concrete issues and result in a clearer and more focused record for decision; LBP-15-15, 81 NRC 598 (2015); LBP-15-20, 81 NRC 829 (2015)

contention of omission claims that the application fails to contain information on a relevant matter as required by law and provides the supporting reasons for petitioner's belief; LBP-15-5, 81 NRC 249 (2015)

contention rule reflects a deliberate effort to prevent the major adjudicatory delays caused in the past by ill-defined or poorly supported contentions that were admitted for hearing although based on little more than speculation; CLI-15-8, 81 NRC 500 (2015)

contention that final environmental assessment fails to present relevant information in a clear and concise manner that is readily accessible to the public and other reviewers is inadmissible; LBP-15-11, 81 NRC 401 (2015)

contentions must be raised at the earliest possible opportunity; CLI-15-1, 81 NRC 1 (2015)

contentions must meet the six pleading criteria of 10 C.F.R. 2.309(f)(1)(i)-(vi), and failure to meet any of them renders the contention inadmissible; LBP-15-1, 81 NRC 15 (2015); LBP-15-4, 81 NRC 156 (2015); LBP-15-16, 81 NRC 618 (2015)

contentions must provide sufficient information to show a genuine dispute with applicant on a material issue of law or fact; CLI-15-8, 81 NRC 500 (2015)

contentions need to have some reasonably specific factual or legal basis; CLI-15-8, 81 NRC 500 (2015)

contentions proposed after the filing deadline, which would have been allowable under the previous 10 C.F.R. 2.309(f)(2) requirements, will also be allowable under the current section 2.309(c)(1) requirements; LBP-15-11, 81 NRC 401 (2015)

contentions should refer to portions of the application that petitioner disputes along with supporting reasons for each dispute, if petitioner believes that an application fails altogether to contain information required by law, petitioner must identify each failure and provide supporting reasons for petitioner's belief; CLI-15-8, 81 NRC 500 (2015)

crux of the "genuine dispute" prong under 10 C.F.R. 2.309(f)(1)(vi) is the requirement for specificity, that a contention must have more than general allegations; LBP-15-1, 81 NRC 15 (2015)

determination as to whether requests or petitions are filed in a timely manner shall be subject to a reasonableness standard and are not subject to the 30-day deadline applicable to motions by existing parties to add or amend contentions; LBP-15-6, 81 NRC 314 (2015)

eight-factor test that allowed a board to consider new or amended contentions that did not meet the three requirements for admissibility of late-filed contentions available under 10 C.F.R. 2.309(f)(2) is no longer available; LBP-15-1, 81 NRC 15 (2015)

evidence contained in affidavits accompanying motions to reopen must meet admissibility standards; LBP-15-14, 81 NRC 591 (2015)

evidentiary objections made for the first time after briefing has been completed unfairly deprive the petitioners of the opportunity to file the response expressly provided in the NRC's procedural rules; LBP-15-20, 81 NRC 829 (2015)

failure to comply with any of the section 2.309(f)(1) requirements renders a contention inadmissible; LBP-15-19, 81 NRC 815 (2015)

failure to comply with NRC's e-filing requirements without good cause or without obtaining an exemption from the requirements under 10 C.F.R. 2.302(g) can result in rejection of a pleading; LBP-15-4, 81 NRC 156 (2015)

generic environmental analysis is incorporated into NRC regulations, and thus Category 1 generic findings may not be challenged in individual licensing proceedings unless accompanied by a petition for rule waiver; CLI-15-6, 81 NRC 340 (2015)

genuine dispute prong of 10 C.F.R. 2.309(f)(1)(vi) requires a nexus between alleged deficiencies and a material consequence; LBP-15-1, 81 NRC 15 (2015)

good cause for a newly proposed contention exists when information on which it is based was not previously available and is materially different than information previously available and has been submitted in a timely fashion based on the availability of the subsequent information; LBP-15-1, 81 NRC 15 (2015); LBP-15-11, 81 NRC 401 (2015); LBP-15-15, 81 NRC 598 (2015)

## SUBJECT INDEX

governmental entity is permitted to participate in the proceeding as an interested local governmental body and will thus have the opportunity to support intervenors' already-admitted contention; LBP-15-19, 81 NRC 815 (2015)

hearing is granted where petitioner has proffered at least one admissible contention and established standing; LBP-15-5, 81 NRC 249 (2015)

if a party submits a proposed contention after the initial filing deadline announced in the applicable Federal Register notice for submitting a hearing petition, it will not be entertained absent a determination by the presiding officer that a participant has demonstrated good cause; LBP-15-11, 81 NRC 401 (2015)

if intervenor cannot meet the requirements for filing a contention under the new section 2.309(c)(1), he or she can still take advantage of an extension request if unanticipated events, such as a weather event or unexpected health issues, prevented the participant from filing for a reasonable period of time after the deadline; LBP-15-1, 81 NRC 15 (2015)

in addition to being timely, new contention must satisfy the six-factor admissibility standard; LBP-15-19, 81 NRC 815 (2015)

in determining whether to grant or deny an application for a stay, a board must balance four separate interests; LBP-15-2, 81 NRC 48 (2015)

intervenors may seek a stay of NRC Staff's immediately effective license issuance; LBP-15-3, 81 NRC 65 (2015)

intervention as a matter of discretion is permitted only where at least one petitioner has established standing and at least one admissible contention has been admitted, and petitioner is required to address six factors in its initial petition; CLI-15-14, 81 NRC 729 (2015)

intervention petition must be filed within the time specified in any notice of proposed action; LBP-15-13, 81 NRC 456 (2015)

intervention petition must contain the name, address, and phone number of the requestor or petitioner; LBP-15-20, 81 NRC 829 (2015)

intervention petition must satisfy the six pleading requirements of 10 C.F.R. 2.309(f)(1); LBP-15-13, 81 NRC 456 (2015)

intervention petition must state the nature of petitioner's statutory right to be made a party to the proceeding, nature and extent of petitioner's property, financial, or other interest in the proceeding, and possible effect of any decision or order that may be issued on petitioner's interest; LBP-15-13, 81 NRC 456 (2015)

intervention petitioner may not attack generic NRC requirements or regulations or express generalized grievances about NRC policies; CLI-15-9, 81 NRC 512 (2015)

intervention petitions must be timely, demonstrate standing, and proffer at least one admissible contention; CLI-15-5, 81 NRC 329 (2015); LBP-15-6, 81 NRC 314 (2015); LBP-15-13, 81 NRC 456 (2015)

intervention petitions must set forth with particularity the contentions a petitioner seeks to have litigated in a hearing; CLI-15-8, 81 NRC 500 (2015)

irreparable injury is the most important of the factors for grant or denial of a stay; LBP-15-2, 81 NRC 48 (2015)

issue raised in a contention must fall within the scope of the proceeding and be material to the findings that the NRC must make; CLI-15-8, 81 NRC 500 (2015)

licensing boards are obliged to independently assess petitioners' standing; LBP-15-5, 81 NRC 249 (2015)

litigants may not challenge a rule in NRC adjudicatory proceedings absent a showing of special circumstances; CLI-15-1, 81 NRC 1 (2015)

litigation opportunities available to an entity participating as a local governmental body pursuant to 10 C.F.R. 2.315(c) are discussed; LBP-15-19, 81 NRC 815 (2015)

material difference must exist between information on which a contention is based and information that was previously available, e.g., a difference between the environmental report and the draft EIS or the draft EIS and the final EIS; CLI-15-1, 81 NRC 1 (2015)

most important among the late-filing factors was that the intervenors demonstrate good cause; LBP-15-1, 81 NRC 15 (2015)

motions to reopen must also be accompanied by affidavits that set forth the factual and/or technical bases for movant's claim; LBP-15-14, 81 NRC 591 (2015)

## SUBJECT INDEX

motions to reopen must be timely, address a significant safety or environmental issue, and demonstrate that a materially different result would be or would have been likely had the newly proffered evidence been considered initially; LBP-15-14, 81 NRC 591 (2015)

new or amended contention is considered timely if it is filed within 60 days of the date when the material information first became available to the moving party through service, publication, or any other means; LBP-15-1, 81 NRC 15 (2015)

new or amended contentions must satisfy the substantive contention admissibility standards and failure to meet any of them renders a contention inadmissible; LBP-15-11, 81 NRC 401 (2015); LBP-15-15, 81 NRC 598 (2015)

no rule or regulation of the Commission, or any provision thereof, concerning the licensing of production and utilization facilities is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding; LBP-15-5, 81 NRC 249 (2015)

notification of renewal of source materials license triggers the 5-day filing deadline to apply for a stay of the license; LBP-15-2, 81 NRC 48 (2015)

NRC rules are designed to avoid unfocused inquiry in contested proceedings; CLI-15-1, 81 NRC 1 (2015)

once the deadline for filing petitions to intervene has passed, a party may file new or amended contentions if it is able to demonstrate good cause by meeting the three requirements specified in this section; LBP-15-1, 81 NRC 15 (2015)

only the petitioning party may file reply briefs; CLI-15-7, 81 NRC 481 (2015)

persons not currently a party may file timely petitions to intervene provided that they satisfy the good-cause criteria; LBP-15-6, 81 NRC 314 (2015)

persons who are not parties may file an amicus curiae brief if a matter is taken up by the Commission under 10 C.F.R. 2.341 or sua sponte; CLI-15-1, 81 NRC 1 (2015)

petition for review will be granted at Commission's discretion upon a showing that petitioner has raised a substantial question as to any of the factors of 10 C.F.R. 2.341(b)(4)(i)-(v); CLI-15-1, 81 NRC 1 (2015); CLI-15-9, 81 NRC 512 (2015)

petitioner must demonstrate that a contention asserts an issue of law or fact that is material to the findings the NRC must make to support the action that is involved in the proceeding; LBP-15-20, 81 NRC 829 (2015)

petitioner must demonstrate that a contention of omission is within the scope of the proceeding; LBP-15-5, 81 NRC 249 (2015)

petitioner must explain the basis for each proffered contention by stating alleged facts or expert opinions that support petitioner's position and on which petitioner intends to rely in litigating the contention at hearing; CLI-15-8, 81 NRC 500 (2015); LBP-15-5, 81 NRC 249 (2015)

petitioner must show that a genuine dispute exists on a material issue of law or fact relating to the application; LBP-15-19, 81 NRC 815 (2015)

petitioner must state the nature of right under either the Atomic Energy Act or the National Environmental Policy Act to be made a party, nature and extent of property, financial, or other interest, and possible effect of any decision or order that may be issued in the proceeding on his/her interest; LBP-15-19, 81 NRC 815 (2015)

petitioner's burden on a contention of omission is to identify the omission and the supporting reasons for petitioners' belief that the application fails to contain information on a relevant matter as required by law; LBP-15-5, 81 NRC 249 (2015)

petitioners cannot challenge an NRC regulation without first obtaining a waiver; LBP-15-20, 81 NRC 829 (2015)

petitioners do not need to cite a specific portion of the application to support a contention of omission; LBP-15-5, 81 NRC 249 (2015)

petitioners have not raised an issue material to findings that NRC must make to support final decisions and they are unable to satisfy contention admissibility standards or meet the criteria to reopen a closed record; CLI-15-4, 81 NRC 221 (2015)

petitioners must provide a statement of the alleged facts or expert opinions upon which they rely; LBP-15-5, 81 NRC 249 (2015)

petitioners who choose to wait to raise contentions that could have been raised earlier risk the possibility that there will not be a material difference between the application and NRC Staff's review documents,

## SUBJECT INDEX

thus rendering any newly proposed contention on previously available information impermissibly late; CLI-15-1, 81 NRC 1 (2015)

pleading requirements calling for a recitation of facts or expert opinion supporting the issue raised are inapplicable to a contention of omission beyond identifying the regulatively required missing information; LBP-15-5, 81 NRC 249 (2015); LBP-15-11, 81 NRC 401 (2015)

“prompt” issuance is not defined as an immediate one in 10 C.F.R. 2.1202(a); LBP-15-2, 81 NRC 48 (2015)

proponents of new or amended contentions are required to demonstrate good cause for their filing, which includes showing that information on which the contention is based is materially different from information previously available; CLI-15-1, 81 NRC 1 (2015)

purpose of 10 C.F.R. 2.309(f)(1) is to focus litigation on concrete issues and result in a clearer and more focused record for decision; LBP-15-5, 81 NRC 249 (2015)

referred rulings or certified questions must raise significant and novel legal or policy issues or issues whose early resolution would materially advance the orderly disposition of the proceeding; CLI-15-1, 81 NRC 1 (2015)

representative of a governmental entity that wishes to participate as a nonparty in the proceeding must identify those contentions on which it will participate in advance of any hearing held; LBP-15-11, 81 NRC 401 (2015)

requirement for brief explanation of the basis for a contention merely requires an explanation of the rationale or theory of the contention; LBP-15-20, 81 NRC 829 (2015)

requirement that a contention refer to specific portions of the application ensures that the board will be able to determine whether the contention is within the scope of the proceeding and that applicant knows which portions of the application it must defend; LBP-15-20, 81 NRC 829 (2015)

requirement that a contention refer to specific portions of the application is satisfied when a commonsense reading of the petition makes abundantly clear which sections of the application petitioners are challenging, even though petitioners do not specifically cite particular sections; LBP-15-20, 81 NRC 829 (2015)

requirements for an admissible contention are provided in 10 C.F.R. 2.309(f)(i)-(vi); CLI-15-8, 81 NRC 500 (2015)

requirements for demonstrating good cause are the same as the requirements for filing late contentions previously available under section 2.309(f)(2)(i)-(iii); LBP-15-1, 81 NRC 15 (2015)

review is granted where petitions for review raise substantial questions of law and procedure; CLI-15-6, 81 NRC 340 (2015)

rules on contention admissibility are strict by design; LBP-15-5, 81 NRC 249 (2015)

scope of the proceeding is defined by the Commission in its initial hearing notice and order referring the proceeding to the licensing board; LBP-15-20, 81 NRC 829 (2015)

section 2.206 provides a process for stakeholders to advance concerns and obtain full or partial relief, or written reasons why the requested relief is not warranted; LBP-15-4, 81 NRC 156 (2015)

section 2.309(c)(1)(iii) does not stipulate what is considered timely, and the board looks to Commission precedent; LBP-15-11, 81 NRC 401 (2015)

standard for discretionary review is described; CLI-15-7, 81 NRC 481 (2015)

state government may file an amicus brief within the time allowed to the party whose position the brief will support

state intervenor provided good cause for its late E-filing submission because the State submitted its petition to NRC by e-mail before the deadline lapsed and the delay was purely a matter of obtaining digital credentials for the system, not an attempt to gain extra time to prepare a pleading or otherwise to flout NRC’s procedural requirements; LBP-15-4, 81 NRC 156 (2015)

stay movant has the burden of persuasion on the four factors of 10 C.F.R. 2.1213(d); LBP-15-2, 81 NRC 48 (2015)

sua sponte review authority shall be used only in extraordinary circumstances; CLI-15-1, 81 NRC 1 (2015)

timeliness of an initial hearing petition in different situations is defined as being filed between 20 and 60 days after certain specified events; LBP-15-11, 81 NRC 401 (2015)

## SUBJECT INDEX

timing of license issuance is informed by instruction for NRC Staff to promptly issue its approval or denial of the application consistent with its findings, and despite the pendency of a hearing; LBP-15-2, 81 NRC 48 (2015)

to gain the admission of a new or amended contention, a party must meet the requirements of 10 C.F.R. 2.309(c) and (f); LBP-15-16, 81 NRC 618 (2015)

to participate in an NRC licensing proceeding, petitioner must establish standing to intervene; LBP-15-13, 81 NRC 456 (2015); LBP-15-19, 81 NRC 815 (2015)

two issues in one contention are best evaluated as separate contentions; LBP-15-5, 81 NRC 249 (2015)

unless the presiding officer otherwise orders, applicant or the proponent of an order has the burden of proof; LBP-15-2, 81 NRC 48 (2015)

waiver of rule or regulation may be obtained upon a showing that applying provision at issue would not serve the purposes for which the rule or regulation was adopted; LBP-15-3, 81 NRC 65 (2015)

when a contention is considered to be timely filed is not specified in 10 C.F.R. 2.309(c)(1)(iii); LBP-15-15, 81 NRC 598 (2015)

when petitioner seeks leave to intervene after the initial deadline for the filing of contentions, it must demonstrate good cause for its belated filing; LBP-15-19, 81 NRC 815 (2015)

**SAFE SHUTDOWN SYSTEMS**

ability of a facility to shut down safely following a potential earthquake is a current operating issue, and is not unique to whether licenses should be renewed; LBP-15-6, 81 NRC 314 (2015)

contention that operating license should not be renewed unless and until applicant establishes that the plant can withstand and be safely shut down following an earthquake is not within the scope of a license renewal proceeding; LBP-15-6, 81 NRC 314 (2015)

under its certified design, the Economic Simplified Boiling Water Reactor could maintain circulation long enough to permit safe shutdown of the reactor even if it were to lose offsite power and all of its backup generators failed to operate; LBP-15-5, 81 NRC 249 (2015)

**SAFETY**

Congress expressly recognized and impliedly approved NRC's regulatory scheme and practice under which the safety of interim storage of high-level wastes at commercial nuclear power reactor sites has been determined separately from the safety of government-owned permanent storage facilities that have not yet been established; CLI-15-4, 81 NRC 221 (2015)

NRC's long-continued regulatory practice of issuing operating licenses with an implied finding of reasonable assurance that safe permanent disposal of spent nuclear fuel can be available when needed is in accord with the intent of Congress underlying the Atomic Energy Act and Energy Reorganization Act; CLI-15-4, 81 NRC 221 (2015)

stringent safety requirements apply to the construction and operation of reactor spent fuel pools and independent spent fuel storage installations; CLI-15-4, 81 NRC 221 (2015)

See also Health and Safety

**SAFETY ANALYSIS**

if NRC does not approve continued operation based on licensee's safety analysis, licensee must request an opportunity to modify the reactor pressure vessel or related reactor systems to reduce the potential for failure of the reactor vessel due to pressurized thermal shock events; LBP-15-17, 81 NRC 753 (2015)

if the reference values projected at specific areas of the reactor pressure vessel for the end of life of the plant surpass the current screening criteria, licensee must submit a safety analysis and obtain NRC approval to continue to operate; LBP-15-17, 81 NRC 753 (2015)

independent assessment of the safety aspects of the combined license application is required; CLI-15-13, 81 NRC 555 (2015)

license amendments are not contingent upon any additional safety determination regarding spent fuel storage under the Atomic Energy Act; CLI-15-4, 81 NRC 221 (2015)

licensees have the option of demonstrating that values of Charpy upper-shelf energy below 50 ft-lb will provide margins of safety against fracture equivalent to those required by Appendix G of Section XI of the ASME BPV Code; LBP-15-20, 81 NRC 829 (2015)

petitioners' contention challenges the sufficiency of the equivalent margins analysis to provide reasonable assurance of reactor safety and is therefore within the scope of the proceeding; LBP-15-20, 81 NRC 829 (2015)

## SUBJECT INDEX

when an NRC regulation permits use of a particular analysis, a contention asserting that a different analysis or technique should be used is inadmissible because it indirectly attacks NRC's regulations; LBP-15-20, 81 NRC 829 (2015)

### SAFETY CULTURE

contention challenging applicant's safety culture and claiming to rely on NRC Staff's Safety Evaluation Report was inadmissible because the SER did not discuss safety culture as a general matter and could not serve as a reasonably apparent foundation for a safety culture contention; LBP-15-11, 81 NRC 401 (2015)

such issues are outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

### SAFETY EVALUATION REPORT

contention challenging applicant's safety culture and claiming to rely on NRC Staff's Safety Evaluation Report was inadmissible because the SER did not discuss safety culture as a general matter and could not serve as a reasonably apparent foundation for a safety culture contention; LBP-15-11, 81 NRC 401 (2015)

### SAFETY ISSUES

adjudicatory hearings in individual license renewal proceedings will share the same scope of issues as NRC Staff review, for NRC's hearing process, like NRC Staff's review, necessarily examines only the questions NRC safety rules make pertinent; LBP-15-5, 81 NRC 249 (2015)

although intervenors disagree with applicant's opportunistic inspection strategy for managing rebar corrosion, they merely assert, and do not plausibly explain, how applicant's approach will lead to a material safety impact; LBP-15-1, 81 NRC 15 (2015)

applicant is required to show that safety features will fulfill their intended function, not that every structure will maintain its current licensing basis throughout the renewal period; LBP-15-5, 81 NRC 249 (2015)

Commission chose to review intervenors' motion along with similar motions in other proceedings and associated petitions to suspend reactor licensing pending issuance of waste confidence safety findings; CLI-15-6, 81 NRC 340 (2015)

concerns about current or ongoing safety deficiencies can be raised as a petition for enforcement action; CLI-15-8, 81 NRC 500 (2015)

contention about a matter not covered by a specific rule need only allege that the matter poses a significant safety problem; LBP-15-17, 81 NRC 753 (2015); LBP-15-20, 81 NRC 829 (2015)

court directed NRC to determine whether there is reasonable assurance that an offsite storage solution will be available by the end of a reactor's license term], and if not, whether there is reasonable assurance that the fuel can be stored safely at the sites beyond those dates; CLI-15-4, 81 NRC 221 (2015)

directing NRC Staff to investigate a safety issue that the board could not reach through the adjudicatory process may put the Commission in a position, after receiving views of applicant if it desired, to assure itself about the significance, or lack thereof, of the shield building cracking issues raised by intervenors, and to direct such followup proceedings, if any, as it might deem appropriate; LBP-15-1, 81 NRC 15 (2015)

if there were any doubt over the intent of Congress not to require a safety finding on spent fuel disposal, it was laid to rest by enactment of the Energy Reorganization Act of 1974; CLI-15-4, 81 NRC 221 (2015)

issue that does not involve aging management is outside the scope of the license renewal proceeding; LBP-15-5, 81 NRC 249 (2015)

issues that the Commission must consider in the mandatory portion of a combined license proceeding are outlined; CLI-15-13, 81 NRC 555 (2015)

licensing boards can refer potentially significant safety issues that cannot be addressed through the adjudicatory process to NRC Staff for review; LBP-15-1, 81 NRC 15 (2015)

NRC Staff review of combined license application relative to regulatory actions that the NRC has taken in response to lessons learned from the Fukushima Dai-ichi accident is discussed; CLI-15-13, 81 NRC 555 (2015)

NRC Staff's safety analysis and environmental analysis occur separately, and intervenors are expected to raise safety challenges in response to the safety reports and environmental challenges in response to the environmental statements; LBP-15-11, 81 NRC 401 (2015)

## SUBJECT INDEX

pending tax litigation would not have a significant implication for public health and safety and, to the extent the claim is viable, it would be better handled through a petition for enforcement action; LBP-15-15, 81 NRC 598 (2015)

protection of regulatory treatment of non-safety systems equipment from external hazards at the site is discussed; CLI-15-13, 81 NRC 555 (2015)

severe accident mitigation alternatives analysis is conducted pursuant to the National Environmental Policy Act, and thus is an environmental issue, not a safety issue; LBP-15-1, 81 NRC 15 (2015)

soil-structure interaction analysis is discussed; CLI-15-13, 81 NRC 555 (2015)

unless the safety findings prescribed by the Atomic Energy Act and the regulations can be made, the reactor does not obtain a license, no matter how badly it is needed; CLI-15-4, 81 NRC 221 (2015)

See also Generic Safety Issues

### SAFETY-RELATED

all structures and components that are important to safety must be maintained to manage the effects of aging, but most systems, structures, and components are adequately maintained under existing programs as required by the Maintenance Rule; CLI-15-6, 81 NRC 340 (2015)

focus of the license renewal regulations in 10 C.F.R. Part 54 is to ensure that licensee can manage the effects of aging on certain long-lived, passive components that are important to safety; CLI-15-6, 81 NRC 340 (2015)

inspection to determine effects of wet or underwater conditions on underground safety-related electrical cables is discussed; DD-15-1, 81 NRC 193 (2015)

plants must employ an ultimate heat sink to transfer heat from structures, systems, and components that are important to safety; LBP-15-13, 81 NRC 456 (2015)

safety significance of a structure, system, or component is defined in terms of its safety-related functions, and within the scope of license renewal are included those SSCs whose failure could prevent satisfactory accomplishment of the safety-related function; CLI-15-6, 81 NRC 340 (2015)

### SAFETY REVIEW

aging management review is required for components that function without moving parts and without a change in configuration or properties, and includes a non-exhaustive list of components that either do or do not fit this description; CLI-15-6, 81 NRC 340 (2015)

applicant for a renewed license must first identify all structures, systems, and components that serve a function relating directly or indirectly to safety, as defined by this regulation; CLI-15-6, 81 NRC 340 (2015)

contention fails because it contests NRC Staff's safety review rather than the license renewal application; LBP-15-15, 81 NRC 598 (2015)

goal of NRC's license renewal safety review is to ensure that licensee can successfully manage the detrimental effects of aging; CLI-15-6, 81 NRC 340 (2015)

license renewal safety review is limited to licensee's management of aging for certain systems, structures, and components, and review of time-limited aging analyses; LBP-15-5, 81 NRC 249 (2015); LBP-15-6, 81 NRC 314 (2015)

NRC's AEA safety review under Part 54 does not compromise or limit NEPA; LBP-15-5, 81 NRC 249 (2015)

proximity of nuclear power plant site to the Canadian border is considered in the contexts of environmental and safety reviews; CLI-15-13, 81 NRC 555 (2015)

### SALTWATER INTRUSION

contention alleging that environmental assessment has not adequately addressed environmental impacts associated with saltwater intrusion arising from saline water migration from the plant into surrounding waters, and applicant's use of aquifer withdrawals to lower salinity and temperature is admissible; LBP-15-13, 81 NRC 456 (2015)

### SCHEDULING

ASTM Standard E 185 anticipates that during the course of a nuclear power plant's life the surveillance capsule withdrawal schedule may need to be revised and allows and provides for such changes; LBP-15-20, 81 NRC 829 (2015)

if a board issues a scheduling order before the effective date of the final rule that incorporates 10 C.F.R. 2.336(d), which currently requires parties to update their disclosures every 14 days, that obligation



## SUBJECT INDEX

would change to every month on a day specified by the board, unless the parties agree otherwise, once the effective date of the rule is reached; LBP-15-1, 81 NRC 15 (2015)

NRC must preapprove the schedule for removing material samples from the reactor vessel; LBP-15-17, 81 NRC 753 (2015)

### SECURITY

“controlled access area” is any temporarily or permanently established area that is clearly demarcated, access to which is controlled, and which affords isolation of the material or persons within it; CLI-15-9, 81 NRC 512 (2015)

whether a foreign entity has the ability to restrict or inhibit compliance with security or other regulations of the Atomic Energy Commission is of greatest significance to a foreign ownership, control, or domination review; CLI-15-7, 81 NRC 481 (2015)

### SECURITY PROGRAM

licensee is obliged to give local union notice and an opportunity to bargain over the effects of its decision to implement changes in the terms and conditions of the employees’ employment regarding behavioral observations of security concerns; CLI-15-16, 81 NRC 810 (2015)

### SEISMIC ANALYSIS

as part of the NRC post-Fukushima lessons-learned activities, NRC is requiring all licensees to reevaluate seismic hazards at their sites, and to this end, issued a request for information; DD-15-1, 81 NRC 193 (2015)

contention that final safety analysis report is deficient because it does not include information provided in applicant’s seismic evaluation process report is rejected; LBP-15-14, 81 NRC 591 (2015)

request for information instructed all licensees to reevaluate seismic hazards at their sites using updated seismic hazard information, present-day guidance and methodologies, and a risk evaluation; DD-15-6, 81 NRC 884 (2015)

See also Earthquakes

### SEISMIC DESIGN

NRC issued an order on station blackout mitigation strategies requiring mitigation strategies to protect against, among many other hazards, postulated seismic events; DD-15-1, 81 NRC 193 (2015)

### SETTLEMENT NEGOTIATIONS

when a filing deadline is approaching, notwithstanding that an attorney is engaged in good-faith settlement discussions, prudence should compel the attorney to take all actions that are necessary to ensure the deadline will be met in the event that settlement discussions are unsuccessful; LBP-15-4, 81 NRC 156 (2015)

### SEVERE ACCIDENT MITIGATION ALTERNATIVES

SAMAs fall within Category 2 and must therefore be addressed on a site-specific basis; LBP-15-5, 81 NRC 249 (2015)

### SEVERE ACCIDENT MITIGATION ALTERNATIVES ANALYSIS

admissibility of contention that common-mode failures and/or mutually exacerbating catastrophes are entitled SAMA analysis is decided; LBP-15-5, 81 NRC 249 (2015)

admissibility of contention that SAMA analysis fails to evaluate the impact that a severe accident at one unit would have on the operation of a proposed nearby unit is decided; LBP-15-5, 81 NRC 249 (2015)

analysis is conducted pursuant to the National Environmental Policy Act, and thus is an environmental issue, not a safety issue; LBP-15-1, 81 NRC 15 (2015)

analysis issues can present difficult judgment calls at the contention admission stage; LBP-15-5, 81 NRC 249 (2015)

analysis must be considered as part of the environmental report and, ultimately, as part of NRC Staff’s supplemental environmental impact statement for a power reactor license renewal; LBP-15-5, 81 NRC 249 (2015)

because the probability of a spent fuel pool accident causing significant harm is remote, there is no need for applicants to assess spent fuel pool accident mitigation alternatives as part of license renewal; LBP-15-5, 81 NRC 249 (2015)

Commission requests briefing from NRC Staff on the circumstances, if any, NRC Staff would judge a potentially cost-beneficial mitigation alternative to warrant further NRC consideration outside of the license renewal review, either via a backfit analysis or as part of another process; CLI-15-3, 81 NRC 217 (2015)

## SUBJECT INDEX

Commission requests briefing from NRC Staff on the level of uncertainty that NRC Staff considers acceptable for the implementation cost portion of the cost-benefit analysis, and why; CLI-15-3, 81 NRC 217 (2015)

Commission requests briefing from NRC Staff on whether it has a process in place to follow up with licensee to determine which potentially cost-beneficial mitigation alternatives ultimately were found by licensee to be cost-beneficial, if any, and which alternatives, if any, licensee implemented; CLI-15-3, 81 NRC 217 (2015)

contention is within the scope of license renewal proceeding because NRC regulations require that the environmental report include a SAMA analysis; LBP-15-5, 81 NRC 249 (2015)

contention that applicant's SAMA analysis is significantly flawed because of the use of inaccurate factual assumptions about population is admissible; LBP-15-5, 81 NRC 249 (2015)

contention that environmental report does not satisfy NEPA because it does not consider a range of mitigation measures to mitigate the risk of catastrophic fires in densely packed, closed-frame spent fuel storage pools is decided; LBP-15-5, 81 NRC 249 (2015)

contention that environmental report fails to accurately and thoroughly conduct SAMA analysis to design vulnerability of GE Mark I boiling water reactor pressure suppression containment system and environmental consequences of a to-be-anticipated severe accident post-Fukushima Daiichi fails to present a genuine material dispute; LBP-15-5, 81 NRC 249 (2015)

contention that population used for analysis might underestimate the exposed population in a severe accident and, in turn, underestimate the benefit achieved in implementing a SAMA analysis is admissible; LBP-15-5, 81 NRC 249 (2015)

environmental report for license renewal must consider SAMAs for all plants that have not considered such alternatives; LBP-15-5, 81 NRC 249 (2015)

inadequacy in the SAMA analysis is material if license renewal applicant failed to consider complete information without justifying why particular information was omitted; LBP-15-5, 81 NRC 249 (2015)

it must be genuinely plausible that revising the severe accident mitigation alternatives analysis would change the outcome so that one or more of the SAMA candidates that applicant evaluated and rejected would become cost-beneficial; LBP-15-5, 81 NRC 249 (2015)

only if the probability of a severe accident is so small as to be effectively zero could NRC Staff dispense with the consequences portion of the analysis; CLI-15-6, 81 NRC 340 (2015)

parties are directed to provide further briefing on questions relating to severe accident decontamination time values and costs used in the SAMA analysis; CLI-15-2, 81 NRC 213 (2015)

petitioner need not rerun applicant's own cost-benefit calculations, but must do more than merely suggest that additional factors be evaluated or that different analytical techniques be used; LBP-15-5, 81 NRC 249 (2015)

petitioner's failure to address applicant's supplemental economic analyses, demonstrate specific knowledge of the analysis, and not indicate, even broadly that the SAMA economic cost-benefit conclusions are not sufficiently conservative renders a contention inadmissible; LBP-15-5, 81 NRC 249 (2015)

petitioners must provide site-specific support to show that the SAMA analysis is unreasonable; LBP-15-5, 81 NRC 249 (2015)

possible changes, such as improvements in hardware, training, or procedures, that could cost-effectively mitigate the environmental impacts that would otherwise flow from a potential severe accident are identified and addressed; LBP-15-5, 81 NRC 249 (2015)

severe accidents in the spent fuel pools are Category 1 issues that do not need to be included in the SAMA analysis; LBP-15-5, 81 NRC 249 (2015)

unless it looks genuinely plausible that inclusion of an additional factor or use of other assumptions and models may change the cost-benefit conclusions for the SAMA candidates evaluated, no purpose would be served to further refine the SAMA analysis; LBP-15-5, 81 NRC 249 (2015)

See also Consideration of Alternatives

### SHELTERING

lack of detail for emergency sheltering option is not significant because size of sheltering population is very small; LBP-15-18, 81 NRC 793 (2015)

### SHIELD BUILDING

because the building functions as a radiation and biological shield, failure or collapse of the shield building due to cracking propagation could lead to health and safety impacts and thus petitioner's

## SUBJECT INDEX

contention concerns a subject matter that could impact the grant or denial of a pending license application; LBP-15-1, 81 NRC 15 (2015)

directing NRC Staff to investigate a safety issue that the board could not reach through the adjudicatory process may put the Commission in a position, after receiving views of applicant if it desired, to assure itself about the significance, or lack thereof, of the shield building cracking issues raised by intervenors, and to direct such followup proceedings, if any, as it might deem appropriate; LBP-15-1, 81 NRC 15 (2015)

intervenor must do more than point to issues with the shield building, but must also indicate what is wrong with applicant's response and its amended inspection program and why intervenor believes the particular inspection program makes the license renewal application unacceptable; LBP-15-1, 81 NRC 15 (2015)

intervenors' allegations do not plausibly indicate that the shield building would lose its functionality under the proposed aging management plan; LBP-15-1, 81 NRC 15 (2015)

**SHUTDOWN**

all nuclear power facilities that are shut down permanently or indefinitely are exempted from participating in the ERDS program; LBP-15-4, 81 NRC 156 (2015)

all Part 50 licensees must meet emergency planning requirements, regardless of whether the facility is operating or has been permanently shut down and defueled; LBP-15-18, 81 NRC 793 (2015)

"exigent circumstances" determination seems compelled by the fact that violation of the technical specifications limit for the plant, whatever the cause of the temperature increase, requires a dual-unit shutdown; LBP-15-13, 81 NRC 456 (2015)

licensee must provide certifications when a nuclear power station has permanently ceased power operations and all fuel has been permanently removed from the reactor vessel and placed in the spent fuel pool; DD-15-1, 81 NRC 193 (2015)

licensee of a permanently shutdown reactor is never required to activate the ERDS link, and thus it follows that such a licensee need not maintain the ERDS link; LBP-15-4, 81 NRC 156 (2015)

nuclear power facility has shut down permanently within the meaning of 10 C.F.R. Part 50, Appendix E, § VI.2 when it has permanently ceased reactor operations, and permanently removed fuel from the reactor vessel, as those terms are defined in 10 C.F.R. 50.2; LBP-15-4, 81 NRC 156 (2015)

request that NRC order the immediate shutdown of all nuclear power reactors that are known to be located on or near an earthquake fault line is denied; DD-15-6, 81 NRC 884 (2015)

where the Commission finds that an emergency situation exists, in that failure to act in a timely way would result in derating or shutdown of a nuclear power plant, it may issue a license amendment involving no significant hazards consideration without prior notice and opportunity for a hearing or for public comment; LBP-15-13, 81 NRC 456 (2015)

See also Safe Shutdown Systems

**SITE CHARACTERIZATION**

admissibility of contention that NRC Staff must conduct a new baseline groundwater characterization study of the license renewal area rather than relying on the baseline study conducted during the original license application is decided; LBP-15-11, 81 NRC 401 (2015)

applicant for a uranium ISR license is required to provide data from a groundwater monitoring program that are sufficient to establish a precensuring site characterization baseline for assessing the potential effects of facility operations on local groundwater quality; LBP-15-3, 81 NRC 65 (2015)

applicant must provide complete baseline data on a milling site and its environs; LBP-15-16, 81 NRC 618 (2015)

applicant's monitoring program for establishing existing site characterization baseline values for certain site groundwater constituents prior to issuance of a source materials license for ISR facility construction and operation need not, to comply with NEPA and NRC's Part 51 implementing regulations, be conducted so as to also provide background information needed to set Appendix A, Criterion 5B groundwater protection standards; LBP-15-3, 81 NRC 65 (2015)

applicants referencing a certified design must provide sufficient information for NRC Staff to determine whether the site's characteristics fall within the design's parameters; CLI-15-13, 81 NRC 555 (2015)

contention alleging that final supplemental environmental impact statement fails to provide an adequate baseline groundwater characterization or demonstrate that groundwater samples were collected in a

## SUBJECT INDEX

scientifically defensible manner, using proper sampling methodologies is decided; LBP-15-16, 81 NRC 618 (2015)

if applicant did not pursue an early site permit, all relevant site characteristics, including site geology, hydrology, seismology, and man-made hazards, as well as potential environmental impacts of the project, were studied as part of NRC Staff's combined license review and are within the scope of the Commission decision; CLI-15-13, 81 NRC 555 (2015)

nothing in 10 C.F.R. Part 40, Appendix A, Criterion 5B precludes an inquiry, based on a well-pleaded contention, into whether the particular measures used in applicant's precertification program were adequate to provide the necessary information to characterize properly the environmental impacts of employing an ISR mining process in the aquifers below a proposed site; LBP-15-3, 81 NRC 65 (2015)

site-specific data to confirm proper baseline quality values, and confirm whether existing rock units provide adequate confinement cannot be collected until an in situ leach well field has been installed; LBP-15-3, 81 NRC 65 (2015)

soil-structure interaction analysis is discussed; CLI-15-13, 81 NRC 555 (2015)

waiting until after licensing, but before mining operations begin, to establish definitively the groundwater quality baselines and upper control limits is consistent with industry practice and NRC methodology, given the sequential development of in situ leach well fields; LBP-15-3, 81 NRC 65 (2015)

**SITE RESTORATION**

admissibility of contention that environmental assessment fails to adequately describe and analyze aquifer restoration goals in light of new standards for determining alternative control limits is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that environmental documents and associated monitoring values and restoration goals rely on baseline data calculations that are inadequate and unacceptable is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that environmental documents lack an adequate description of adequate financial assurances sufficient to pay the costs of restoration and long-term monitoring of up to 30 years is decided; LBP-15-15, 81 NRC 598 (2015)

admissibility of contention that final environmental assessment failed to conduct the required hard look at impacts of the proposed mine associated with restoration standards and difficulty and cost in achieving them and the use of the alternative standards permitted under the proposed rules is decided; LBP-15-15, 81 NRC 598 (2015)

bounding analysis provided in the final supplemental environmental impact statement, as supplemented in the record, provides sufficient information about a reasonable range of hazardous constituent concentration values associated with potential post-operational alternate concentration limits so as to provide an appropriate NEPA assessment of the environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits; LBP-15-3, 81 NRC 65 (2015)

contention that FSEIS fails to analyze environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits is decided; LBP-15-3, 81 NRC 65 (2015)

EPA drinking water maximum contaminant levels continue to be an accepted groundwater restoration standard; LBP-15-3, 81 NRC 65 (2015)

no in situ recovery facility has ever requested that all OZ aquifer groundwater hazardous constituents be restored to CAB concentrations or Criterion 5B(5)(b) MCLs, as those are currently defined; LBP-15-3, 81 NRC 65 (2015)

"primary groundwater restoration" is to return the constituent to background levels; LBP-15-3, 81 NRC 65 (2015)

requirements for groundwater restoration standards for ISR mining operations are set forth in 10 C.F.R. Part 40, Appendix A, Criterion 5B(5); LBP-15-3, 81 NRC 65 (2015)

restoration to an alternate concentration limit is permitted only when restoration to a primary or the secondary Table 5C standard is not practically achievable; LBP-15-3, 81 NRC 65 (2015)

"secondary groundwater restoration" is restoration of constituent levels to the drinking water limits enumerated in Appendix A, Table 5C; LBP-15-3, 81 NRC 65 (2015)

**SOURCE MATERIAL**

uranium being extracted through the ISL process is defined as "source material"; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

### SOURCE MATERIALS LICENSES

applicant for a license to possess and use source and AEA §11e(2) byproduct material for the purpose of in situ uranium recovery must submit an environmental report with its application; LBP-15-3, 81 NRC 65 (2015)

issuing a license to possess and use source material to a uranium milling facility is identified as a major federal action; LBP-15-16, 81 NRC 618 (2015)

notification of renewal of source materials license triggers the 5-day filing deadline to apply for a stay of the license; LBP-15-2, 81 NRC 48 (2015)

NRC Staff must prepare an environmental impact statement in connection with a license to possess and use source and AEA §11e(2) byproduct material for the purpose of in situ uranium recovery; LBP-15-3, 81 NRC 65 (2015)

NRC Staff must take steps necessary to identify the presence of historic properties within the area encompassed by the source materials license renewal application; LBP-15-2, 81 NRC 48 (2015)

timing of source materials license renewal application enables licensee to operate under NRC's timely renewal provision until the agency renews the license; LBP-15-2, 81 NRC 48 (2015)

when licensee has made timely and sufficient application for a license renewal, a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency; LBP-15-2, 81 NRC 48 (2015); LBP-15-11, 81 NRC 401 (2015)

### SPECIAL CIRCUMSTANCES

Commission approval of a rule waiver could allow a contention on a Category 1 issue to proceed where special circumstances exist; CLI-15-6, 81 NRC 340 (2015)

party may petition the Commission for permission to challenge a rule, but that party must make a showing of special circumstances; LBP-15-5, 81 NRC 249 (2015)

special circumstances required to obtain a rule waiver have been described as a prima facie showing that application of a rule in a particular way would not serve the purposes for which the rule was adopted; LBP-15-5, 81 NRC 249 (2015)

to obtain waiver of a rule, the allegation of special circumstances must be set forth with particularity and supported by an affidavit or other proof; LBP-15-5, 81 NRC 249 (2015)

where special circumstances make a generic rule inapplicable to a particular proceeding, participant may petition for a rule waiver or exception; CLI-15-6, 81 NRC 340 (2015)

### SPECIAL NUCLEAR MATERIALS

accuracy is an integral component of the portion of the regulatory requirement that addresses item presence verification; CLI-15-9, 81 NRC 512 (2015)

basis for NRC authority to regulate the use of special nuclear material in facilities like nuclear power reactors is established; CLI-15-4, 81 NRC 221 (2015)

"material access area" is any location which contains special nuclear material, within a vault or a building, the roof, walls, and floor of which constitute a physical barrier; CLI-15-9, 81 NRC 512 (2015)

meaning of "verify" in the context of item presence verification is discussed; CLI-15-9, 81 NRC 512 (2015)

special nuclear material "item" is any discrete quantity or container of special nuclear material or source material, not undergoing processing, having a unique identity and also having an assigned element and isotope quantity; CLI-15-9, 81 NRC 512 (2015)

"tamper-safing" refers to use of devices on containers or vaults in a manner and at a time that ensures a clear indication of any violation of the integrity of previously made measurements of special nuclear material within the container or vault; CLI-15-9, 81 NRC 512 (2015)

### SPENT FUEL COOLING SYSTEM

NRC imposed requirements to provide makeup water independent of offsite power and the normal emergency alternating current power sources to maintain or restore spent fuel pool cooling capability in the event of an accident; DD-15-1, 81 NRC 193 (2015)

### SPENT FUEL MANAGEMENT

admissibility of contention that environmental report lacks site-specific safety and environmental findings regarding storage and disposal of spent fuel is decided; LBP-15-5, 81 NRC 249 (2015)

contention that does not dispute any specific portion of applicant's fuel handling accident analysis is inadmissible for lack of a genuine dispute; LBP-15-18, 81 NRC 793 (2015)

## SUBJECT INDEX

licensee must provide certifications when a nuclear power station has permanently ceased power operations and all fuel has been permanently removed from the reactor vessel and placed in the spent fuel pool; DD-15-1, 81 NRC 193 (2015)  
licensees must submit for NRC approval their plans to manage spent fuel after the permanent cessation of reactor operation; CLI-15-4, 81 NRC 221 (2015)  
structural integrity of GE Mark I boiling water reactor spent fuel pools and spent fuel management in dry storage casks are discussed; DD-15-1, 81 NRC 193 (2015)

### SPENT FUEL POOL EXPANSION

petitioners challenged NRC's approval of operating license amendments to allow for the use of higher-density spent-fuel-storage racks in the reactors' spent fuel pools; CLI-15-4, 81 NRC 221 (2015)

### SPENT FUEL POOLS

because the probability of a spent fuel pool accident causing significant harm is remote, there is no need for applicants to assess spent fuel pool accident mitigation alternatives as part of license renewal; LBP-15-5, 81 NRC 249 (2015)

contention that environmental report does not satisfy NEPA because it does not consider a range of mitigation measures to mitigate the risk of catastrophic fires in densely packed, closed-frame spent fuel storage pools is decided; LBP-15-5, 81 NRC 249 (2015)

contention that environmental report is inadequate insofar as it does not consider the risk of spent fuel pool fires is inadmissible; LBP-15-5, 81 NRC 249 (2015)

generic environmental impact statement for spent fuel pools is not limited to discussing only normal operations, but also discusses potential accidents and other nonroutine events, and thus need not be included in the severe accident mitigation alternatives analysis for license renewal; LBP-15-5, 81 NRC 249 (2015)

in its Waste Confidence Decision, NRC failed to consider environmental impacts of a repository never becoming available, its analysis of spent fuel pool leaks was not forward-looking, and it had not sufficiently considered the consequences of spent fuel pool fires; CLI-15-4, 81 NRC 221 (2015)

post-Fukushima spent fuel pool concerns are being addressed through rulemaking on mitigation of beyond-design-basis events; DD-15-1, 81 NRC 193 (2015)

request for additional instrumentation for all Mark I spent fuel storage pools has been addressed through an order modifying licenses with regard to reliable spent fuel pool instrumentation; DD-15-1, 81 NRC 193 (2015)

severe accidents in the spent fuel pools are Category 1 issues that do not need to be included in the severe accident mitigation alternatives analysis; LBP-15-5, 81 NRC 249 (2015)

stringent safety requirements apply to the construction and operation of reactor spent fuel pools and independent spent fuel storage installations; CLI-15-4, 81 NRC 221 (2015)

structural integrity of GE Mark I boiling water reactor spent fuel pools and spent fuel management in dry storage casks are discussed; DD-15-1, 81 NRC 193 (2015)

suspension request that would have halted final licensing decisions pending action on a petition for rulemaking regarding NRC Staff's review of the potential expedited transfer of spent fuel from pools to dry casks was denied; CLI-15-13, 81 NRC 555 (2015)

### SPENT FUEL STORAGE

assumptions used in the analysis of impacts of continued storage of spent fuel are sufficiently conservative to bound the impacts such that variances that may occur between sites are unlikely to result in environmental impact determinations greater than those presented in the continued storage generic environmental impact statement; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

Commission adopted a generic environmental impact statement to identify and analyze the environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors; LBP-15-12, 81 NRC 452 (2015)

Commission denied petition to supplement and declined to admit "placeholder" contention; CLI-15-13, 81 NRC 555 (2015)

Commission directed all licensing boards to reject pending waste confidence contentions that had been held in abeyance, because the generic impact determinations have been the subject of extensive public participation in the rulemaking process, and therefore are excluded from litigation in individual proceedings; LBP-15-1, 81 NRC 15 (2015); LBP-15-5, 81 NRC 249 (2015)

## SUBJECT INDEX

Commission directed that all spent fuel storage contentions be held in abeyance; CLI-15-6, 81 NRC 340 (2015); LBP-15-1, 81 NRC 15 (2015)

Commission exercised its inherent supervisory authority over agency adjudications to review motion and petition addressing the spent fuel storage issue; LBP-15-1, 81 NRC 15 (2015)

Commission exercised its supervisory authority and dismissed proposed waste confidence safety contention and denied suspension petitions; CLI-15-13, 81 NRC 555 (2015)

concurrent with approval of the final Continued Storage Rule and companion Generic Environmental Impact Statement, the Commission lifted the suspension on final licensing decisions and directed that the proposed spent fuel storage contentions be dismissed; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

Congress expressly recognized and impliedly approved NRC's regulatory scheme and practice under which the safety of interim storage of high-level wastes at commercial nuclear power reactor sites has been determined separately from the safety of government-owned permanent storage facilities that have not yet been established; CLI-15-4, 81 NRC 221 (2015)

contention that supplementation of the environmental impact statement is necessary to allow members of the public to lodge placeholder contentions challenging Commission reliance, in individual licensing proceedings, on the continued storage GEIS and Continued Storage Rule is inadmissible; CLI-15-10, 81 NRC 535 (2015)

Continued Storage Rule and supporting generic environmental impact statement to assess the environmental impacts of spent fuel storage after the end of a reactor's license term were approved; CLI-15-10, 81 NRC 535 (2015)

Continued Storage Rule makes generic safety findings concerning feasibility and capacity of spent fuel disposal; LBP-15-9, 81 NRC 396 (2015)

court directed NRC to determine whether there is reasonable assurance that an offsite storage solution will be available by the end of a reactor's license term, and if not, whether there is reasonable assurance that the fuel can be stored safely at the sites beyond those dates; CLI-15-4, 81 NRC 221 (2015)

court recognized the long-term nature of the concerns associated with spent fuel storage and disposal when it declined to vacate the license amendments that were the subject of the case, noting that doing so would effectively shut down the plants; CLI-15-4, 81 NRC 221 (2015)

"deemed incorporated" function of 10 C.F.R. 51.23(b) provides administrative efficiency by adding the environmental impacts of continued storage to site-specific environmental impact statements without additional work by the Staff; CLI-15-10, 81 NRC 535 (2015)

environmental impacts of at-reactor and away-from-reactor storage of spent fuel are considered for 60 years after the end of a reactor's licensed life for operation, an additional 100 years of storage, and the indefinite storage of spent nuclear fuel and incorporated into site-specific environmental impact statements; CLI-15-10, 81 NRC 535 (2015)

environmental impacts of continued storage have been incorporated into the environmental impact statements at issue in the proceedings by operation of law; CLI-15-10, 81 NRC 535 (2015)

following adoption of a revised Continued Storage Rule, boards were ordered to reject continued storage contentions pending before them, except contentions unresolved by the Continued Storage Rule; CLI-15-6, 81 NRC 340 (2015)

general license may be granted to all Part 50 and Part 52 reactor licensees to store spent fuel in an independent spent fuel storage installation; CLI-15-4, 81 NRC 221 (2015)

general scope of NRC's authority is established in Atomic Energy Act § 161, but it does not discuss spent fuel disposal; CLI-15-4, 81 NRC 221 (2015)

generic analyses of the environmental impacts of continued storage and disposal in the context of NRC reactor licensing proceedings are acceptable; CLI-15-4, 81 NRC 221 (2015)

hearing on exemption-related matters is necessary insofar as resolution of the exemption request directly affects the licensability of a proposed fuel storage site and the exemption raises material questions directly connected to an agency licensing action; LBP-15-18, 81 NRC 793 (2015)

if there were any doubt over the intent of Congress not to require a safety finding on spent fuel disposal, it was laid to rest by enactment of the Energy Reorganization Act of 1974; CLI-15-4, 81 NRC 221 (2015)

## SUBJECT INDEX

impact determinations in the Continued Storage generic environmental impact statement shall be deemed incorporated into the environmental impact statements associated with combined license and license renewal applications; CLI-15-10, 81 NRC 535 (2015)

impacts of continued storage will not vary significantly across sites and can be analyzed generically; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

information is specified in Atomic Energy Act § 182 that must be provided by applicant for a license and it has no reference to spent fuel disposal; CLI-15-4, 81 NRC 221 (2015)

license amendments are not contingent upon any additional safety determination regarding spent fuel storage under the Atomic Energy Act; CLI-15-4, 81 NRC 221 (2015)

license renewal provisions cover environmental issues relating to onsite spent fuel storage generically, and all such issues, including accident risk, fall outside the scope of license renewal proceedings; LBP-15-5, 81 NRC 249 (2015)

NRC adopted a generic environmental impact statement identifying and analyzing environmental impacts of continued storage of spent nuclear fuel and associated revisions to the Temporary Storage Rule in 10 C.F.R. 51.23; LBP-15-1, 81 NRC 15 (2015)

NRC is not required, as a precondition to issuing or renewing operating licenses for nuclear power plants, to make definitive findings concerning technical feasibility of a repository for the disposal of spent nuclear fuel; CLI-15-4, 81 NRC 221 (2015)

NRC Staff must account for the environmental impacts of continued storage before finalizing individual licensing decisions, and, when appropriate circumstances exist, the question of whether to prepare a supplemental final environmental impact statement is to be part of that analysis; CLI-15-10, 81 NRC 535 (2015)

NRC's long-continued regulatory practice of issuing operating licenses with an implied finding of reasonable assurance that safe permanent disposal of spent nuclear fuel can be available when needed is in accord with the intent of Congress underlying the Atomic Energy Act and Energy Reorganization Act; CLI-15-4, 81 NRC 221 (2015)

placeholder contentions that challenge the 2014 Continued Storage Rule and associated Generic Environmental Impact Statement for Continued Storage are inadmissible; CLI-15-15, 81 NRC 803 (2015)

systems must be designed to ensure adequate safety under normal and postulated accident conditions; CLI-15-4, 81 NRC 221 (2015)

Temporary Storage Rule was vacated; LBP-15-1, 81 NRC 15 (2015)

to the extent NRC takes action with respect to waste confidence on a case-by-case basis, litigants can challenge such site-specific agency actions in the adjudicatory process; CLI-15-11, 81 NRC 546 (2015); CLI-15-12, 81 NRC 551 (2015)

when considering continued storage in licensing reviews with previously completed final environmental impact statements, NRC Staff is expected to use a consistent and transparent process to ensure that all stakeholders are aware of how the environmental impacts of continued storage are considered in each licensing action affected by this regulation; CLI-15-10, 81 NRC 535 (2015)

See also Dry Cask Storage

**STANDARD OF PROOF**

relative to factual matters, to carry burden of proof, NRC Staff and/or applicant must establish that its position is supported by a preponderance of the evidence; LBP-15-3, 81 NRC 65 (2015); LBP-15-16, 81 NRC 618 (2015)

**STANDARD OF REVIEW**

Commission does not review combined license application de novo, but rather considers the sufficiency of NRC Staff's review of the application; CLI-15-13, 81 NRC 555 (2015)

Commission reviews board's legal rulings de novo and will reverse a board's legal rulings if they are contrary to established law; CLI-15-6, 81 NRC 340 (2015)

Commission reviews questions of law de novo, but defers to the board's findings with respect to the underlying facts unless they are clearly erroneous; CLI-15-6, 81 NRC 340 (2015); CLI-15-7, 81 NRC 481 (2015); CLI-15-9, 81 NRC 512 (2015)

grant of discretionary review must show that a board's ruling was a departure from, or contrary to, established law; CLI-15-7, 81 NRC 481 (2015)

important questions of law and material fact merit Commission review; CLI-15-6, 81 NRC 340 (2015)



## SUBJECT INDEX

license renewal review is not intended to duplicate NRC's ongoing oversight of operating reactors;

CLI-15-6, 81 NRC 340 (2015)

mere presence of evidence supporting both sides does not call for Commission review, where it appears that the board considered all the evidence and arguments before it; CLI-15-7, 81 NRC 481 (2015)

petition for review must raise a substantial question with respect to whether a necessary legal conclusion is without governing precedent or is contrary to established law; CLI-15-7, 81 NRC 481 (2015)

petition for review will be granted at Commission discretion upon a showing that petitioner has raised a substantial question as to any of the five factors of 10 C.F.R. 2.341(b)(4)(i)-(v); CLI-15-9, 81 NRC 512 (2015)

petition under 10 C.F.R. 2.206 will be reviewed only where petitioner specifies the bases for taking the requested action; DD-15-6, 81 NRC 884 (2015)

review is granted where petitions for review raise substantial questions of law and procedure; CLI-15-6, 81 NRC 340 (2015)

standard for discretionary review is described; CLI-15-7, 81 NRC 481 (2015)

standard for showing clear error is difficult to meet, requiring that intervenors demonstrate that the board's determination is not even plausible in light of the record as a whole; CLI-15-7, 81 NRC 481 (2015); CLI-15-9, 81 NRC 512 (2015)

### STANDARD REVIEW PLANS

SRPs do not have the force and effect of law; CLI-15-6, 81 NRC 340 (2015)

where no Staff guidance was available for the particular type of facility undergoing license review, the board reasonably selected a standard for a facility most like the facility under review; CLI-15-6, 81 NRC 340 (2015)

### STANDING TO INTERVENE

although petitioner bears the burden of establishing standing, licensing boards should evaluate petitioner's standing construing the petition in favor of petitioner; LBP-15-13, 81 NRC 456 (2015)

Atomic Energy Act authorizes NRC to accord protection from radiological injury to both health and property interests, and thus a genuine property interest is sufficient to accord petitioner proximity-based standing; LBP-15-17, 81 NRC 753 (2015)

board is obliged to independently assess petitioners' standing, even if it is unchallenged; LBP-15-17, 81 NRC 753 (2015)

Commission affirmed board ruling on standing and upheld the validity of the proximity presumption; CLI-15-13, 81 NRC 555 (2015)

Commission affirmed the board's standing ruling, but declined to accept review of challenges to the board's admission of two contentions because petitioner had failed to perfect its appeal by challenging the validity of the board's admissibility rulings regarding other contentions; LBP-15-3, 81 NRC 65 (2015)

Commission permits petitioners to cure deficiencies with regard to standing in their replies; LBP-15-5, 81 NRC 249 (2015)

contemporaneous judicial concepts of standing are applied in NRC proceedings; LBP-15-17, 81 NRC 753 (2015); LBP-15-19, 81 NRC 815 (2015)

hearing request is granted where petitioners have submitted a timely petition, established representational standing, and proffered an admissible contention; LBP-15-20, 81 NRC 829 (2015)

in situations involving obvious potential for offsite consequences, Commission has routinely granted standing to petitioners who live within a certain distance of the facility at issue under the proximity presumption, effectively dispensing with the need to make an affirmative showing of injury, causation, and redressability; LBP-15-13, 81 NRC 456 (2015)

interests that representative organization seeks to protect must be germane to its own purpose, and neither the asserted claim nor the required relief must require an individual member to participate in the organization's legal action; LBP-15-5, 81 NRC 249 (2015)

license amendments related to reactor pressure vessel embrittlement present an obvious potential for offsite public health and safety consequences; LBP-15-17, 81 NRC 753 (2015)

licensing actions that could increase reactor vessel embrittlement, such as license renewals, hold the potential for offsite consequences that are obvious; LBP-15-17, 81 NRC 753 (2015)

licensing boards are obliged to independently assess petitioners' standing; LBP-15-5, 81 NRC 249 (2015)

## SUBJECT INDEX

living within 50 miles of a nuclear power reactor is enough to confer standing on an individual or group in proceedings for construction permits, operating licenses, or significant amendments thereto; LBP-15-17, 81 NRC 753 (2015); LBP-15-20, 81 NRC 829 (2015)

mother was denied standing based on her son's residence within 50 miles of a power plant, because she herself lived more than 50 miles away; LBP-15-17, 81 NRC 753 (2015)

NRC applies judicial concepts of standing, under which petitioner must allege a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision; LBP-15-5, 81 NRC 249 (2015); LBP-15-13, 81 NRC 456 (2015); LBP-15-17, 81 NRC 753 (2015)

parent could attain proximity-based standing through reference to her child if the child was a minor or otherwise under a legal disability and thus unable to participate herself; LBP-15-17, 81 NRC 753 (2015)

participation in a licensing proceeding requires a demonstration of standing; LBP-15-13, 81 NRC 456 (2015); LBP-15-17, 81 NRC 753 (2015); LBP-15-19, 81 NRC 815 (2015)

petitioner could not rely on caretakers maintaining and farming the property in petitioner's absence as grounds for proximity-based standing; LBP-15-17, 81 NRC 753 (2015)

petitioner may use its reply as an opportunity to cure potential defects in standing; LBP-15-13, 81 NRC 456 (2015)

petitioner who lives, has frequent contacts, or has significant property interest in within 50 miles of a nuclear power reactor has standing without the need to make an individualized showing of injury, causation, and redressability; LBP-15-17, 81 NRC 753 (2015)

petitioners cannot gain standing from the interests of third parties except in very limited circumstances; LBP-15-17, 81 NRC 753 (2015)

petitioners had proximity-based standing even though they did not provide a reactor vessel failure scenario; LBP-15-17, 81 NRC 753 (2015)

proximity presumption allows petitioner living within 50 miles of the reactor to establish standing without the need to make an individualized showing of injury, causation, and redressability; LBP-15-5, 81 NRC 249 (2015)

proximity presumption applied where petitioners' contention concerned a license amendment to move the schedule for the withdrawal of reactor vessel material specimens from the technical specifications to the updated safety analysis report; LBP-15-17, 81 NRC 753 (2015)

proximity presumption applies across the board to all proceedings regardless of type because the rationale underlying it is not based on the type of proceeding per se but on whether the proposed action involves a significant source of radioactivity producing an obvious potential for offsite consequences; LBP-15-17, 81 NRC 753 (2015)

proximity presumption applies in more limited license amendment proceedings only if the proposed amendment obviously entails an increased potential for offsite consequences; LBP-15-17, 81 NRC 753 (2015)

proximity presumption applies to persons who have a significant property interest in the area near a nuclear power plant; LBP-15-17, 81 NRC 753 (2015)

proximity presumption applies to persons who have frequent contacts in the area near a nuclear power plant; LBP-15-17, 81 NRC 753 (2015)

proximity presumption applies when there are clear implications for the offsite environment, or major alterations to the facility with a clear potential for offsite consequences; LBP-15-17, 81 NRC 753 (2015)

proximity presumption was applied in a license amendment proceeding where management's lack of the required character and competence was alleged; LBP-15-17, 81 NRC 753 (2015)

proximity-based standing based on frequent contacts is a determination to be made by a licensing board after weighing all the information provided; LBP-15-17, 81 NRC 753 (2015)

radius for the proximity presumption has to be at least as large as the range where obvious offsite consequences can occur; LBP-15-17, 81 NRC 753 (2015)

remedy that makes even a small contribution to resolving a larger, more complex injury can still support a standing claim; LBP-15-13, 81 NRC 456 (2015)

## SUBJECT INDEX

requirement to demonstrate standing is derived from instruction to NRC to provide a hearing upon the request of any person whose interest may be affected by the proceeding; LBP-15-5, 81 NRC 249 (2015)

state government has standing because the facility is located within the boundaries of the state and, accordingly, no further demonstration of standing is required; LBP-15-4, 81 NRC 156 (2015); LBP-15-18, 81 NRC 793 (2015); LBP-15-19, 81 NRC 815 (2015)

statement that petitioner lives, recreates, and conducts business within the vicinity of the plant is too vague to demonstrate a substantial or regular presence within 50 miles of the plant; LBP-15-17, 81 NRC 753 (2015)

to demonstrate frequent contacts within the 50-mile site radius under the proximity presumption, petitioner must show that her contacts are substantial and regular, and must describe them with specificity; LBP-15-17, 81 NRC 753 (2015)

### STANDING TO INTERVENE, ORGANIZATIONAL

members living within 50 miles of a reactor are presumed to have standing under the Commission's 50-mile proximity presumption; LBP-15-5, 81 NRC 249 (2015)

organization that seeks representational standing must show that at least one of its members would be affected by the proceeding, identify that member by name and address, show that members would have standing to intervene in their own right, and that identified members have authorized the organization to request a hearing on their behalf; LBP-15-5, 81 NRC 249 (2015)

petitioner must show a discrete injury to the organization itself; LBP-15-5, 81 NRC 249 (2015); LBP-15-17, 81 NRC 753 (2015)

when an organization seeks to intervene on behalf of its members, it may establish standing by showing that one or more of its members would individually meet the above articulated standing requirements, the member has authorized the organization to represent its interest, and the interest represented is germane to the organization's purpose; LBP-15-13, 81 NRC 456 (2015)

### STANDING TO INTERVENE, REPRESENTATIONAL

failure of organization member to provide an exact address in her affidavit is not a limiting concern; LBP-15-17, 81 NRC 753 (2015)

interests that a representative organization seeks to protect must be germane to its own purpose, and neither the asserted claim nor the relief sought must require an individual member to participate in the organization's legal action; LBP-15-5, 81 NRC 249 (2015); LBP-15-17, 81 NRC 753 (2015)

organization members living within 50 miles of a reactor are presumed to have standing under the Commission's 50-mile proximity presumption; LBP-15-5, 81 NRC 249 (2015)

organization seeking representational standing on behalf of its members may meet the injury-in-fact requirement by demonstrating that at least one of its members, who has authorized the organization to represent his or her interest, will be injured by the possible outcome of the proceeding; LBP-15-5, 81 NRC 249 (2015); LBP-15-13, 81 NRC 456 (2015); LBP-15-17, 81 NRC 753 (2015)

petitioning member's affidavit must be sufficiently specific to show frequent contact within 50 miles of the plant; LBP-15-17, 81 NRC 753 (2015)

### STATE GOVERNMENT

deference can be given to a state permit's findings as to the acceptability of environmental impacts; LBP-15-11, 81 NRC 401 (2015)

government entity may file an amicus brief within the time allowed to the party whose position the brief will support; CLI-15-2, 81 NRC 213 (2015)

NEPA encourages state participation when appropriate and authorized, but coordination between a federal agency and a state requires active involvement between the two in order for the federal agency to meet its independent review burden; LBP-15-11, 81 NRC 401 (2015)

radiological emergency response plan was developed by the State and approved by the Federal Emergency Management Agency to ensure that the State is prepared to handle the offsite effects of a radiological emergency; LBP-15-4, 81 NRC 156 (2015)

reliance on a state permit, let alone one prepared and adopted by a state government, cannot satisfy a federal agency's obligations under NEPA; LBP-15-11, 81 NRC 401 (2015)

state government has standing because the facility is located within its boundaries and, accordingly, no further demonstration of standing is required; LBP-15-4, 81 NRC 156 (2015); LBP-15-18, 81 NRC 793 (2015)

## SUBJECT INDEX

the fact that a competent and responsible state authority has approved the environmental acceptability of a site or a project after extensive and thorough environmentally sensitive hearings is properly entitled to substantial weight in the conduct of NRC's own NEPA analysis; LBP-15-11, 81 NRC 401 (2015)

See also Agreement State Programs

### STATION BLACKOUT

licensees must develop strategies to mitigate a simultaneous loss of all a.c. power and loss of normal access to the ultimate heat sink; DD-15-5, 81 NRC 877 (2015)

NRC guidance documents outline the process licensees use to define and deploy strategies to enhance their ability to cope with beyond-design-basis external events, including station blackout; DD-15-5, 81 NRC 877 (2015)

NRC issued an order on station blackout mitigation strategies requiring mitigation strategies to protect against, among many other hazards, postulated seismic events; DD-15-1, 81 NRC 193 (2015)

under its certified design, the Economic Simplified Boiling Water Reactor could maintain circulation long enough to permit safe shutdown of the reactor even if it were to lose offsite power and all of its backup generators failed to operate; LBP-15-5, 81 NRC 249 (2015)

### STATUTES

contentions challenging applicable statutory requirements or Commission regulations are not admissible in agency adjudications; LBP-15-5, 81 NRC 249 (2015)

### STATUTORY CONSTRUCTION

interpretation of statutes at issue and the regulations governing their implementation falls within the Commission's province; LBP-15-5, 81 NRC 249 (2015)

it is fair to read the AEC and NRC history as a de facto acquiescence in and ratification of the Commission's licensing procedure by Congress; CLI-15-4, 81 NRC 221 (2015)

"owned, controlled, or dominated" refers to relationships in which the will of one party is subjugated to the will of another; CLI-15-7, 81 NRC 481 (2015)

### STAY

even if movant fails to show irreparable injury, a board may still grant a stay if movant has made an overwhelming showing or a demonstration of virtual certainty that it will prevail on the merits; LBP-15-2, 81 NRC 48 (2015)

in addressing the stay criteria in a Subpart L proceeding, litigant must come forth with more than general or conclusory assertions in order to demonstrate its entitlement to relief; LBP-15-2, 81 NRC 48 (2015)

in determining whether to grant or deny an application for a stay, a board must balance four separate interests; LBP-15-2, 81 NRC 48 (2015)

irreparable injury is the most important of the factors for grant or denial of a stay; LBP-15-2, 81 NRC 48 (2015)

movant has the burden of persuasion on the four factors of 10 C.F.R. 2.1213(d); LBP-15-2, 81 NRC 48 (2015)

movant must specifically and reasonably demonstrate an injury, not merely allege generalized harm; LBP-15-2, 81 NRC 48 (2015)

to qualify as an irreparable injury, the potential harm cited by stay movant first must be related to the underlying claim that is the focus of the adjudication; LBP-15-2, 81 NRC 48 (2015)

upon a strong showing of irreparable injury, movant need not always establish a high probability of success on the merits; LBP-15-2, 81 NRC 48 (2015)

where movant cannot show either irreparable injury or a likelihood of prevailing on the merits, a board need not consider the remaining factors; LBP-15-2, 81 NRC 48 (2015)

### STAY OF EFFECTIVENESS

intervenor may seek a stay of NRC Staff's immediately effective license issuance; LBP-15-3, 81 NRC 65 (2015)

notification of renewal of source materials license triggers the 5-day filing deadline to apply for a stay of the license; LBP-15-2, 81 NRC 48 (2015)

stay of an NRC license is an extraordinary remedy, and a rare occurrence in NRC practice; LBP-15-2, 81 NRC 48 (2015)

## SUBJECT INDEX

### STEAM GENERATOR TUBE DEGRADATION

petitioners' concerns about tube leaks, unplanned power changes, and potential primary coolant contamination did not constitute any violations that were more than minor; DD-15-2, 81 NRC 205 (2015)

### STIPULATIONS

appeal board's ruling that the environmental impact statement was deemed modified by the parties' stipulations at hearing did not violate the letter or spirit of NEPA; CLI-15-6, 81 NRC 340 (2015)

Commission directs litigants to provide either a joint stipulation that local union's appeal should be dismissed or briefing on the question whether the appeal should be dismissed as moot and the proceeding terminated; CLI-15-16, 81 NRC 810 (2015)

### STRATEGIC SPECIAL NUCLEAR MATERIAL

any statistical sampling plan for verifying the presence and integrity of SSNM items must have at least 99 percent power of detecting item losses that total 5 formula kg or more, plantwide, within 30 calendar days for Category IA items and 60 calendar days for Category IB items contained in a vault or in a permanently controlled access area isolated from the rest of the material access area; CLI-15-9, 81 NRC 512 (2015)

contention that applicant's revised material control and accounting plan is deficient because its item monitoring program does not have the capability to verify, on a statistical sampling basis, the presence and integrity of SSNM losses that total 5 formula kilograms of plutonium or more, plantwide, within the time frames specified by the regulation is inadmissible; CLI-15-9, 81 NRC 512 (2015)

"Category IA" material means any SSNM directly usable in the manufacture of a nuclear explosive device; CLI-15-9, 81 NRC 512 (2015)

"Category IB" material refers to all SSNM other than Category IA material; CLI-15-9, 81 NRC 512 (2015)

"controlled access area" is any temporarily or permanently established area that is clearly demarcated, access to which is controlled, and which affords isolation of the material or persons within it; CLI-15-9, 81 NRC 512 (2015)

"formula kilogram" means SSNM in any combination in a quantity of 1000 grams computed by the formula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium); CLI-15-9, 81 NRC 512 (2015)

licensee must be able to rapidly assess the validity of alleged thefts; CLI-15-9, 81 NRC 512 (2015)

licensees must verify on a statistical sampling basis, the presence and integrity of SSNM items; CLI-15-9, 81 NRC 512 (2015)

"power of detection" means the probability that the critical value of a statistical test will be exceeded when there is an actual loss of a specific quantity of SSNM; CLI-15-9, 81 NRC 512 (2015)

"unit process" means an identifiable segment or segments of processing activities for which the amounts of input and output SSNM are based on measurements; CLI-15-9, 81 NRC 512 (2015)

"vault" is a windowless enclosure with walls, floor, roof and door(s) designed and constructed to delay penetration from forced entry; CLI-15-9, 81 NRC 512 (2015)

### STRUCTURAL ANALYSIS

because the shield building functions as a radiation and biological shield, failure or collapse of the shield building due to cracking propagation could lead to health and safety impacts and thus petitioner's contention concerns a subject matter that could impact the grant or denial of a pending license application; LBP-15-1, 81 NRC 15 (2015)

### STRUCTURAL INTEGRITY

contention claiming that modifications to repair or replace inadequate structural beams and columns is more appropriately presented as a request for enforcement action; CLI-15-5, 81 NRC 329 (2015)

request for enforcement action based on support beam deficiencies, flood protection inadequacy, flood risks from upstream dams, and primary reactor containment electrical penetration seals containing Teflon is denied because petitioner's requests have been addressed through other actions; DD-15-4, 81 NRC 869 (2015)

### SUBPART L PROCEEDINGS

in addressing the stay criteria in a Subpart L proceeding, litigant must come forth with more than general or conclusory assertions in order to demonstrate its entitlement to relief; LBP-15-2, 81 NRC 48 (2015)

## SUBJECT INDEX

### SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

agencies shall prepare supplements to either draft or final EISs if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; LBP-15-13, 81 NRC 456 (2015)

although a draft SEIS may rely in part on applicant's environmental report, NRC Staff must independently evaluate and be responsible for the reliability of all information used in the DSEIS; LBP-15-3, 81 NRC 65 (2015)

although NRC has issued a generic environmental impact statement for in situ uranium recovery facilities that assesses potential ISR facility construction/operation/decommissioning impacts, for the initial licensing of each individual ISR facility, NRC Staff will first prepare a draft SEIS; LBP-15-3, 81 NRC 65 (2015)

board's findings and the adjudicatory record are, in effect, part of the final SEIS; LBP-15-16, 81 NRC 618 (2015)

bounding analysis provided in the final SEIS, as supplemented in the record, provides sufficient information about a reasonable range of hazardous constituent concentration values associated with potential post-operational alternate concentration limits to provide an appropriate NEPA assessment of the environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits; LBP-15-3, 81 NRC 65 (2015)

contention that final SEIS fails to analyze environmental impacts that will occur if applicant cannot restore groundwater to primary or secondary limits is decided; LBP-15-3, 81 NRC 65 (2015)

contention that final SEIS fails to comply with NRC regulations and NEPA because it lacks an adequate description of the present baseline (i.e., original or premining) groundwater quality and fails to demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies is decided; LBP-15-3, 81 NRC 65 (2015)

contention that supplementation of the EIS is necessary to allow members of the public to lodge placeholder contentions challenging Commission reliance, in individual licensing proceedings, on the continued storage GEIS and Continued Storage Rule is inadmissible; CLI-15-10, 81 NRC 535 (2015)

decision of the board or Commission becomes the record of decision, which may also incorporate the final SEIS; CLI-15-6, 81 NRC 340 (2015)

distribution requirements for a final EIS and SEIS are imposed by 10 C.F.R. 51.93; LBP-15-3, 81 NRC 65 (2015)

final EIS and SEIS must be considered in the agency's decisionmaking; LBP-15-3, 81 NRC 65 (2015)

final SEIS is a snapshot in time of expected environmental consequences; CLI-15-6, 81 NRC 340 (2015)

final EIS is supplemented by the board's decision as well as by the hearing record; CLI-15-6, 81 NRC 340 (2015)

final EIS must be supplemented to provide complete, accurate, and up-to-date sources of information for members of the public and state and local governments; CLI-15-10, 81 NRC 535 (2015)

final SEIS must include an analysis of cultural impacts; LBP-15-16, 81 NRC 618 (2015)

intervenor fail to establish the validity of their various challenges to the adequacy of the final SEIS description of the baseline water quality at the ISR site; LBP-15-3, 81 NRC 65 (2015)

intervenor fail to specify what other alternatives to the license renewal application should be discussed in the draft SEIS, much less show that any proposed alternative would satisfy the purpose of applicant's proposed action; LBP-15-1, 81 NRC 15 (2015)

it is not clear that NRC Staff relied on the generic environmental impact statement when preparing the draft SEIS because it was not incorporated by reference or mentioned in any other manner; LBP-15-11, 81 NRC 401 (2015)

new information on the need to supplement an issued final EIS must point to impacts that affect the quality of the human environment in a significant manner or to a significant extent not already considered; LBP-15-16, 81 NRC 618 (2015)

NRC Staff must account for the environmental impacts of continued storage before finalizing individual licensing decisions, and, when appropriate circumstances exist, the question of whether to prepare a supplemental FEIS is to be part of that analysis; CLI-15-10, 81 NRC 535 (2015)

NRC Staff must include in the final SEIS an analysis of significant problems and objections raised by any affected Indian tribes, and by other interested persons; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

NRC Staff uses applicant's environmental report as a starting point for its own environmental review of a license renewal application, the results of which are published as a supplement to the generic EIS;

CLI-15-6, 81 NRC 340 (2015)

purpose of the final SEIS is to inform the decisionmaking agency and the public of a broad range of environmental impacts that will result, with a fair degree of likelihood, from a proposed project, rather than to speculate about worst-case scenarios and how to prevent them; CLI-15-6, 81 NRC 340 (2015) relative to an individual ISR facility, when NRC Staff formulates its draft and final SEIS conclusions regarding the environmental impacts of a proposed action or alternative actions, it uses as guidance a standard scheme to categorize or quantify the impacts; LBP-15-3, 81 NRC 65 (2015)

severe accident mitigation alternatives analysis must be considered as part of the environmental report and, ultimately, as part of NRC Staff's SEIS for a power reactor license renewal; LBP-15-5, 81 NRC 249 (2015)

standard for preparing a supplemental environmental assessment is the same as for preparing a SEIS;

LBP-15-13, 81 NRC 456 (2015)

supplementation of the FEIS is not necessary every time new information comes to light after the environmental impact statement is finalized; CLI-15-10, 81 NRC 535 (2015)

supplementation of the FEIS is required when a final action has not been taken and there are new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; CLI-15-10, 81 NRC 535 (2015)

to warrant supplementation of the FEIS, new information must paint a seriously different picture of the environmental landscape; CLI-15-10, 81 NRC 535 (2015)

when a supplement to a FEIS is required and what it must contain are outlined; LBP-15-3, 81 NRC 65 (2015)

where environmental impacts are practically quantifiable, NRC has a duty to discuss them in those terms in the final SEIS; LBP-15-3, 81 NRC 65 (2015)

with respect to the need to supplement an issued FEIS, the party offering the new contention has the burden of presenting information sufficient to show that there is a genuine issue regarding whether the NRC Staff should supplement its document; LBP-15-16, 81 NRC 618 (2015)

### SURVEILLANCE

after the rulemaking is completed, licensees for new reactors will be required to comply with the ASME code preservice and inservice surveillance provisions for squib valves; CLI-15-13, 81 NRC 555 (2015)

licensee must perform a consistency check of its embrittlement model against available surveillance data; LBP-15-17, 81 NRC 753 (2015)

surveillance data are continuously integrated into future embrittlement projections; LBP-15-17, 81 NRC 753 (2015)

### SURVEILLANCE PROGRAMS

although the Commission found NRC Staff's review of combined license applications rigorous, it imposed a condition requiring implementation of a squib-valve surveillance program prior to fuel load;

CLI-15-13, 81 NRC 555 (2015)

integrated surveillance program among similar reactors is allowed if the reactors have sufficiently similar design and operating features to permit accurate comparisons of the predicted amount of radiation damage; LBP-15-17, 81 NRC 753 (2015)

results from plant-specific surveillance program must be integrated into the fracture toughness estimate if the plant-specific surveillance data have been deemed credible; LBP-15-17, 81 NRC 753 (2015)

### SURVEILLANCE TESTING

any changes to the material specimen withdrawal schedule that conform to the ASTM standard referenced in Appendix H will not alter the plant's license; LBP-15-20, 81 NRC 829 (2015)

ASTM Standard E 185 anticipates that during the course of a nuclear power plant's life the surveillance capsule withdrawal schedule may need to be revised and allows and provides for such changes; LBP-15-20, 81 NRC 829 (2015)

challenges based on 10 C.F.R. 50.61a and the question of whether applicant demonstrated substantial advantage under 10 C.F.R. Part 50, Appendix H as a reason to not test capsules are beyond the scope of a license amendment proceeding, which concerns compliance with Appendix G of 10 C.F.R. Part 50; LBP-15-20, 81 NRC 829 (2015)

## SUBJECT INDEX

consistency check compares mean and slope of the embrittlement model curve against surveillance data and checks to confirm that outliers fall within acceptable residual values provided in the regulation; LBP-15-17, 81 NRC 753 (2015)

consistency check is required if three or more surveillance data points measured at three or more different neutron fluences exist for a specific material; LBP-15-17, 81 NRC 753 (2015)

consistency check seeks to compare, for a specific material type, the model's projected embrittlement with the actual embrittlement values at the same fluence provided by material samples; LBP-15-17, 81 NRC 753 (2015)

data must consist of material samples that are the same composition, or heat, as the materials being evaluated by the model; LBP-15-17, 81 NRC 753 (2015)

differing amounts of copper, nickel, phosphorus, and manganese between material samples for the consistency check are accounted for; LBP-15-17, 81 NRC 753 (2015)

exemption from the surveillance program is allowed if a reactor's lifetime irradiation levels are below a certain threshold; LBP-15-17, 81 NRC 753 (2015)

if fewer than three surveillance data points exist for a specific material, then the embrittlement model must be used without performing the consistency check; LBP-15-17, 81 NRC 753 (2015)

if the embrittlement model deviates from the physical samples over the limits specified in 10 C.F.R. 50.61a(f)(6)(vi), licensee must submit additional evaluations and seek approval for the deviations from the Director of the Office of Nuclear Reactor Regulation; LBP-15-17, 81 NRC 753 (2015)

if three or more surveillance data points measured at three or more different neutron fluences exist for a specific material, licensee shall determine if the surveillance data show a significantly different trend than the embrittlement model predicts; LBP-15-17, 81 NRC 753 (2015)

in calculating embrittlement reference temperatures, licensee must calculate neutron flux through the reactor pressure vessel using a methodology that has been benchmarked to experimental measurements and with quantified uncertainties and possible biases; LBP-15-17, 81 NRC 753 (2015)

licensees have some discretion in considering other plant-specific information that may be helpful in aligning their embrittlement models with the surveillance data; LBP-15-17, 81 NRC 753 (2015)

licensees must attach a particular number of surveillance capsules to specified areas within the reactor vessel, typically near the inside vessel wall at the beltline; LBP-15-20, 81 NRC 829 (2015)

minimum frequency with which surveillance capsules must be tested is set by ASTM Standard E 185 (1982 version), which is incorporated into Appendix H; LBP-15-20, 81 NRC 829 (2015)

NRC must preapprove the schedule for removing material samples from the reactor vessel; LBP-15-17, 81 NRC 753 (2015)

petitioners are not barred from contending that additional testing is necessary to show margins of safety equivalent to those of the ASME BPV Code, Section XI, Appendix G because the petitioners allege noncompliance with 10 C.F.R. Part 50, Appendix G and not Appendix H; LBP-15-20, 81 NRC 829 (2015)

physical specimens must come from near the inside vessel wall in the beltline region so that the specimen irradiation history duplicates the neutron spectrum, temperature history, and maximum neutron fluence experienced by the reactor vessel inner surface; LBP-15-17, 81 NRC 753 (2015)

plant-specific surveillance data must be integrated into the transition fracture toughness reference temperature estimate; LBP-15-17, 81 NRC 753 (2015)

pressurized thermal shock rule and embrittlement screening program are discussed; LBP-15-17, 81 NRC (2015); LBP-15-17, 81 NRC 753 (2015)

pressurized water reactor pressure vessel surveillance program relies on physical material samples, also known as specimens, capsules, or coupons; LBP-15-17, 81 NRC 753 (2015)

purpose of the consistency check is to determine if the surveillance data show a significantly different trend than the embrittlement model predicts; LBP-15-17, 81 NRC 753 (2015)

surveillance data include any data that demonstrate embrittlement trends for the beltline materials; LBP-15-17, 81 NRC 753 (2015)

surveillance data must be used in the consistency check when it is a heat-specific match for one or more of the materials for which the reference temperature is being calculated and three or more different neutron fluences exist for a specific material; LBP-15-17, 81 NRC 753 (2015)

surveillance data need not be obtained from the same reactor pressure vessel that is the subject of the license amendment; LBP-15-17, 81 NRC 753 (2015)



## SUBJECT INDEX

three or more samples are required to conduct a consistency check; LBP-15-17, 81 NRC 753 (2015)

### SURVEYS

Class III archeological survey involves a professionally conducted, pedestrian survey of an entire target area to identify properties that may be eligible for inclusion on the National Register of Historic Places; LBP-15-16, 81 NRC 618 (2015)

### SUSPENSION

NRC approvals of plant restart and lifting suspensions did not trigger AEA § 189a hearing rights; CLI-15-14, 81 NRC 729 (2015)

### SUSPENSION OF LICENSE

request that NRC order the immediate suspension of the operating licenses of all General Electric boiling-water reactors that use the Mark I primary containment system citing the Fukushima Dai-ichi accident in Japan as its rationale basis is resolved; DD-15-1, 81 NRC 193 (2015)

request under 10 C.F.R. 50.54(f) is to enable the Commission to determine whether or not the license should be modified, suspended, or revoked; CLI-15-14, 81 NRC 729 (2015)

### SUSPENSION OF PROCEEDING

all final decisions for licenses that relied on the Waste Confidence Decision and Temporary Storage Rule were suspended; CLI-15-4, 81 NRC 221 (2015)

Commission denied suspension petitions and intervenors' motion to admit the new continued storage safety findings contentions; LBP-15-9, 81 NRC 396 (2015)

decision to suspend final licensing decisions is highly dependent upon the facts and requires a judgment that the significance of the matter raised is so substantial as to warrant suspension; CLI-15-14, 81 NRC 729 (2015)

NRC is not required to conduct a rulemaking proceeding or to withhold action on pending or future applications for nuclear power reactor operating licenses until it makes a determination that high-level radioactive wastes can be permanently disposed of safely; CLI-15-4, 81 NRC 221 (2015)

request for suspension of proceedings and other relief after the Fukushima Dai-ichi accident was denied; CLI-15-13, 81 NRC 555 (2015)

suspension request that would have halted final licensing decisions pending action on a petition for rulemaking regarding NRC Staff's review of the potential expedited transfer of spent fuel from pools to dry casks was denied; CLI-15-13, 81 NRC 555 (2015)

### SYNERGISTIC EFFECTS

"synergistic" refers to the joint action of different parts or sites which, acting together, enhance the effects of one or more individual sites; LBP-15-5, 81 NRC 249 (2015)

### TECHNICAL SPECIFICATIONS

"exigent circumstances" determination seems compelled by the fact that violation of the technical specifications limit for the plant, whatever the cause of the temperature increase, requires a dual-unit shutdown; LBP-15-13, 81 NRC 456 (2015)

proximity presumption applied where petitioners' contention concerned a license amendment to move the schedule for the withdrawal of reactor vessel material specimens from the technical specifications to the updated safety analysis report; LBP-15-17, 81 NRC 753 (2015)

### TEMPERATURE

alternate pressurized thermal shock rule changes how licensees derive projected reference temperatures for the components of their reactor pressure vessels; LBP-15-17, 81 NRC 753 (2015)

application to use alternate pressurized thermal shock rule must contain the projected embrittlement reference temperatures along various portions of the reactor pressure vessel, from the present to a future point, compared to the alternate screening criteria; LBP-15-17, 81 NRC 753 (2015)

embrittlement model projects the reference temperatures for various parts of the reactor pressure vessel at the end of life of the plant; LBP-15-17, 81 NRC 753 (2015)

in calculating embrittlement reference temperatures, licensee must calculate neutron flux through the reactor pressure vessel using a methodology that has been benchmarked to experimental measurements and with quantified uncertainties and possible biases; LBP-15-17, 81 NRC 753 (2015)

licensee can use a set of generic mean nil-ductility reference temperature values if measured values are not available; LBP-15-17, 81 NRC 753 (2015)

## SUBJECT INDEX

licensee must establish the nil-ductility reference temperature for the reactor pressure vessel material in the annealed state, before the reactor was operational for various key points along the RPV; LBP-15-17, 81 NRC 753 (2015)

licensees have to verify that their reference temperature calculations at the time of the application match up with surveillance data; LBP-15-17, 81 NRC 753 (2015)

reference temperature shift is the difference in reference temperature from the unirradiated to the post-irradiated states; LBP-15-17, 81 NRC 753 (2015)

reference temperature values are compared to the alternate screening criteria to determine whether the reactor pressure vessel is safe to operate; LBP-15-17, 81 NRC 753 (2015)

surveillance data must be used in the consistency check when it is a heat-specific match for one or more of the materials for which the reference temperature is being calculated and three or more different neutron fluences exist for a specific material; LBP-15-17, 81 NRC 753 (2015)

### TEMPERATURE LIMITS

alternate screening criteria consist of eighteen different reference temperature limits that depend on reactor pressure vessel wall thickness and the part of the RPV under consideration; LBP-15-17, 81 NRC 753 (2015)

“exigent circumstances” determination seems compelled by the fact that violation of the technical specifications limit for the plant, whatever the cause of the temperature increase, requires a dual-unit shutdown; LBP-15-13, 81 NRC 456 (2015)

if the reference values projected at specific areas of the reactor pressure vessel for the end of life of the plant surpass the current screening criteria, licensee must submit a safety analysis and obtain NRC approval to continue to operate; LBP-15-17, 81 NRC 753 (2015)

when the reference temperature of a reactor pressure vessel is above the screening limit, the RPV is considered to have an unreasonably high risk of fracture from a pressurized thermal shock event; LBP-15-17, 81 NRC 753 (2015)

### TEMPORARY STORAGE RULE

all final decisions for licenses that relied on the Waste Confidence Decision and Temporary Storage Rule were suspended; CLI-15-4, 81 NRC 221 (2015)

### TERMINATION OF PROCEEDING

NRC’s transfer of regulatory authority to the State of New Jersey is now final and the licensing board no longer has the jurisdiction it had retained over the proceeding, and the board terminates the proceeding; LBP-15-10, 81 NRC 399 (2015)

once all contentions have been decided, the contested proceeding is terminated; LBP-15-9, 81 NRC 396 (2015)

### TERRORISM

petitioners asserted that NRC actions following the events of September 11, 2001, and the accident at Fukushima Dai-ichi were insufficient to satisfy NRC’s general obligation under the Atomic Energy Act to protect public health and safety; CLI-15-4, 81 NRC 221 (2015)

### TESTING

inservice testing and inspection program for squib valves in combined license applications is discussed; CLI-15-13, 81 NRC 555 (2015)

intervenors opposed renewal of the nuclear power plant license, and proposed new contentions for increased ultrasonic testing of sand bed epoxy coating integrity; LBP-15-1, 81 NRC 15 (2015)

intervenors’ requests for more testing, more methods of testing, and more information, without an explanation of why the current program is inadequate, do not create a genuine dispute with a license renewal application; LBP-15-1, 81 NRC 15 (2015)

purpose of the testing program for squib valves is to ensure that the valves operate as intended under design conditions; CLI-15-13, 81 NRC 555 (2015)

### THEFT

contention that applicant’s revised material control and accounting plan fails to show how confirmation and verification of theft of plutonium will be carried out in the specified timelines is inadmissible; CLI-15-9, 81 NRC 512 (2015)

licensee must be able to rapidly assess the validity of alleged thefts; CLI-15-9, 81 NRC 512 (2015)

## SUBJECT INDEX

“power of detection” means the probability that the critical value of a statistical test will be exceeded when there is an actual loss of a specific quantity of strategic special nuclear material; CLI-15-9, 81 NRC 512 (2015)

### TIME LIMITED AGING ANALYSES

aging management review is required only for equipment that performs its intended function without moving parts or without a change in configuration or property; LBP-15-6, 81 NRC 314 (2015)

applicants must reassess any TLAAAs to show either that the analyses will remain valid throughout the period of extended operation or that the effects of aging on the subject component will be managed during that time period; CLI-15-6, 81 NRC 340 (2015)

contention that does not actually challenge any specific part of the integrated plant assessment or TLAAAs fails to demonstrate the existence of a genuine dispute with applicant; LBP-15-6, 81 NRC 314 (2015)

license renewal safety review is limited to licensee’s management of aging for certain systems, structures, and components, and review of TLAAAs; LBP-15-5, 81 NRC 249 (2015)

relay switches and snubbers are not subject to an aging management review; LBP-15-6, 81 NRC 314 (2015)

to evaluate a power reactor license renewal application, NRC reviews management of aging effects and TLAAAs of particular safety-related functions of the plant’s systems, structures, and components and environmental impacts and alternatives to the proposed action in accordance; LBP-15-5, 81 NRC 249 (2015)

### TRANSFER OF CONTROL

NRC’s transfer of regulatory authority to the State of New Jersey is now final and the licensing board no longer has the jurisdiction it had retained over the proceeding, and the board terminates the proceeding; LBP-15-10, 81 NRC 399 (2015)

### TRANSFORMERS

board compared transformers with other types of components listed in 10 C.F.R. 54.21(a)(1)(i) as expressly subject to or excluded from aging management review; CLI-15-6, 81 NRC 340 (2015)

board examined how a transformer performs its intended function to determine whether it undergoes a change in configuration or properties; CLI-15-6, 81 NRC 340 (2015)

transformers perform their intended function through a change in state similar to switchgear, power supplies, battery chargers, and power inverters which have been excluded from aging management review; CLI-15-6, 81 NRC 340 (2015)

### TRANSMISSION LINES

adequacy of NRC Staff’s review of transmission-corridor impacts might be appropriate for the board’s consideration sua sponte; CLI-15-1, 81 NRC 1 (2015)

Limited Work Authorization Rule expressly excludes transmission lines from the delineated construction activities that would require NRC approval before being undertaken; CLI-15-1, 81 NRC 1 (2015)

proposed transmission-line corridor is discussed; CLI-15-13, 81 NRC 555 (2015)

shared transmission corridor is an offsite transmission line excluded from environmental impact analysis; LBP-15-5, 81 NRC 249 (2015)

### TREATIES

Indian tribe’s treaty-based claims of ownership of mining site and international treaty-based claims cannot support the admission of environmental assessment contention; LBP-15-11, 81 NRC 401 (2015)

### UNCERTAINTIES

Commission requests briefing from NRC Staff on the level of uncertainty that NRC Staff considers acceptable for the implementation cost portion of the cost-benefit analysis, and why; CLI-15-3, 81 NRC 217 (2015)

decisionmakers must weigh the cost of uncertainty; LBP-15-3, 81 NRC 65 (2015)

### UNCONTESTED LICENSE APPLICATIONS

NRC has a duty to ensure, among other things, that it has adhered to its obligations under the National Environmental Policy Act; CLI-15-1, 81 NRC 1 (2015)

### URANIUM MILL TAILINGS

“byproduct material” refers to the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed for its source material content; LBP-15-16, 81 NRC 618 (2015)

## SUBJECT INDEX

### URANIUM MINING AND MILLING

admissibility of contention that final environmental assessment failed to conduct the required hard look at impacts of the proposed mine associated with restoration standards and difficulty and cost in achieving them and the use of the alternative standards permitted under the proposed rules is decided; LBP-15-15, 81 NRC 598 (2015)

although 10 C.F.R. Part 40 applies to ISL mining, some of the specific requirements in Part 40, such as many of those in Appendix A, address hazards posed only by conventional uranium milling operations; LBP-15-16, 81 NRC 618 (2015)

although the Part 40, Appendix A criteria were developed for conventional uranium milling facilities, they have since been applied in limited fashion to ISR facilities; LBP-15-3, 81 NRC 65 (2015)

applicant must establish a preoperational monitoring program that must be conducted to provide complete baseline data on a milling site and its environs; LBP-15-16, 81 NRC 618 (2015)

applicant must provide complete baseline data on a milling site and its environs; LBP-15-16, 81 NRC 618 (2015)

“byproduct material” is categorized as tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content; LBP-15-11, 81 NRC 401 (2015)

See also In Situ Leach Mining

### VALIDATION

agency’s failure to adequately validate a quantitative model on which it relies may lead the reviewing court to conclude that the agency’s decision is arbitrary, capricious, or contrary to law; LBP-15-20, 81 NRC 829 (2015)

### VALVES

after the rulemaking is completed, licensees for new reactors will be required to comply with the ASME code preservice and inservice surveillance provisions for squib valves; CLI-15-13, 81 NRC 555 (2015)

although the Commission found NRC Staff’s review of combined license applications rigorous, it imposed a condition requiring implementation of a squib-valve surveillance program prior to fuel load; CLI-15-13, 81 NRC 555 (2015)

in the event of a severe accident in an AP1000, squib valves, which are explosively activated, reduce pressure and inject water as needed into the reactor vessel; CLI-15-13, 81 NRC 555 (2015)

inservice testing and inspection program for squib valves in combined license applications is discussed; CLI-15-13, 81 NRC 555 (2015)

purpose of the testing program for squib valves is to ensure that the valves operate as intended under design conditions; CLI-15-13, 81 NRC 555 (2015)

### VENTILATION SYSTEMS

request that NRC immediately revoke prior preapproval of the hardened vent system or direct torus vent system at GE BWR Mark I units has been addressed by an order modifying licenses; DD-15-1, 81 NRC 193 (2015)

### VENTING

existing containment vent systems at BWRs with Mark I containments provide a capability to vent the containment under design-basis conditions; DD-15-1, 81 NRC 193 (2015)

licensees of boiling water reactors with Mark I and II containments are required to design and install a venting system that provides venting capability from the wetwell during severe accident conditions; DD-15-1, 81 NRC 193 (2015)

### VERIFICATION

accuracy is an integral component of the regulatory requirement that addresses item presence verification; CLI-15-9, 81 NRC 512 (2015)

any statistical sampling plan for verifying the presence and integrity of strategic special nuclear material items must have at least 99 percent power of detecting item losses that total 5 formula kg or more, plantwide, within 30 calendar days for Category IA items and 60 calendar days for Category IB items contained in a vault or in a permanently controlled access area isolated from the rest of the material access area; CLI-15-9, 81 NRC 512 (2015)

consistency check compares mean and slope of the embrittlement model curve against surveillance data and checks to confirm that outliers fall within acceptable residual values provided in the regulation; LBP-15-17, 81 NRC 753 (2015)

## SUBJECT INDEX

consistency check is required if three or more surveillance data points measured at three or more different neutron fluences exist for a specific material; LBP-15-17, 81 NRC 753 (2015)

consistency check seeks to compare, for a specific material type, the model's projected embrittlement with the actual embrittlement values at the same fluence provided by material samples; LBP-15-17, 81 NRC 753 (2015)

contention that applicant's revised material control and accounting plan fails to show how confirmation and verification of theft of plutonium will be carried out in the specified timelines is inadmissible; CLI-15-9, 81 NRC 512 (2015)

if fewer than three surveillance data points exist for a specific material, then the embrittlement model must be used without performing the consistency check; LBP-15-17, 81 NRC 753 (2015)

licensees have to verify that their reference temperature calculations at the time of the application match up with surveillance data; LBP-15-17, 81 NRC 753 (2015)

licensees must verify on a statistical sampling basis, the presence and integrity of strategic special nuclear material items; CLI-15-9, 81 NRC 512 (2015)

meaning of "verify" in the context of strategic special nuclear material item presence verification is discussed; CLI-15-9, 81 NRC 512 (2015)

purpose of the consistency check is to determine if the surveillance data show a significantly different trend than the embrittlement model predicts; LBP-15-17, 81 NRC 753 (2015)

three or more samples are required to conduct a consistency check; LBP-15-17, 81 NRC 753 (2015)

**VIOLATIONS**

licensee's operation of primary coolant pumps contrary to plant licensing and the FSAR is a violation of 10 C.F.R. Part 50, Appendix B, Criterion III; DD-15-3, 81 NRC 713 (2015)

See also Notice of Violation

**WAIVER**

arguments not raised before the board or not clearly articulated in the petition for review are deemed waived; LBP-15-5, 81 NRC 249 (2015)

**WAIVER OF OBJECTION**

objection not timely made is considered to be waived; LBP-15-20, 81 NRC 829 (2015)

**WAIVER OF RULE**

absent a rule waiver, NRC Staff is not expected to revisit the impact determinations made in the Continued Storage GEIS as part of its site-specific NEPA reviews; CLI-15-10, 81 NRC 535 (2015)

absent a waiver, contentions that raise a direct or indirect challenge to a Commission regulation must be rejected; LBP-15-4, 81 NRC 156 (2015); LBP-15-20, 81 NRC 829 (2015)

Category 1 issues are not subject to challenge in a relicensing proceeding, absent a waiver under 10 C.F.R. 2.335, because they involve environmental effects that are essentially similar for all plants and need not be assessed repeatedly on a site-specific basis; LBP-15-5, 81 NRC 249 (2015)

Commission approval of a rule waiver could allow a contention on a Category 1 issue to proceed where special circumstances exist; CLI-15-6, 81 NRC 340 (2015)

conditions necessary for grant of a rule waiver are outlined; LBP-15-6, 81 NRC 314 (2015)

generic environmental analysis is incorporated into NRC regulations, and thus Category 1 generic findings may not be challenged in individual licensing proceedings unless accompanied by a petition for rule waiver; CLI-15-6, 81 NRC 340 (2015)

party can petition for waiver of a specific NRC regulation, based on a showing of special circumstances such that application of the rule would not serve the purposes for which it was adopted; CLI-15-6, 81 NRC 340 (2015); LBP-15-3, 81 NRC 65 (2015); LBP-15-5, 81 NRC 249 (2015); LBP-15-17, 81 NRC 753 (2015)

petition for waiver of a specific NRC regulation must satisfy a four-factor test; LBP-15-17, 81 NRC 753 (2015)

petitioner cannot use one regulation to challenge another without first obtaining a waiver by showing special circumstances; LBP-15-4, 81 NRC 156 (2015)

to challenge a Category 1 issue such as public health, petitioner must request a waiver and show that unique circumstances warrant a site-specific determination; LBP-15-5, 81 NRC 249 (2015)

to obtain waiver of a rule, the allegation of special circumstances must be set forth with particularity and supported by an affidavit or other proof; LBP-15-5, 81 NRC 249 (2015)

## SUBJECT INDEX

### WASTE CONFIDENCE RULE

- all final decisions for licenses that relied on the Waste Confidence Decision and Temporary Storage Rule were suspended; CLI-15-4, 81 NRC 221 (2015)
- Commission directed licensing boards to reject pending waste confidence contentions after adopting a generic environmental impact statement to identify and analyze environmental impacts of continued storage of spent nuclear fuel beyond the licensed life of nuclear reactors; LBP-15-5, 81 NRC 249 (2015)
- in its Waste Confidence Decision, NRC failed to consider environmental impacts of a repository never becoming available, its analysis of spent fuel pool leaks was not forward-looking, and it had not sufficiently considered the consequences of spent fuel pool fires; CLI-15-4, 81 NRC 221 (2015)

### WASTE DISPOSAL

- Commission chose to review intervenors' motion along with similar motions in other proceedings and associated petitions to suspend reactor licensing pending issuance of waste confidence safety findings; CLI-15-6, 81 NRC 340 (2015)
- contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with air emissions and liquid waste disposal is admissible in part; LBP-15-11, 81 NRC 401 (2015)
- environmental waste confidence contentions are dismissed; CLI-15-6, 81 NRC 340 (2015)
- See also Radioactive Waste Disposal

### WASTEWATER

- contention that draft EIS is deficient because its evaluation of the operation of the radial collector wells does not preclude the possibility that they will change the plume dynamics of the industrial wastewater facility/cooling canal contaminant plume is inadmissible; LBP-15-19, 81 NRC 815 (2015)
- contention that final environmental assessment fails to conduct the required hard look at impacts of the proposed mine associated with air emissions and liquid waste disposal is admissible in part; LBP-15-11, 81 NRC 401 (2015)

### WATER QUALITY

- admissibility of contention that environmental assessment fails to adequately describe and analyze aquifer restoration goals in light of new standards for determining alternative control limits is decided; LBP-15-15, 81 NRC 598 (2015)
- admissibility of contention that environmental documents and associated monitoring values and restoration goals rely on baseline data calculations that are inadequate and unacceptable is decided; LBP-15-15, 81 NRC 598 (2015)
- admissibility of contention that NRC Staff must conduct a new baseline groundwater characterization study of the license renewal area rather than relying on the baseline study conducted during the original license application is decided; LBP-15-11, 81 NRC 401 (2015)
- applicant for a uranium ISR license is required to provide data from a groundwater monitoring program that are sufficient to establish a preclicensing site characterization baseline for assessing the potential effects of facility operations on local groundwater quality; LBP-15-3, 81 NRC 65 (2015)
- applicant's monitoring program for establishing existing site characterization baseline values for certain site groundwater constituents need not be conducted so as to also provide background information needed to set Appendix A, Criterion 5B groundwater protection standards; LBP-15-3, 81 NRC 65 (2015)
- background water quality data are used to establish existing hazardous constituent concentrations in an aquifer, which can then be used to set post-operational concentration limits; LBP-15-16, 81 NRC 618 (2015)
- "baseline" data describe results of applicant's preoperational or baseline groundwater quality sampling program providing data on project-wide groundwater conditions; LBP-15-16, 81 NRC 618 (2015)
- Commission-approved background cannot be established until after an ISR license has been issued; LBP-15-3, 81 NRC 65 (2015)
- compliance with the environmental quality standards and requirements of the Federal Water Pollution Control Act is not a substitute for, and does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality; LBP-15-11, 81 NRC 401 (2015)

## SUBJECT INDEX

contention that final supplemental environmental impact statement fails to comply with NRC regulations and NEPA because it lacks an adequate description of the present baseline groundwater quality and fails to demonstrate that groundwater samples were collected in a scientifically defensible manner is decided; LBP-15-3, 81 NRC 65 (2015)

determination of background groundwater quality to include sampling of wells that are hydraulically upgradient of the waste management area is not required if non-upgradient well sampling will provide an indication of background groundwater quality that is representative, or more representative, than that provided by upgradient wells; LBP-15-3, 81 NRC 65 (2015)

EPA drinking water maximum contaminant levels continue to be an accepted groundwater restoration standard; LBP-15-3, 81 NRC 65 (2015)

in exempting an aquifer from MCLs, EPA has to find that the aquifer cannot and will not serve as a source of drinking water because it is mineral producing and can be demonstrated to contain minerals that, considering their quantity and location, are expected to be commercially producible; LBP-15-3, 81 NRC 65 (2015)

intervenors fail to establish the validity of their various challenges to the adequacy of the FSEIS description of the baseline water quality at the ISR site; LBP-15-3, 81 NRC 65 (2015)

samples taken from one well located hydrologically upgradient are part of the groundwater sampling protocol; LBP-15-3, 81 NRC 65 (2015)

waiting until after licensing, although before mining operations begin, to definitively establish the groundwater quality baselines and upper control limits is consistent with industry practice and NRC methodology, given the sequential development of in situ leach wellfields; LBP-15-16, 81 NRC 618 (2015)

### WATER SUPPLY

contention that environmental assessment has not adequately addressed environmental impacts associated with saltwater intrusion arising from saline water migration from the plant into surrounding waters, and applicant's use of aquifer withdrawals to lower salinity and temperature is admissible; LBP-15-13, 81 NRC 456 (2015)

contention that environmental assessment violates the National Environmental Policy Act in its failure to analyze groundwater quantity impacts of the project is decided; LBP-15-11, 81 NRC 401 (2015)

NRC imposed requirements to provide makeup water independent of offsite power and the normal emergency alternating current power sources to maintain or restore spent fuel pool cooling capability in the event of an accident; DD-15-1, 81 NRC 193 (2015)

### WEB SITE

nonstatic nature of a website, in the absence of a stand-alone compact disc/digital video disc that would allow the board or parties to run a locked-down version of the website application, prevents consideration as evidence; LBP-15-3, 81 NRC 65 (2015)

### WELDS

pressurized thermal shock screening criterion is given for plates, forgings, and axial and circumferential weld materials; LBP-15-17, 81 NRC 753 (2015)

### WETWELL

licensees of boiling water reactors with Mark I and Mark II containments are required to design and install a venting system that provides venting capability from the wetwell during severe accident conditions; DD-15-1, 81 NRC 193 (2015)

### WIND ENERGY

failure to provide a direct critique of the environmental report analysis of the potential for offshore power and interconnected wind farms is a failure to identify a genuine dispute with applicant; LBP-15-5, 81 NRC 249 (2015)

petitioners must show concretely that wind could be a reliable, commercially viable source of baseload power during the license renewal period; LBP-15-5, 81 NRC 249 (2015)

### WITNESSES, EXPERT

contention admission stage is not the appropriate point at which to evaluate witness credibility or to weigh competing evidence, but an expert must provide a reasoned basis or explanation for opinions in support of a contention; LBP-15-17, 81 NRC 753 (2015)

## **SUBJECT INDEX**

neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention; LBP-15-1, 81 NRC 15 (2015)

witness must have enough knowledge in the subject area to allow him to proffer an expert opinion for the purposes of determining contention admissibility; LBP-15-20, 81 NRC 829 (2015)





## FACILITY INDEX

BELLEFONTE NUCLEAR POWER PLANT, Units 3 and 4; Docket Nos. 52-014-COL, 52-015-COL  
 COMBINED LICENSE; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221  
 (2015)

CALLAWAY PLANT, Unit 1; Docket No. 50-483-LR  
 OPERATING LICENSE RENEWAL; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81  
 NRC 221 (2015)

OPERATING LICENSE RENEWAL; April 23, 2015; MEMORANDUM AND ORDER; CLI-15-11, 81  
 NRC 546 (2015)

COMANCHE PEAK NUCLEAR POWER PLANT, Units 3 and 4; Docket Nos. 52-034-COL, 52-035-COL  
 COMBINED LICENSE; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221  
 (2015)

COMBINED LICENSE; April 23, 2015; MEMORANDUM AND ORDER; CLI-15-10, 81 NRC 535  
 (2015)

COMBINED LICENSE; June 9, 2015; MEMORANDUM AND ORDER; CLI-15-15, 81 NRC 803 (2015)

COOPER NUCLEAR STATION; Docket No. 50-298  
 REQUEST FOR ACTION; June 3, 2015; DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206;  
 DD-15-5, 81 NRC 877 (2015)

DAVIS-BESSE NUCLEAR POWER STATION, Unit 1; Docket No. 50-346-LR  
 OPERATING LICENSE RENEWAL; January 15, 2015; MEMORANDUM AND ORDER (Denying  
 Intervenor's Motion to Admit Contention No. 7); LBP-15-1, 81 NRC 15 (2015)

OPERATING LICENSE RENEWAL; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81  
 NRC 221 (2015)

OPERATING LICENSE RENEWAL; March 10, 2015; ORDER (Terminating Proceeding); LBP-15-9, 81  
 NRC 396 (2015)

OPERATING LICENSE RENEWAL; June 9, 2015; MEMORANDUM AND ORDER; CLI-15-15, 81  
 NRC 803 (2015)

DEWEY-BURDOCK IN SITU URANIUM RECOVERY FACILITY; Docket No. 40-9075-MLA  
 MATERIALS LICENSE; April 30, 2015; PARTIAL INITIAL DECISION; LBP-15-16, 81 NRC 618  
 (2015)

DIABLO CANYON NUCLEAR POWER PLANT, Units 1 and 2; Docket Nos. 50-275, 50-323  
 OPERATING LICENSE RENEWAL; February 11, 2015; MEMORANDUM AND ORDER (Denying  
 Petition to Intervene and Petition for Waiver); LBP-15-6, 81 NRC 314 (2015)

OPERATING LICENSE RENEWAL; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81  
 NRC 221 (2015)

SPECIAL PROCEEDING; May 21, 2015; MEMORANDUM AND ORDER; CLI-15-14, 81 NRC 729  
 (2015)

DRESDEN NUCLEAR POWER STATION, Units 2 and 3; Docket Nos. 50-237-EA, 50-249-EA  
 ENFORCEMENT; June 11, 2015; MEMORANDUM AND ORDER; CLI-15-16, 81 NRC 810 (2015)

FERMI NUCLEAR POWER PLANT, Unit 2; Docket No. 50-341-LR  
 OPERATING LICENSE RENEWAL; February 6, 2015; MEMORANDUM AND ORDER (Ruling on  
 Petitions to Intervene and Requests for a Hearing); LBP-15-5, 81 NRC 249 (2015)

OPERATING LICENSE RENEWAL; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81  
 NRC 221 (2015)

## FACILITY INDEX

FERMI NUCLEAR POWER PLANT, Unit 3; Docket No. 52-033-COL  
COMBINED LICENSE; January 13, 2015; MEMORANDUM AND ORDER; CLI-15-1, 81 NRC 1 (2015)  
COMBINED LICENSE; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221 (2015)  
COMBINED LICENSE; March 20, 2015; ORDER (Terminating Licensing Board Adjudicatory Proceeding); LBP-15-12, 81 NRC 452 (2015)  
COMBINED LICENSE; April 23, 2015; MEMORANDUM AND ORDER; CLI-15-10, 81 NRC 535 (2015); CLI-15-12, 81 NRC 551 (2015)  
COMBINED LICENSE; April 30, 2015; MEMORANDUM AND ORDER; CLI-15-13, 81 NRC 555 (2015)  
FORT CALHOUN STATION, Unit 1; Docket No. 50-285  
OPERATING LICENSE AMENDMENT; March 9, 2015; MEMORANDUM AND ORDER; CLI-15-5, 81 NRC 329 (2015)  
REQUEST FOR ACTION; June 3, 2015; DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206; DD-15-4, 81 NRC 869 (2015); DD-15-5, 81 NRC 877 (2015)  
IN SITU LEACH FACILITY, Crawford, Nebraska; Docket No. 40-8943  
MATERIALS LICENSE AMENDMENT; January 21, 2015; MEMORANDUM AND ORDER (Denying Applications for Stay of Source Materials License SUA-1534); LBP-15-2, 81 NRC 48 (2015)  
MATERIALS LICENSE AMENDMENT; March 16, 2015; MEMORANDUM AND ORDER (Ruling on Proposed Contentions Related to the Environmental Assessment); LBP-15-11, 81 NRC 401 (2015)  
MATERIALS LICENSE AMENDMENT; April 28, 2015; MEMORANDUM AND ORDER (Denying Motion to Admit Additional Contentions Based on EPA Proposed Rules); LBP-15-15, 81 NRC 598 (2015)  
INDIAN POINT, Units 2 and 3; Docket Nos. 50-247-LR, 50-286-LR  
OPERATING LICENSE RENEWAL; February 18, 2015; MEMORANDUM AND ORDER; CLI-15-2, 81 NRC 213 (2015); CLI-15-3, 81 NRC 217 (2015)  
OPERATING LICENSE RENEWAL; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221 (2015)  
OPERATING LICENSE RENEWAL; March 9, 2015; MEMORANDUM AND ORDER; CLI-15-6, 81 NRC 340 (2015)  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT; Docket No. 50-333  
REQUEST FOR ACTION; October 17, 2014; DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206; DD-15-2, 81 NRC 205 (2015)  
LEVY COUNTY NUCLEAR POWER PLANT, Units 1 and 2; Docket Nos. 52-029-COL, 52-030-COL  
COMBINED LICENSE; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221 (2015)  
COMBINED LICENSE; March 3, 2015; ORDER (Terminating Proceeding); LBP-15-8, 81 NRC 393 (2015)  
COMBINED LICENSE; April 23, 2015; MEMORANDUM AND ORDER; CLI-15-10, 81 NRC 535 (2015)  
COMBINED LICENSE; June 9, 2015; MEMORANDUM AND ORDER; CLI-15-15, 81 NRC 803 (2015)  
MIXED OXIDE FUEL FABRICATION FACILITY; Docket No. 70-3098-MLA  
MATERIALS LICENSE; April 23, 2015; MEMORANDUM AND ORDER; CLI-15-9, 81 NRC 512 (2015)  
NEWFIELD, NEW JERSEY FACILITY; Docket No. 40-7102-MLA  
MATERIALS LICENSE AMENDMENT; March 12, 2015; ORDER (Terminating Proceeding by Reason of Loss of Jurisdiction over the Subject Matter); LBP-15-10, 81 NRC 399 (2015)  
NORTH ANNA POWER STATION, Unit 3; Docket No. 52-017-COL  
COMBINED LICENSE; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221 (2015)  
COMBINED LICENSE; April 23, 2015; MEMORANDUM AND ORDER; CLI-15-10, 81 NRC 535 (2015)  
COMBINED LICENSE; June 9, 2015; MEMORANDUM AND ORDER; CLI-15-15, 81 NRC 803 (2015)

## FACILITY INDEX

PALISADES NUCLEAR PLANT; Docket No. 50-255  
OPERATING LICENSE AMENDMENT; May 8, 2015; MEMORANDUM AND ORDER (Ruling on Petition to Intervene and Request for a Hearing); LBP-15-17, 81 NRC 753 (2015)  
OPERATING LICENSE AMENDMENT; June 18, 2015; MEMORANDUM AND ORDER (Granting Petition to Intervene and Request for a Hearing); LBP-15-20, 81 NRC 829 (2015)  
REQUEST FOR ACTION; April 6, 2015; DIRECTOR'S DECISION UNDER 10 C.F.R. § 2.206; DD-15-3, 81 NRC 713 (2015)

SEABROOK STATION, Unit 1; Docket No. 50-443-LR  
OPERATING LICENSE RENEWAL; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221 (2015)

SEQUOYAH NUCLEAR PLANT, Units 1 and 2; Docket Nos. 50-327-LR, 50-328-LR  
OPERATING LICENSE RENEWAL; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221 (2015)  
OPERATING LICENSE RENEWAL; March 3, 2015; ORDER (Terminating Proceeding); LBP-15-7, 81 NRC 391 (2015)  
OPERATING LICENSE RENEWAL; June 9, 2015; MEMORANDUM AND ORDER; CLI-15-15, 81 NRC 803 (2015)

SOUTH TEXAS PROJECT, Units 1 and 2; Docket Nos. 50-498-LR, 50-499-LR  
OPERATING LICENSE RENEWAL; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221 (2015)  
OPERATING LICENSE RENEWAL; April 23, 2015; MEMORANDUM AND ORDER; CLI-15-10, 81 NRC 535 (2015)  
OPERATING LICENSE RENEWAL; June 9, 2015; MEMORANDUM AND ORDER; CLI-15-15, 81 NRC 803 (2015)

SOUTH TEXAS PROJECT, Units 3 and 4; Docket Nos. 52-012-COL, 52-013-COL  
COMBINED LICENSE; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221 (2015)  
COMBINED LICENSE; April 14, 2015; MEMORANDUM AND ORDER; CLI-15-7, 81 NRC 481 (2015)  
COMBINED LICENSE; April 23, 2015; MEMORANDUM AND ORDER; CLI-15-10, 81 NRC 535 (2015)  
COMBINED LICENSE; June 9, 2015; MEMORANDUM AND ORDER; CLI-15-15, 81 NRC 803 (2015)

SUSQUEHANNA STEAM ELECTRIC STATION, Units 1 and 2; Docket Nos. 50-387, 50-388, 72-28  
LICENSE TRANSFER; April 14, 2015; MEMORANDUM AND ORDER; CLI-15-8, 81 NRC 500 (2015)

TURKEY POINT NUCLEAR GENERATING PLANT, Units 3 and 4; Docket Nos. 50-250-LA, 50-251-LA  
OPERATING LICENSE AMENDMENT; March 23, 2015; MEMORANDUM AND ORDER (Granting CASE's Petition to Intervene); LBP-15-13, 81 NRC 456 (2015)

TURKEY POINT NUCLEAR GENERATING PLANT, Units 6 and 7; Docket Nos. 52-040-COL, 52-041-COL  
COMBINED LICENSE; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221 (2015)  
COMBINED LICENSE; June 10, 2015; MEMORANDUM AND ORDER (Denying the City of Miami's Petition to Intervene, but Granting Its Request to Participate as an Interested Local Governmental Body); LBP-15-19, 81 NRC 815 (2015)

VERMONT YANKEE NUCLEAR POWER STATION; Docket No. 50-271-LA  
OPERATING LICENSE AMENDMENT; January 28, 2015; MEMORANDUM AND ORDER (Ruling on Request for Hearing and Petition to Intervene); LBP-15-4, 81 NRC 156 (2015)  
OPERATING LICENSE AMENDMENT; May 18, 2015; MEMORANDUM AND ORDER (Denying Hearing Request); LBP-15-18, 81 NRC 793 (2015)

WATTS BAR NUCLEAR PLANT, Unit 2; Docket No. 50-391-OL  
OPERATING LICENSE; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221 (2015)  
OPERATING LICENSE; April 23, 2015; MEMORANDUM AND ORDER; CLI-15-10, 81 NRC 535 (2015)

## **FACILITY INDEX**

OPERATING LICENSE; April 22, 2015; MEMORANDUM AND ORDER (Denying Motion to Reopen);  
LBP-15-14, 81 NRC 591 (2015)

OPERATING LICENSE; June 9, 2015; MEMORANDUM AND ORDER; CLI-15-15, 81 NRC 803  
(2015)

WILLIAM STATES LEE III NUCLEAR STATION, Units 1 and 2; Docket Nos. 52-018-COL, 52-019-COL  
COMBINED LICENSE; February 26, 2015; MEMORANDUM AND ORDER; CLI-15-4, 81 NRC 221  
(2015)

COMBINED LICENSE; April 23, 2015; MEMORANDUM AND ORDER; CLI-15-10, 81 NRC 535  
(2015)

COMBINED LICENSE; June 9, 2015; MEMORANDUM AND ORDER; CLI-15-15, 81 NRC 803 (2015)