

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
EXELON GENERATION COMPANY, LLC)	Docket Nos. 50-277-SLR
)	50-278-SLR
(Peach Bottom Atomic Power Station,)	
Units 2 and 3))	

NRC STAFF ANSWER TO BEYOND NUCLEAR, INC.'S
HEARING REQUEST AND PETITION TO INTERVENE

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INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(i), the U.S. Nuclear Regulatory Commission (NRC) staff (Staff) hereby files its answer to the hearing request and petition to intervene filed by Beyond Nuclear, Inc. (“Beyond Nuclear” or “Petitioner”),¹ concerning the subsequent license renewal application (“SLRA”) submitted by Exelon Generation Company, LLC (“Exelon” or “Applicant”) for Peach Bottom Atomic Power Station Units 2 and 3 (“PBAPS” or “Peach Bottom 2 and 3”). Petitioner proffers two contentions in its intervention petition, raising both safety and environmental issues.

For the reasons set forth herein, the Staff submits that although Petitioner has demonstrated representational standing to intervene in this proceeding, it has not proffered an admissible contention. Therefore, the hearing request and intervention petition should be denied.

Below, the Staff (1) briefly describes the background of this proceeding, (2) discusses the legal principles governing standing to intervene and analyzes Petitioner’s standing to intervene, (3) discusses the legal principles governing contention admissibility, license renewal,

¹ See “Beyond Nuclear, Inc.’s Hearing Request and Petition to Intervene” (Nov. 19, 2018) (ADAMS Accession No. ML18323A749) (“Petition”).

and subsequent license renewal, and (4) analyzes the admissibility of each of Petitioner's proposed contentions.

BACKGROUND

This proceeding concerns the application submitted by Exelon on July 10, 2018² for the renewal of Renewed Facility Operating License Nos. DPR-44 and DPR-56 to permit an additional 20 years of operation at Peach Bottom 2 and 3.³ The current renewed operating licenses for Unit 2 and Unit 3 expire at midnight on August 8, 2033, and July 2, 2034, respectively.⁴ Thus, Exelon seeks to extend the Peach Bottom 2 and 3 operating licenses to August 8, 2053, and July 2, 2054.⁵

Peach Bottom Units 2 and 3 are located on a 769-acre (311-hectare) site.⁶ The site is primarily in Peach Bottom Township in York County, PA, 19 miles (31 km) southwest of Lancaster, PA, 30 miles (48 km) southeast of York, PA, and 38 miles (61 km) north of Baltimore,

² See Letter from Michael Gallagher (Exelon) to NRC Document Control Desk (July 10, 2018) (ADAMS Accession Nos. ML18193A697); Subsequent License Renewal Application, Peach Bottom Atomic Power Station Units 2 and 3, (July 2018) (ML18193A773) ("SLRA"). The application includes "Appendix E—Applicant's Environmental Report—Operating License Renewal Stage—Subsequent License Renewal" (ML18201A219) ("Environmental Report" or "ER").

³ Exelon states that (1) it is the licensed operator and co-owner of PBAPS 2 and 3, and submits the application individually and as agent for PSEG Nuclear, LLC, the other co-owner of Peach Bottom 2 and 3, (2) Exelon is a wholly owned subsidiary of Exelon Corporation, and (3) PSEG Nuclear, LLC, is a wholly-owned subsidiary of PSEG Power LLC, which is a wholly-owned subsidiary of Public Service Enterprise Group, Inc. SLRA at 1-1 to 1-3.

⁴ Peach Bottom Atomic Power Station, Unit 2, Renewed Facility Operating License No. DPR-44, Section 4 (ML052720266); Peach Bottom Atomic Power Station, Unit 3, Renewed Facility Operating License No. DPR-46, Section 4 (ML052720269); *see also* SLRA at 1-4. Condition 2(C)(1) in License Nos. DPR-44 and DPR-46 indicate that Peach Bottom 2 and 3 are General Electric Type 4 boiling water reactors with Mark I containment systems. *See* SLRA at 1-8.

⁵ ER at 1-1. Adjacent to Peach Bottom 2 and 3 is Peach Bottom Unit 1. Unit 1, an experimental high temperature helium cooled and graphite-moderated reactor, operated from 1967 through October 1974 and entered safe storage (SAFSTOR) mode in 1987. Exelon currently maintains Unit 1 at SAFSTOR mode with continued surveillance, security, and maintenance with no fuel in storage in the fuel pool under Facility Operating [Possession Only] License No. DPR-12. *Id.* at 2-2 and 2-3.

⁶ *Id.* at 3-1.

MD.⁷ The site is on the west side of Conowingo Pond, which was formed when the Conowingo Dam was constructed on the Susquehanna River.⁸ Peach Bottom 2 and 3 operate under National Pollutant Discharge Elimination System (NPDES) Permit No. PA0009733.⁹ This permit authorizes releases into Conowingo Pond, subject to the discharge limits specified in the permit.¹⁰

The NRC published a notice of receipt of the Peach Bottom SLRA on August 1, 2018.¹¹ After the Staff concluded that the SLRA was acceptable for docketing, a notice of opportunity for hearing on the application was published in the *Federal Register*.¹² The notice required that petitions for leave to intervene and requests for hearing be filed within 60 days after publication of the Notice (*i.e.*, by November 5, 2018).¹³ In response to a request for extension of time filed by Beyond Nuclear, the Commission subsequently extended the intervention petition filing deadline by fourteen days, until November 19, 2018.¹⁴ On November 19, 2018, Petitioner timely

⁷ ER at 3-1.

⁸ *Id.*

⁹ SLRA, Appendix A, NPDES Permit (ML18193A778).

¹⁰ ER at 2-7.

¹¹ Exelon Generation Company, LLC; Peach Bottom Atomic Power Station, Units 2 and 3; License renewal application; receipt, 83 Fed. Reg. 37,529 (Aug. 1, 2018).

¹² See Letter from George A. Wilson, NRC, to Michael Gallagher, Exelon Nuclear, "Peach Bottom Atomic Power Station, Units 2 and 3 Determination of Acceptability and Sufficiency for Docketing, Proposed Review Schedule, and Opportunity for a Hearing regarding the Exelon Generation Company, LLC, Application for Subsequent License Renewal (Aug. 27, 2018) (ML18191B085); Exelon Generation Company, LLC: Peach Bottom Atomic Power Station, Units 2 and 3, 83 Fed. Reg. 45,285 (Sept. 6, 2018).

¹³ *Id.* at 45,285-86.

¹⁴ *Exelon Generation Co., LLC (Peach Bottom Atomic Power Station Units 2 and 3), "Order of the Secretary"* (Nov. 1, 2018) (ML18305B372).

filed a request for hearing and petition to intervene. An Atomic Safety and Licensing Board (“Board”) was established on December 11, 2018, to preside over the contested proceeding.¹⁵

DISCUSSION

I. Standing to Intervene

A. Applicable Legal Requirements

In accordance with the Commission’s Rules of Practice and Procedure, “[a]ny person whose interest may be affected by a proceeding and who desires to participate as a party must file a written request for hearing [or petition for leave to intervene] and a specification of the contentions which the person seeks to have litigated in the hearing.”¹⁶ The regulations governing the rules of practice and procedure further provide that the Licensing Board designated to rule on a petition for leave to intervene “will grant the request/petition if it determines that the requestor/petitioner has standing under the provisions of paragraph (d) of this section [10 C.F.R. § 2.309(d)] and has proposed at least one admissible contention that meets the requirements of paragraph (f) of this section [10 C.F.R. § 2.309(f)].”¹⁷

Under the general standing requirements set forth in 10 C.F.R. § 2.309(d)(1), a request for hearing or petition for leave to intervene must state:

- (i) The name, address, and telephone number of the requestor or petitioner;
- (ii) The nature of the requestor’s/petitioner’s right under the [Atomic Energy Act (“AEA” or “Act”)] to be made a party to the proceeding;
- (iii) The nature and extent of the requestor’s/petitioner’s property, financial, or other interest in the proceeding; and

¹⁵ *Exelon Generation Co., LLC* (Peach Bottom Atomic Power Station Units 2 and 3), Establishment of Atomic Safety and Licensing Board (Dec. 11, 2018) (ML18345A260).

¹⁶ 10 C.F.R. § 2.309(a).

¹⁷ 10 C.F.R. § 2.309(a).

- (iv) The possible effect of any decision or order that may be issued in the proceeding on the requestor's/petitioner's interest.

When ruling on a request for hearing or petition for leave to intervene, the regulations state that the Licensing Board designated to rule on the request “must determine, among other things, whether the petitioner has an interest affected by the proceeding considering the factors enumerated in paragraph (d)(1) of this section [10 C.F.R. § 2.309(d)(1)].”¹⁸

As the Commission has observed, the NRC has “long applied contemporaneous ‘judicial concepts of standing,’” which require a “concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision.”¹⁹ While the Commission generally requires the elements of standing to be pled with specificity, standing to intervene has been found to exist in construction permit and operating license proceedings based upon a “proximity” presumption.²⁰ In such proceedings, standing is presumed for persons who reside in or have frequent contact with the zone of possible harm from the nuclear reactor.²¹ In practice, the Commission has found standing based on the proximity presumption for persons who reside within approximately 50 miles of the facility.²² As noted by the

¹⁸ 10 C.F.R. § 2.309(d)(2). The presiding officer may also consider a request for discretionary intervention in the event that a petitioner is determined to lack standing to intervene as a matter of right where a sufficient showing is made with respect to the factors enumerated in 10 C.F.R. § 2.309(e) (2018).

¹⁹ *Calvert Cliffs 3 Nuclear Project, LLC & Unistar Nuclear Operating Servs., LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915 (2009) (quoting *Cleveland Elec. Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993)).

²⁰ See, e.g., *Calvert Cliffs*, CLI-09-20, 70 NRC at 915-17. The proximity presumption establishes standing to intervene because within a 50-mile radius there is a realistic, nontrivial increased risk of harm that satisfies the elements of injury, causation, and redressability. See *id.* at 917 (citing *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-09-4, 69 NRC 170, 182-83 (2009)).

²¹ *Id.* at 915.

²² *Id.* at 915-16.

Commission, Licensing Boards have also employed the proximity presumption to establish standing to intervene in reactor operating license renewal proceedings.²³

When an organization seeks to intervene, it may do so based on either organizational standing or representational standing.²⁴ To establish representational standing an organization must (1) demonstrate that at least one of its members may be affected by the proceeding, (2) identify that member's name and address, and (3) show that the member has "authorized the organization to represent him or her and to request a hearing on his or her behalf."²⁵ Further, representational standing requires that the member seeking representation would qualify for standing in his or her own right, the interests that the organization seeks to protect are germane to its own purpose, and neither the asserted claim nor the requested relief require an individual member to participate in the proceeding.²⁶

B. Petitioner's Standing to Intervene

Beyond Nuclear describes itself as a nonpartisan, nonprofit membership organization that aims to educate the public about the connections between nuclear power and nuclear weapons and the need to abolish both to protect public health and safety and prevent environmental harms.²⁷ Beyond Nuclear seeks to establish representational standing to

²³ *Id.* at 915 n.15 (noting that the Board in *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-06, 53 NRC 138, 150, *aff'd on other grounds*, CLI-01-17, 54 NRC 3 (2001), was "applying [the] proximity presumption in [a] reactor operating license renewal proceeding").

²⁴ Organizational standing is based on a showing that the organization's own interests could be adversely affected by the proceeding, whereas representational standing is based on alleged harm to the organization's members. See *Cogema Mining, Inc.* (Irigaray and Christensen Ranch Facilities), LBP-09-13, 70 NRC 168, 178-79 (2009).

²⁵ *Consumers Energy Co.* (Palisades Nuclear Power Plant), CLI-07-18, 65 NRC 399, 409 (2007).

²⁶ See *id.*; *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 323 (1999).

²⁷ Petition at 2.

intervene based on the individual standing of three of its members: Ernest Eric Guyll, John S. Adams, and Virginia Topkis.²⁸ Each of these individuals filed a Declaration in support of the Petition in which they stated (1) that they are a member of Beyond Nuclear; (2) their home address; (3) that their home is located within the 10-mile radiological Emergency Planning Zone of Peach Bottom 2 and 3; (4) that they believe that nuclear facilities are inherently dangerous, that continued operation of Peach Bottom 2 and 3 beyond 2033 and 2034 could cause a severe accident resulting in death, injury, illness, dislocation and economic damage to themselves and their families, and that continued operation of Peach Bottom 2 and 3 could cause environmental damage; and (5) that they authorize Beyond Nuclear to represent their interests in this proceeding.²⁹ Accordingly, Petitioner has shown it has representational standing to intervene in this proceeding under the proximity presumption.³⁰

II. Admissibility of Petitioner's Proffered Contentions

A. Legal Requirements for Contention Admissibility

1. General Requirements for Admissibility

The legal requirements governing the admissibility of contentions are set forth in 10 C.F.R. § 2.309(f) of the Commission's Rules of Practice and Procedure (formerly 10 C.F.R. § 2.714(b)).³¹ Specifically, to be admitted, a contention must satisfy the following requirements:

- (f) *Contentions*. (1) A request for hearing or petition for leave to intervene must set forth with particularity the contentions sought to be raised. For each contention, the request or petition must:

²⁸ Petition at 3.

²⁹ Declaration of Ernest Eric Guyll (October 20, 2018) (Petition, Att. 1); Declaration of John S. Adams (October 29, 2018) (Petition, Att. 2); Declaration of Virginia Topkis (November 9, 2018) (Petition, Att. 3).

³⁰ See *Calvert Cliffs*, CLI-09-20, 70 NRC at 915 n.15; *Turkey Point*, LBP-01-06, 53 NRC at 150.

³¹ These requirements substantially reiterate the requirements stated in former 10 C.F.R. § 2.714, published in revised form in 1989. See Rules of Practice for Domestic Licensing Proceedings - Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168 (Aug. 11, 1989), as corrected, 54 Fed. Reg. 39,728 (Sept. 28, 1989). While former § 2.714 was revised in 1989, those revisions did not

- (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;^[32]
- (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;^[33]
- (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;^[34]
- (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

constitute "a substantial departure" from then existing practice in licensing cases. 54 Fed. Reg. at 33,170. Thus, the prior standards governing the admissibility of contentions remain in effect to the extent they do not conflict with the 1989 amendments. *Arizona Public Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2 and 3), LBP-91-19, 33 NRC 397, 400 (1991).

³² The requirement that a petitioner provide an explanation of the basis for its contention helps to define the scope of a contention—"[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases." *Public Serv. Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-899, 28 NRC 93, 97 (1988), *aff'd sub nom Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir.), *cert. denied*, 502 U.S. 899 (1991); *accord Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 379 (2002).

³³ The scope of any particular proceeding is defined by the Commission in its initial hearing notice and Order referring the proceeding to the Board. *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790-91 (1985). Contentions may only be admitted if they fall within the scope of issues set forth in the *Federal Register* Notice and comply with the requirements of former § 2.714(b) (restated in § 2.309(f)), and applicable case law. *Public Serv. Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-316, 3 NRC 167, 170-71 (1976); *Philadelphia Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20 (1974).

³⁴ Materiality requires that the petitioner show why the alleged error or omission is of possible significance to the result of the proceeding, demonstrating a "significant link between the claimed deficiency and the agency's ultimate determination." *Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), LBP-15-20, 81 NRC 829, 850 (2015) (citation omitted).

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;...

- (2) Contentions must be based on documents or other information available at the time the petition is to be filed, such as the application, supporting safety analysis report, environmental report or other supporting document filed by an applicant or licensee, or otherwise available to a petitioner. On issues arising under the National Environmental Policy Act, participants shall file contentions based on the applicant's environmental report.

As has often been observed, the contention admissibility rules exist to “focus litigation on concrete issues, and result in a clearer and more focused record for decision.”³⁵ In this regard, the Commission has explained that the rules governing the admissibility of contentions are “strict by design.”³⁶ Failure to comply with any of the requirements set forth in the regulations is grounds for the dismissal of a contention.³⁷

³⁵ See, e.g., *Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, NE), LBP-15-15, 81 NRC 598, 601 (2015) (quoting Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004)).

³⁶ *Entergy Nuclear Operations, Inc.* (Indian Point, Unit 2), CLI-16-5, 83 NRC 131, 136 (2016) (citing *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001); *South Carolina Elec. & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-10-1, 71 NRC 1, 7 (2010)). The Commission further 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.” Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

³⁷ *Indian Point*, CLI-16-5, 83 NRC at 136. See also *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334-35 (1999) (noting that the heightened contention admissibility rules are designed to preclude contentions for which the intervenor has no facts to support its position or where an intervenor contemplates utilizing discovery or cross-examination as a “fishing expedition which might produce relevant supporting facts.”). The requirements are intended, *inter alia*, to ensure that a petitioner reviews the application and supporting documents prior to filing contentions, that contentions are supported by at least some facts or expert opinion known to the petitioner at the time of filing, and that there exists a genuine dispute before a contention is admitted for litigation. *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-91-35, 34 NRC 163, 167 (1991). These requirements are intended to avoid the practice of filing contentions which lack any factual support and seeking to flesh them out later through discovery. *Id.* at 167 (citing *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-687, 16 NRC 460, 468 (1982), *rev'd in part on other grounds*, CLI-83-19, 17 NRC 1041 (1983)).

As stated by the Commission, the contention admissibility rules require “a clear statement as to the basis for the contentions and the submission of . . . supporting information and references to specific documents and sources that establish the validity of the contention.”³⁸ “Mere ‘notice pleading’ does not suffice.”³⁹ An issue will be ruled inadmissible if the petitioner “‘has offered no tangible information, no experts, no substantive affidavits,’ but instead only ‘bare assertions and speculation.’”⁴⁰

It is well established that the purpose for the “basis” requirement of 10 C.F.R. § 2.309 is to (1) assure that the contention raises a matter appropriate for adjudication in a particular proceeding; (2) establish a sufficient foundation for the contention to warrant further inquiry into the assertion; and (3) place other parties sufficiently on notice of the issues so that they will know generally what they will have to defend against or oppose.⁴¹ Whether the contention is adequately supported by a concise allegation of the facts or expert opinion does not amount to a hearing on the merits.⁴² As such, a petitioner does not have to prove its contention at the admissibility stage.⁴³ Indeed, a petitioner need not provide formal evidence and the factual support need not be of the quality required to withstand a motion for summary disposition.⁴⁴

³⁸ *Amergen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 118-119 (2006) (quoting *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155-56 (1991)).

³⁹ *Id.* at 118-119 (quoting *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 808 (2005)).

⁴⁰ *Fansteel, Inc.* (Muskogee, Oklahoma, Site), CLI-03-13, 58 NRC 195, 203 (2003) (citing *GPU Nuclear Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 192, 208 (2000)).

⁴¹ *Peach Bottom*, ALAB-216, 8 AEC at 20-21.

⁴² *Tennessee Valley Auth.* (Watts Bar Nuclear Plant, Unit 2), LBP-09-26, 70 NRC 939, 954 (2009) (citing *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 63 (2008)).

⁴³ *Private Fuel Storage L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 139 (2004).

⁴⁴ *Compare* Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,171 (noting that pursuant to 10 C.F.R. § 2.309(f)

However, the petitioner must provide some support for its contention—either in the form of facts or expert testimony—and “[f]ailure to do so requires that the contention be rejected.”⁴⁵ Further, “an expert opinion that merely states a conclusion (e.g., the application is ‘deficient,’ ‘inadequate,’ or ‘wrong’) without providing a reasoned basis or explanation for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion.”⁴⁶

Contentions must both give notice of the facts that the petitioner desires to litigate and be specific enough to satisfy the requirements of 10 C.F.R. § 2.309.⁴⁷ Providing materials or documents as a basis for a contention without setting forth an analysis or explanation of their significance is inadequate to support admission of the contention.⁴⁸ Indeed, the Commission has made clear that it is insufficient to incorporate by reference large portions of material in support of a contention where “doing so would force one ‘to sift through it in search of asserted

(formerly 10 C.F.R. § 2.714), “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”, *with* Motions for summary disposition, 10 C.F.R. § 2.710(b) (2018) (“Affidavits must set forth the facts that would be admissible in evidence”).

⁴⁵ *S.C. Elec. & Gas Co. & S.C. Pub. Serv. Auth. (also referred to as Santee Cooper)* (Virgil C. Summer Nuclear Station, Units 2 & 3), LBP-10-6, 71 NRC 350, 360 (2010) (citing *S. Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 253 (2007); *Palo Verde*, CLI-91-12, 34 NRC at 155-56. See also Rules of Practice for Domestic Licensing Proceedings - Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170 (“This requirement does not call upon the intervenor to make its case at this [the contention admissibility] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention.”).

⁴⁶ *USEC, Inc. (American Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 472 (2006) (quoting *Private Fuel Storage, L.L.C.* (Independent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181 (1998)); see also *Entergy Nuclear Operations, Inc. (Palisades Nuclear Plant)*, CLI-15-23, 82 NRC 321, 328 (2015).

⁴⁷ See *Commonwealth Edison Co.* (Dresden Nuclear Power Station, Unit 1), LBP-82-52, 16 NRC 183, 188 (1982).

⁴⁸ See *Fansteel*, CLI-03-13, 58 NRC at 204-05.

factual support' that is not otherwise specified."⁴⁹ This is so because simple reference to large portions of material is not enough to put the parties on notice of the basis for intervention.⁵⁰ Instead, a petitioner must identify and summarize the facts being relied upon, in addition to appending the documents cited.⁵¹ If a petitioner neglects to provide the requisite support for its contentions, the Licensing Board should not make assumptions of fact that favor the petitioner, or search for or supply supporting information that is lacking.⁵²

All contentions must "show that a genuine dispute exists" regarding the license application in question, challenge and identify either specific portions of, or alleged omissions from, the application, and provide the supporting reasons for each dispute. This requires the petitioner to read the entire application, state both the applicant and petitioner's views, and either explain the disagreement or explain any alleged deficiency.⁵³ Basic assertions that an application is insufficient or inadequate are insufficient to meet this standard.⁵⁴ A contention raising a specific substantive challenge to how particular information has been addressed in the

⁴⁹ *Northern States Power Company* (Prairie Island Nuclear Generating Plant Independent Spent Fuel Storage Installation), LBP-12-24, 76 NRC 503, 515 (2012) (quoting *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 332 (2012)). See also *Baltimore Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 348 (1998) (noting that mere reference to a document, without more, does not provide an adequate basis for a contention) (citation omitted).

⁵⁰ See *Int'l Uranium (USA) Corp.* (Receipt of Material from Tonawanda, New York), LBP-98-21, 48 NRC 137, 142 n.7 (1998).

⁵¹ See *id.*

⁵² See *PPL Susquehanna LLC* (Susquehanna Steam Elec. Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 23 (2007); see also *Seabrook*, CLI-12-5, 75 NRC at 348 n. 277 (citing *American Centrifuge Plant*, CLI-06-10, 63 NRC at 457 ("[i]t is not up to the boards to search through pleadings or other materials to uncover arguments and support never advanced by the petitioners themselves; boards may not simply infer unarticulated bases of contentions.")).

⁵³ 54 Fed. Reg. at 33,170; see also *Nuclear Mgmt. Co., LLC* (Palisades Nuclear Power Plant), LBP-06-10, 63 NRC 314, 341 (2006).

⁵⁴ *Southern Nuclear Operating Co., Inc.* (Vogle Elec. Generating Plant, Units 3 & 4), LBP-16-5, 83 NRC 259, 281 (2016) (citing *Palisades*, LBP-06-10, 63 NRC at 341, *aff'd*, CLI-06-17, 63 NRC 727 (2006)).

application is a contention of adequacy, whereas a contention that alleges that an application has improperly omitted information is a contention of omission.⁵⁵ A contention of omission “may be summarily rejected as inadmissible if (1) there is no requirement to address the topic allegedly omitted from the application, or (2) the topic that allegedly is omitted is, in fact, included in the application.”⁵⁶

Finally, pursuant to 10 C.F.R. § 2.335, “no rule or regulation of the Commission, or any provision thereof, concerning the licensing of production and utilization facilities . . . is subject to attack . . . in any adjudicatory proceeding,” in the absence of a waiver petition granted by the Commission.⁵⁷ As such, the Commission has stated that a contention “must be rejected where it constitutes an attack on applicable statutory requirements; it challenges the basic structure of the Commission’s regulatory process or is an attack on the regulations; it is nothing more than a generalization regarding the Intervenor’s view of what applicable policies ought to be; it seeks to raise an issue which is not proper for adjudication in the proceeding, or it does not apply to the facility in question; or it seeks to raise an issue which is not concrete or litigable.”⁵⁸ The Commission and Licensing Boards have consistently found that attempts to advocate for requirements stricter than those imposed by regulation constitute collateral attacks on the

⁵⁵ See *Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 6 & 7), LBP-11-6, 73 NRC 149, 200 n. 53 (2011) (citing *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-16, 63 NRC 737, 742 (2006)).

⁵⁶ *Id.* at 234-35 (citing *American Centrifuge Plant*, CLI-06-10, 63 NRC at 456).

⁵⁷ 10 C.F.R. § 2.335(a)-(b).

⁵⁸ *Public Serv. Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-82-76, 16 NRC 1029, 1035 (1982) (citing *Peach Bottom*, ALAB-216, 8 AEC at 20-21). See also *Millstone*, CLI-03-14, 58 NRC at 218 (“Petitioners may not seek an adjudicatory hearing ‘to attack generic NRC requirements or regulations, or to express generalized grievances about NRC policies’”) (citing *Oconee*, CLI-99-11, 49 NRC at 334); *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 303 (1995) (noting that a contention amounting to Petitioner’s differing opinion of what the regulations should require must be rejected).

Commission's rules and are therefore inadmissible.⁵⁹ As the Commission has stated, "[o]nly statutes, regulations, orders, and license conditions can impose requirements upon applicants and licensees."⁶⁰ Guidance documents "are advisory by nature . . . [and a] licensee is free either to rely on [guidance documents] or to take alternative approaches to meet legal requirements."⁶¹ While a petitioner may rely on NRC guidance documents to allege that an application is deficient, such guidance documents cannot prescribe requirements.⁶² Therefore, a contention that merely relies on guidance documents to advocate for additional requirements beyond what is prescribed by regulation is inadmissible.

2. Scope of License Renewal Proceedings

As stated in 10 C.F.R. § 2.309(f)(1)(iii), a petitioner must demonstrate that the "issue raised in the contention is within the scope of the proceeding." Any contention that falls outside the scope of the proceeding is inadmissible and must be rejected.⁶³ The scope of a license renewal proceeding is limited to the specific matters that must be considered for the license renewal application to be granted as provided in 10 C.F.R. Part 54.⁶⁴

Pursuant to 10 C.F.R. § 54.29, the following standards are considered in determining whether to grant a license renewal application:

A renewed license may be issued by the Commission up to the full term authorized by § 54.31 if the Commission finds that:

⁵⁹ *Seabrook*, CLI-12-5, 75 NRC at 315 (citations omitted).

⁶⁰ *Curators of the Univ. of Missouri*, CLI-95-1, 41 NRC 71, 98 (1995).

⁶¹ *Curators of the Univ. of Missouri*, CLI-95-8, 41 NRC 386, 397 (1995).

⁶² *Int'l Uranium (USA) Corp.*, LBP-98-21, 48 NRC at 143 (citing *Louisiana Energy Servs., L.P.* (Claiborne Enrichment Center), LBP-95-41, 34 NRC 332, 338-39, 347, 354 (1991); *Curators of the Univ. of Missouri*, CLI-95-1, 41 NRC at 100).

⁶³ See *Portland Gen. Elec. Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289-90 n.6 (1979); *Calvert Cliffs 3 Nuclear Project, LLC & Unistar Nuclear Operating Servs., LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-12-18, 76 NRC 127, 157 (2012).

⁶⁴ *Oyster Creek*, CLI-06-24, 64 NRC at 119.

(a) Actions have been identified and have been or will be taken with respect to the matters identified in Paragraphs (a)(1) and (a)(2) of this section, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB [current licensing basis], and that any changes made to the plant's CLB in order to comply with this paragraph are in accord with the Act and the Commission's regulations. These matters are:

(1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under § 54.21(a)(1); and

(2) time-limited aging analyses that have been identified to require review under § 54.21(c).

(b) Any applicable requirements of Subpart A of 10 CFR Part 51 have been satisfied.

(c) Any matters raised under § 2.335 have been addressed.

These standards, along with other regulations in 10 C.F.R. Part 54 and the environmental regulations related to license renewal set forth in 10 C.F.R. Part 51 and Appendix B thereto (discussed *infra* at 23-29), establish the scope of issues that may be considered in a license renewal proceeding.⁶⁵ The failure of a proposed contention to demonstrate that an issue is within the scope of the proceeding is grounds for dismissal.⁶⁶ Adjudicatory proceedings on license renewal applications are bounded by the same rules and scope applicable to the NRC's review.⁶⁷

⁶⁵ See *generally*, Nuclear Power Plant License Renewal, 56 Fed. Reg. 64,943 (Dec. 13, 1991) ("1991 Statement of Considerations"); Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. 22,461 (May 8, 1995) ("1995 Statement of Considerations").

⁶⁶ *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 567 (2005).

⁶⁷ *Turkey Point*, CLI-01-17, 54 NRC 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 [safety] questions our safety rules make pertinent.") (citation omitted).

3. Subsequent License Renewal Proceedings

The AEA provides no limit on the number of times that a nuclear power plant's operating license may be renewed; rather, Section 103(c) of the AEA provides that each license "shall be issued for a specified period, as determined by the Commission, depending on the type of activity to be licensed, but not exceeding forty years . . . and may be renewed upon the expiration of such period."⁶⁸ Likewise, the Commission's regulations do not limit the number of times that an operating license may be renewed. The NRC has long recognized the possibility that nuclear power plant licensees might seek to extend their operating licenses to permit plant operation beyond 60 years, *i.e.*, after the expiration of a renewed license. Prior to 1991, the Commission's regulations provided only that operating licenses may be issued for up to 40 years and "may be renewed by the Commission upon the expiration of the period."⁶⁹ Upon adopting 10 C.F.R. Part 54 in 1991, the Commission expressly provided in 10 C.F.R. § 54.31(d) that "[a] renewed license may be subsequently renewed upon expiration of the renewal term, in accordance with all applicable requirements."⁷⁰ Except for the 1995 deletion of the apparently unnecessary phrase "upon expiration of the renewal term," this provision is still in effect.⁷¹

In determining which requirements are applicable to subsequent license renewal, the Commission's statements in adopting the license renewal rules in 1991 are instructive. Specifically, in responding to comments regarding proposed 10 C.F.R. § 54.31(d), the Commission stated:

⁶⁸ Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2133.c.

⁶⁹ 10 C.F.R. § 50.51 (1991).

⁷⁰ 10 C.F.R. § 54.31(d) (1992). This provision has continued in effect, with minor revisions, until the present.

⁷¹ 10 C.F.R. § 54.31(d) (2018) ("A renewed license may be subsequently renewed in accordance with all applicable requirements."). This revision of the regulation was promulgated without any explanatory discussion. See Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. at 22,494.

Section 54.31(d) allows a renewed license to be further renewed upon expiration of the renewal term. . . . [A] subsequent renewal application may be submitted prior to expiration of the previous renewal term. . . . However, § 54.31(d) makes clear that a renewed license may be further renewed in accordance with “applicable requirements,” which would include the provisions of part 54 (unless the Commission subsequently adopts special provisions applicable only to subsequent renewals). . . .

Another commenter observed that the concept of subsequent renewals is not developed in the supporting documentation for the proposed rule. The Commission does not believe that further exposition of this concept is necessary at this time. If experience with renewals discloses a previously unknown aging or other time-dependent issue, appropriate regulatory action, including modifying the requirements for obtaining subsequent renewals, can be implemented. Further discussions of the concept are not likely to be fruitful at this time.^[72]

Notably, the license renewal regulations adopted in 1991 contain no specific requirements that are unique to subsequent license renewal and no such provisions have been adopted at any time since the license renewal regulations were enacted.⁷³

Similarly, the requirements in 10 C.F.R. Part 51, including the Commission’s findings on the scope and magnitude of the environmental impacts of renewing nuclear power plant operating licenses set forth in Subpart A, Table B-1, also apply to subsequent license renewal.⁷⁴

⁷² Nuclear Power Plant License Renewal, 56 Fed. Reg. 64,943 at 64,964-65 (Dec. 13, 1991) (emphasis added).

⁷³ See “Frequently Asked Questions on License Renewal of Nuclear Power Reactors,” NUREG-1850, Question 1.3.10 (Mar. 2006) (ML061110022) (“There are no specific limitations in the Atomic Energy Act or the NRC’s regulations restricting the number of times a license may be renewed. However, an applicant has to meet all of the applicable requirements for each subsequent renewal. Any subsequent renewal would require a review similar to that required for the first renewal.”).

⁷⁴ Although 10 C.F.R. § 51.53(c)(3) states that an applicant for an “initial renewed license” must submit certain information in its environmental report, no similar language appears in any other provision of 10 C.F.R. Part 51 or Part 54, and this word is not discussed in the Statement of Considerations (SOC) accompanying the final rule. See [Final Rule] Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467 (Jun. 5, 1996). The term “initial” was consistent with the SOC accompanying the proposed rule. See [Proposed Rule] Environmental Review for Renewal of Operating Licenses, 56 Fed. Reg. 47,016, 47,017 (Sept. 17, 1991) (“The Part 54 rule could be applied to multiple renewals of an operating license for various increments. However, the part 51 amendments apply to one renewal of the initial license for up to 20 years beyond the expiration of the initial license.”). As discussed *infra* at 20-22, the Commission has determined and expressed its intent that the existing license renewal safety and environmental regulatory framework applies to subsequent license renewal and that no new rulemaking for SLR is needed.

No requirements related to review of environmental impacts have been adopted by the Commission for subsequent license renewal beyond those pertaining to license renewal.⁷⁵

The Commission's conclusion not to engage in further rulemaking was made after consideration of Staff views. In 2014, Staff submitted SECY-14-0016 to the Commission.⁷⁶ Therein, Staff provided its assessment of the license renewal regulatory process and regulations and presented four options for consideration by the Commission regarding potential regulatory approaches to subsequent license renewal:

- Option 1:* No change to the existing 10 C.F.R. Part 54 regulations
- Option 2:* Minor clarifications to existing 10 C.F.R. Part 54 regulations for current and subsequent renewals
- Option 3:* Update 10 C.F.R. Part 54 regulations for current and subsequent renewals and pursue Option 2 clarifications
- Option 4:* Pursue rulemaking for subsequent renewal-specific changes and Option 2 and 3 changes.^[77]

⁷⁵ The 1996 Generic Environmental Impact Statement observed that “[o]perating licenses may be renewed for up to 20 years beyond the 40-year term of the initial license. No limit on the number of renewals is specified.” “Generic Environmental Impact Statement for License Renewal of Nuclear Plants,” NUREG-1437, Vol. 1 (May 1996) (ML040690705) (“GEIS” or “1996 GEIS”), at 1-1. Similarly, the 2013 revision of the GEIS noted:

The Atomic Energy Act of 1954 authorizes the U.S. Nuclear Regulatory Commission (NRC) to issue commercial nuclear power plant operating licenses for up to 40 years. The 40-year length of the original license period was imposed for economic and antitrust reasons rather than the technical limitations of the nuclear power plant. NRC regulations allow for the renewal of these operating licenses for up to an additional 20 years, depending on the outcome of an assessment determining whether the nuclear power plant can continue to operate safely and protect the environment during the 20-year period of extended operation. There are no specific limitations in the Atomic Energy Act or the NRC's regulations restricting the number of times a license may be renewed.

“Generic Environmental Impact Statement for License Renewal of Nuclear Plants,” NUREG-1437, Vol 1, Rev. 1 (June 2013) (ML13106A241) (“Revised GEIS” or “2013 GEIS”), at 1-1.

⁷⁶ Ongoing Staff Activities to Assess Regulatory Considerations for Power Reactor Subsequent License Renewal, SECY-14-0016 (Jan. 13, 2014) (ML14050A306) (“SECY-14-0016”).

⁷⁷ See *id.* at 5-7.

Upon evaluating these options, the Staff recommended that the Commission select Option 4, stating:

The staff recommends the Commission direct the staff to begin the rulemaking process to address all of the proposed topics in Option 4. Addressing these topics through rulemaking would provide additional assurance that aging-management activities would be effectively implemented and provide regulatory clarity, transparency, stability, and efficiency by defining requirements at the outset of the subsequent license renewal process rather than on a case-by-case basis during license renewal reviews.^[78]

In addition, with respect to environmental matters, Staff stated that it conducts environmental reviews of license renewal applications:

following the guidance in NUREG-1437, “Generic Environmental Impact Statement for License Renewal of Nuclear Plants [Rev. 1].” The GEIS describes the most common environmental impacts to nuclear power facilities and allows applicants and the NRC to focus on important environmental issues specific to each site pursuing license renewal. *The staff revised the GEIS in June 2013, and believes that the update is adequate for a future subsequent license renewal application.^[79]*

⁷⁸ SECY-14-0016 at 9 (emphasis added).

⁷⁹ *Id.* at 3 (citing 2013 GEIS, Vols. 1-3) (emphasis added). In June 2013, the NRC amended its environmental protection regulations by updating the Commission’s 1996 findings on the environmental effect of renewing a nuclear power plant operating license, “redefin[ing] the number and scope of environmental impact issues that must be addressed by the NRC and applicants.” [Final Rule] Revisions to Environmental Review for Renewal of Nuclear Power Plant Licenses, 78 Fed. Reg. 37,282 (Jun. 20, 2013). The draft and final versions of the Regulatory Analysis prepared to support the rulemaking both noted that the NRC anticipated that it would receive applications for a second 20-year license renewal. Enclosure 2, “Regulatory Analysis,” to SECY-09-0034, “Proposed Rulemaking—Environmental Protection regarding the Update of the 1996 [GEIS] for Nuclear Power Plant License Renewal” (Mar.3, 2009) (ML083460087) (“Draft Regulatory Analysis”) at 15 (“Some plants will become eligible for a second 20-year license extension after FY 2013. . . The NRC conservatively estimates receiving 4 applications per year from FY 2014 through FY 2020.”); Enclosure 2, “Regulatory Analysis,” to SECY-12-0063, “Final Rule: Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses” (Apr. 4, 2012) (ML110760321) (“Final Regulatory Analysis”) at 25 (“Some plants will become eligible for a second 20-year license extension after FY 2013. . . The NRC estimates that a total of 30 license renewal applications (including applications for a second license renewal) will be received in the 10-year cycle following the effective date of the rule.”). Similarly, the notice of issuance of the revised GEIS and Staff review guidance stated, “Revision 1 to the GEIS is intended for use by license renewal applicants and the NRC staff,” that “the revised GEIS provides the technical basis” for amending Part 51, and that certain environmental impact issues for consideration in license renewal environmental reviews were found “to be generic to all plant sites.” License Renewal of Nuclear Power Plants; Generic Environmental Impact Statement and Standard Review Plans for Environment Reviews, 78 Fed. Reg. 37,325 (Jun. 20, 2013). Thus, these documents also indicate the NRC’s intent to apply its existing regulatory framework for consideration of the environmental impacts of license renewal to all nuclear power plant license renewal applicants, including SLR applicants.

On August 29, 2014, the Commission issued its Staff Requirements Memorandum (“SRM”) in response to SECY-14-0016.⁸⁰ Therein, the Commission *declined* to approve the Staff’s recommendation to initiate Part 54 rulemaking for subsequent license renewal. Rather, the Commission directed the Staff to (1) “continue to update license renewal guidance, as needed, to provide additional clarity on the implementation of the license renewal regulatory framework;” (2) “address emerging technical issues and operating experience through alternative vehicles (e.g., issuance of generic communications, voluntary industry initiatives, or updates to NUREG-1801 [the GALL Report];”⁸¹ (3) implement inspection enhancements identified in the Reactor Oversight Process Enhancement Project related to aging management; (4) implement the Inspection Procedure (IP) Operating Experience (OpE) Update Process; and (5) keep the Commission informed on various specified matters and emphasize to industry the need for resolution of these issues prior to review of any subsequent license renewal application.⁸²

Both before and after issuance of the Commission’s SRM, Staff met with industry and other interested stakeholders to discuss issues related to subsequent license renewal, acted upon the Commission’s instructions, and briefed the Commission on its progress in addressing issues related to subsequent license renewal issues.⁸³ The Staff also updated its regulatory

⁸⁰ See “Staff Requirements – SECY-14-0016 – Ongoing Staff Activities to Assess Regulatory Considerations for Power Reactor Subsequent License Renewal” (Aug. 29, 2014) (ML14241A578) (“SRM-SECY-14-0016”).

⁸¹ “Guidance concerning the preparation and review of initial license renewal applications is provided in Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants,” NUREG-1800, Rev. 2 (Dec. 2010) (ML103490036) (“SRP-LR”), and “Generic Aging Lessons Learned (GALL) Report,” NUREG-1801, Rev. 2, (Dec. 2010) (ML103490041).

⁸² See SRM-SECY-14-0016 at 1.

⁸³ See, e.g., [Commission] Briefing on the Status of Subsequent Licensing Renewal Preparations (Apr. 26, 2017), Transcript (ML17118A300) (“2017 Briefing Transcript”). During the briefing Chairman Svinicki noted that in 2014 the Commission “disapproved the staff’s proposal that we undertake rulemaking And the Commission, at that time, . . . validated that the current framework was the right framework for follow-on . . . license renewal reviews.” Tr. at 52.

guidance to specifically address subsequent license renewal and issued the GALL-SLR Report, a content guide for applications for renewal of initial renewed operating licenses,⁸⁴ and the SRP-SLR,⁸⁵ the companion document that provides criteria for Staff review of SLRAs.⁸⁶ The *Federal Register* notice of issuance of these documents indicated that guidance documents for the first license renewal (i.e., for operation from 40 to 60 years) were revised to reflect aging differences for operation from 60 to 80 years, to consider new operating experience, and to incorporate changes previously issued as Interim Staff Guidance (ISG).⁸⁷

In sum, neither the AEA nor the Commission's regulations limit the number of times that a nuclear power plant's operating license may be renewed. The regulations in 10 C.F.R. Parts 51 and 54 establish the applicable requirements for nuclear power plant license renewals.

Petitioner's expert, David Lochbaum, also spoke at this briefing and was likely present when Staff and their research partners at DOE discussed NRC research to confirm the adequacy of the safety basis for SLR and refinement of aging management programs, particularly with respect to four technical issues—reactor pressure vessel, vessel internals, concrete, and electrical cables. See, e.g., Tr. at 2, 30-34 (Lochbaum); Tr. at 7, 10 (Reister, DOE) (stating that the expanded material degradation assessment focusing on reactor vessel pressure, core internals, concrete, and electrical cables is a joint DOE and NRC research effort and that “[n]o technical showstoppers to long-term operation have been identified” through this research). Tr. at 66-72 (Hiser, NRC) (indicating SLR applicants need to address technical issues that are not resolved generically on a plant-specific basis, noting confirmatory research being done by NRC, and describing refinements in SLR guidance documents); Tr. at 72-77 (Thomas, NRC) (providing status of confirmatory research supporting SLR regulatory decision-making focusing on the four technical issues and noting that progress in these four research areas has resulted in enhanced aging management programs that are addressed in subsequent license renewal guidance documents).

⁸⁴ “Generic Aging Lessons Learned for Subsequent License Renewal Report,” NUREG-2191, Vols. 1 and 2 (July 2017) (ML17187A031 and ML17187A204) (“GALL-SLR”).

⁸⁵ “Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants,” NUREG-2192 (July 2017) (ML17188A158) (“SRP-SLR”).

⁸⁶ See Final Guidance Documents for Subsequent License Renewal, 82 Fed. Reg. 32,588 (July 14, 2017). Subsequently, Staff noticed the issuance of NUREG-2222, “Disposition of Public Comments on the Draft Subsequent License Renewal Guidance Documents NUREG-2191 and NUREG-2192,” (Dec. 2017) (ML17362A143), and NUREG-2221, “Technical Bases for Changes in the Subsequent License Renewal Guidance Documents NUREG-2191 and NUREG-2192” (Dec. 2017) (ML17362A126). Supplementary Guidance Documents for Subsequent License Renewal, 83 Fed. Reg. 16,133 (Apr. 13, 2018).

⁸⁷ Final Documents for Subsequent License Renewal, 82 Fed. Reg. at 32,588.

As the Commission made clear in 2014, the existing license renewal regulatory framework and regulatory process also apply to subsequent license renewal. This framework and process as set out in 10 C.F.R. Parts 51 and 54 are supported by guidance in (1) the SRP-SLR,⁸⁸ (2) the GALL-SLR Report,⁸⁹ (3) the Revised GEIS,⁹⁰ and (4) the Standard Review Plans for Environmental Reviews for Nuclear Power Plants (“ESRP-LR”).⁹¹ Additional guidance for the preparation of an SLRA is provided in industry developed materials, which the NRC Staff approved for interim use on December 20, 2017.⁹² Indeed, these are the regulatory requirements and guidance documents that will primarily frame the Staff’s evaluation of the Peach Bottom SLRA.⁹³

⁸⁸ See SRP-SLR, NUREG-2192 (ML17188A158).

⁸⁹ See GALL-SLR Report, NUREG-2191, Vols. 1 and 2 (ML17187A031 and ML17187A204).

⁹⁰ See Revised GEIS, NUREG-1437, Vols. 1-3 (ML13106A241, ML13106A242, and ML13106A244).

⁹¹ See Standard Review Plans for Environmental Reviews for Nuclear Power Plants, NUREG-1555, Supp. 1, Rev. 1 (June 2013) (ML13106A246) (“ESRP-LR”).

⁹² See “Industry Guideline for Implementing the Requirements of 10 CFR Part 54 for Subsequent License Renewal,” NEI-17-01 (Dec. 2017) (ML17339A599); “Model SLR New and Significant Assessment Approach for SAMA, Revision 0,” NEI 17-04, Rev. 0 (June 2017) (ML17181A470).

⁹³ The Commission recently summarized these matters as follows:

In August 2014, the Commission affirmed that no revisions to either the safety or environmental regulations are needed to support the assessment of a SLR application. However, the Commission directed the staff to update license renewal guidance, as needed, to provide additional clarity on the implementation of the license renewal regulatory framework. . . .

The staff determined that no revisions were needed to the NRC guidance document entitled, “Standard Review Plans for Environmental Reviews for Nuclear Power Plants,” to support environmental reviews from 60 to 80 years. However, the staff determined that the GALL Report and the SRP-LR should be updated to facilitate more effective and efficient reviews of SLR applications.

Letter from Kristine L. Svinicki (Chairman, NRC) to Hon. John A. Barrasso (Chairman, U.S. Sen. Committee on Environment and Public Works) (July 19, 2018) (ML18170A241) and Enclosure to Letter from Kristine L. Svinicki (Chairman, NRC) to Hon. John A. Barrasso (Chairman, U.S. Sen. Committee on Environment and Public Works), at 45-46 (July 19, 2018) (ML18170A284) (“Barrasso Letter Enclosure”).

4. Safety Review of License Renewal and SLRAs

For a license renewal application, NRC conducts a safety review pursuant to 10 C.F.R. Part 54 to assure that pertinent public health and safety requirements have been satisfied.⁹⁴ Regardless of whether or not a license renewal application has been filed for a facility, the Commission has a continuing responsibility to oversee the safety and security of ongoing plant operations, and it routinely oversees a broad range of operating issues under its statutory responsibility to assure the protection of public health and safety for operations under existing operating licenses.⁹⁵ Therefore, for license renewal, the Commission has found it generally unnecessary to include a review of issues already monitored and reviewed in ongoing regulatory oversight processes.⁹⁶ Rather, the NRC's license renewal safety review focuses on "plant systems, structures, and components [SSC] for which current [regulatory] activities and requirements *may not* be sufficient to manage the effects of aging in the period of extended operation."⁹⁷ As such, the safety review of an SLRA is focused on the detrimental effects of aging posed by long-term reactor operation.⁹⁸ To that end, SLR applicants must "demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB [current licensing basis] for the period of extended operation."⁹⁹

⁹⁴ See *Turkey Point*, CLI-01-17, 54 NRC at 6.

⁹⁵ See *id.* at 8.

⁹⁶ *Id.* at 9-10 (holding that "[i]ssues like emergency planning – which already are the focus of ongoing regulatory processes – do not come within the NRC's safety review at the license renewal stage"); accord, *Millstone*, CLI-05-24, 62 NRC at 565, 567.

⁹⁷ *Turkey Point*, CLI-01-17, 54 NRC at 10 (quoting 60 Fed. Reg. at 22,469).

⁹⁸ *Seabrook*, CLI-12-5, 75 NRC at 303 (citing *New Jersey Env'tl. Fed'n v. NRC*, 645 F.3d 220, 224 (3d Cir. 2011)).

⁹⁹ 10 C.F.R. § 54.21(a)(3).

The Staff's safety review of a SLRA is primarily guided by the SRP-SLR and the GALL-SLR Report.¹⁰⁰ The SRP-SLR defines ten elements for an acceptable aging management program (AMP).¹⁰¹ With respect to the tenth element, operating experience, the SRP-SLR states that a program that adequately manages the effects of aging should address (1) currently available operating experience for existing AMPs, (2) changes to any existing AMP during the first period of extended operation, (3) currently available research and development applicable to new AMPs, and (4) future plant-specific and industry operating experience.¹⁰² The Staff's review of an AMP includes an assessment of an applicant's commitment to evaluate future operating experience to ensure that AMPs are either enhanced or new AMPs are developed, as appropriate.¹⁰³

The GALL-SLR Report identifies generic aging management programs that the Staff has determined to be one acceptable way to manage aging effects for SLR.¹⁰⁴ An SLRA may rely on an AMP that is consistent with the GALL-SLR Report or an SLRA may use a plant-specific AMP.¹⁰⁵ A conclusion by the Staff that an AMP is consistent with the GALL-SLR Report

¹⁰⁰ See *Seabrook*, CLI-12-5, 75 NRC at 304. In *Seabrook*, the Commission noted that "[i]n reviewing license renewal applications, the NRC is guided primarily by two documents – the Generic Aging Lessons Learned (GALL) Report and the License Renewal Standard Review Plan." *Id.* As discussed *supra* at 20-21, the Staff updated the GALL Report and the SRP for review of SLRAs. As such, the Commission's statement in *Seabrook* remains apposite to the extent that safety review of SLRAs is now primarily guided by the updated GALL Report (the GALL-SLR) and the updated SRP (the SRP-SLR).

¹⁰¹ SRP-SLR, NUREG-2192, at A.1-3 to A.1-10 (ML17188A158). The ten elements of an acceptable AMP are: (1) scope, (2) preventative actions, (3) parameters monitored or inspected, (4) detection of aging effects, (5) monitoring and trending, (6) acceptance criteria, (7) corrective actions, (8) confirmation process, (9) administrative controls, and (10) operating experience. *Id.*

¹⁰² *Id.* at A.1-9. The SRP-SLR further indicates that applicants should commit to future review of plant-specific and generic industry operating experience. Consideration of future operating experience may confirm the effectiveness of the AMPs, identify areas to enhance the AMPs, and suggest a need to develop new AMPs. *Id.*

¹⁰³ *Id.* at A.1-11.

¹⁰⁴ See GALL-SLR Report, NUREG-2191, Vol. 2 at xli (ML17187A204).

¹⁰⁵ SRP-SLR, NUREG-2192, at 1.2-4 (ML17188A158).

amounts to acceptance of the applicant's commitment to implement that AMP.¹⁰⁶ In such circumstances the commitment itself constitutes an adequate demonstration of reasonable assurance that effects of aging will be managed in accordance with § 54.29(a)(1).¹⁰⁷ However, relying on an AMP in the GALL-SLR Report as part of an SLRA does not insulate that program from litigation where the challenge is adequately supported.¹⁰⁸

5. Environmental Review of License Renewal and SLRAs

The National Environmental Policy Act of 1969, as amended ("NEPA"), 42 U.S.C. § 4321 *et seq.*, requires Federal agencies to include in any recommendation or report on proposals for major Federal actions significantly affecting the quality of the human environment, a detailed statement on:

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.^[109]

In accordance with NEPA, the NRC is required to take a "hard look" at the environmental impacts of a proposed major Federal action that could significantly affect the environment, in

¹⁰⁶ See *Seabrook*, CLI-12-5, 75 NRC at 304 (citing *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-10-17, 72 NRC 1, 36 (2010); *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-23, 68 NRC 461, 467-68 (2008)).

¹⁰⁷ See *id.*

¹⁰⁸ See *id.* at 315 (reversing the Board's admission of a contention that challenged an AMP where the intervenors "[a]t bottom, ... ask the agency to impose a burden greater than the requirement imposed by section 54.21(a)(3) to 'adequately *manage*['] aging effects").

¹⁰⁹ NEPA, § 102(2)(C), 42 U.S.C. § 4332(2)(C) (1975).

addition to reasonable alternatives to that action.¹¹⁰ This “hard look” is tempered by a “rule of reason” that requires agencies to address only impacts that are reasonably foreseeable—not remote and speculative.¹¹¹ As such, the Commission has observed, “NEPA requires consideration of ‘reasonable’ alternatives, not all conceivable ones.”¹¹² Further, the Commission has stated that “NEPA does not call for certainty or precision, but an *estimate* of anticipated (not unduly speculative) impacts.”¹¹³ Neither does NEPA call for Federal agencies to do the impossible.¹¹⁴ The Commission has noted that “NEPA gives agencies broad discretion to keep their inquiries within appropriate and manageable boundaries.”¹¹⁵ Indeed, the NRC Staff’s EISs “need only discuss those alternatives that . . . ‘will bring about the ends’ of the proposed action—a principle equally applicable to Environmental Reports.”¹¹⁶

The NRC has adopted regulations implementing its NEPA responsibilities in 10 C.F.R. Part 51, under which the Staff performs an environmental review for license renewal to assess the potential impacts of 20 additional years of operation.¹¹⁷ In 1996, the Commission amended

¹¹⁰ See *Louisiana Energy Servs, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87-88 (1998).

¹¹¹ See, e.g., *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-156, 6 AEC 831, 836 (1973).

¹¹² *Seabrook*, CLI-12-5, 75 NRC at 338 (citing *Natural Res. Defense Council, Inc. v. Morton*, 458 F.2d 827, 834, 837, 838 (D.C. Cir. 1972)).

¹¹³ *Louisiana Energy Servs, L.P.* (National Enrichment Facility), CLI-05-20, 62 NRC 523, 536 (2005) (emphasis in original).

¹¹⁴ The Supreme Court has observed that where it is not possible for an agency to analyze the environmental consequences of a proposed action or alternatives to it, requiring such analysis would have “no factual predicate.” *Kleppe v. Sierra Club*, 427 U.S. 390, 401-02 (1976). Under those circumstances an Environmental Impact Statement (“EIS”) is not required. See *id.*

¹¹⁵ *Claiborne Enrichment Center*, CLI-98-3, 47 NRC at 103 (citing *South Louisiana Env’tl. Council, Inc. v. Sand*, 629 F.2d 1005, 1011 (5th Cir. 1980)).

¹¹⁶ *Seabrook*, CLI-12-5, 75 NRC at 339 (citations omitted).

¹¹⁷ *Turkey Point*, CLI-01-17, 54 NRC at 6-7.

the environmental review requirements in 10 C.F.R. Part 51 to address the scope of environmental review for license renewal applications.¹¹⁸ As part of that rulemaking, Appendix B was added to Part 51, delineating the issues that are to be considered in a license renewal environmental review.¹¹⁹ The regulations in Part 51 and Appendix B were further amended in 2013, updating the Commission's 1996 findings. In particular, the 2013 amendment redefined the number and scope of the environmental impact issues that must be addressed during license renewal environmental reviews and incorporated lessons learned and knowledge gained during previous license renewal environmental reviews.¹²⁰

The regulations in 10 C.F.R. Part 51, Appendix B divide the license renewal environmental review into (1) generic issues (designated "Category 1" issues) and (2) plant-specific issues (designated "Category 2" issues). The generic impacts of operating a plant for an additional 20 years that are common to all plants, or to a specific subgroup of plants, were addressed in the Revised GEIS.¹²¹ The findings and analyses contained in the Revised GEIS were used by the Commission as the technical basis for its revisions of 10 C.F.R. Part 51, defining the scope of its review of the environmental impacts of license renewal under NEPA.

A license renewal applicant is generally not required to discuss generic Category 1 issues in its Environmental Report, but instead may reference and adopt the Commission's

¹¹⁸ See Environmental Review of Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467 (June 5, 1996).

¹¹⁹ The 1996 rule added Appendix B to Subpart A of 10 C.F.R. Part 51, which included Table B-1, "Summary of Findings on NEPA Issues for License Renewal of Nuclear Power Plants" that summarized the findings of the 1996 GEIS.

¹²⁰ See Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 78 Fed. Reg. 37,282 (Jun. 20, 2013). The notice describes the 2013 GEIS as being "both an update and a re-evaluation of the potential environmental impacts arising from the renewal of an operating license for . . . *an additional 20 years.*" *Id.* at 37,285.

¹²¹ See 2013 GEIS, NUREG-1437, Vols. 1-3.

generic findings set forth in 10 C.F.R. Part 51 and the Revised GEIS.¹²² In addition, pursuant to 10 C.F.R. § 51.53(c)(iv), an applicant's environmental report "must contain any new and significant information regarding the environmental impacts of license renewal of which the applicant is aware."¹²³ Thus, an applicant must provide a plant-specific review of the non-generic Category 2 issues in its Environmental Report, and must address any *new and significant* information that might render the Commission's generic Category 1 determinations incorrect in that proceeding.¹²⁴

The Staff's environmental review for a license renewal is guided by the Revised GEIS¹²⁵ and the ESRP-LR.¹²⁶ Like the applicant, the Staff is not required to address generic Category 1 impacts in its plant-specific environmental impact statement, which it publishes as a supplement to the GEIS ("SEIS").¹²⁷ However, the Staff must address any new and significant information of which it becomes aware that might affect the applicability of the Commission's generic Category

¹²² See *Turkey Point*, CLI-01-17, 54 NRC at 11. The Commission has emphasized that generic analysis is an appropriate method of meeting the agency's statutory obligations under NEPA. *Entergy Nuclear Generation Co & Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), *Entergy Nuclear Vermont Yankee, LLC, & Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-09-10, 69 NRC 521, 523-25 (2009) (citing *Massachusetts v. NRC*, 522 F.3d 115 (1st Cir. 2008)).

¹²³ 10 C.F.R. § 51.53(c)(3)(iv) (2018).

¹²⁴ See, e.g., *Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-13-07, 78 NRC 199, 212-13 (2013); *Pilgrim Nuclear Power Station*, CLI-09-10, 69 NRC at 527; *Turkey Point*, CLI-01-17, 54 NRC at 11-12.

¹²⁵ See 2013 GEIS, NUREG-1437, Vols. 1-3.

¹²⁶ ESRP-LR, NUREG-1555, Supp. 1, Rev. 1.

¹²⁷ The 1996 GEIS identified 92 license renewal environmental issues, of which 69 were determined to be generic (Category 1), 21 were determined to be plant-specific (Category 2), and two did not fit into either category (uncategorized). See GEIS, NUREG-1437, Vol. 1, Table 9.1 (ML040690705). The 2013 revision to the GEIS modified this list, identifying 78 environmental impact issues for license renewal, of which 59 were determined to be generic (Category 1), 17 were determined to be plant-specific (Category 2), and two did not fit into either category (uncategorized). See Revised GEIS, Vol. 1, at 1-36 (ML13106A241). The findings of the environmental impact analyses conducted for the 2013 GEIS are listed in Table B-1 of Appendix B, which lists each issue and its category level. See *id.* at Appendix B, Table B-1.

1 determinations in the proceeding.¹²⁸ Following publication of a site-specific supplement to the GEIS, further supplementation is required only “if there are ‘significant new circumstances or information’ . . . [that] paint[] a dramatically different picture of impacts compared to the description of impacts in the EIS.”¹²⁹

Contentions raising environmental issues in a license renewal proceeding are limited to those issues that are affected by license renewal and have not been addressed by rulemaking or on a generic basis.¹³⁰ As the Commission stated, Category 1 issues “are not subject to site-specific review and thus fall beyond the scope of individual license renewal proceedings.”¹³¹ Thus, the Commission has found that where a generic environmental analysis has been incorporated into a regulation, “the conclusions of that analysis may not be challenged in litigation unless the rule is waived by the Commission for a particular proceeding or the rule itself is suspended or altered in a rulemaking proceeding.”¹³²

¹²⁸ See, e.g., *Limerick*, CLI-13-07, 78 NRC at 216-17; *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-16-8, 83 NRC 417, 439-40 (2016).

¹²⁹ *Massachusetts v. NRC*, 708 F.3d 63, 68-69 (1st Cir. 2013) (quoting *Town of Winthrop v. FAA*, 535 F.3d 1, 7, 12 (1st Cir. 2008)); accord, *Limerick*, CLI-13-07, 78 NRC at 211, 216-17. The Commission has also indicated that such information “‘must present ‘a seriously different picture of the environmental impact of the proposed action from what was previously envisioned.’” *Ameren Missouri* (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141, 167-68 (2011) (citing *Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 871200), CLI-99-22, 50 NRC 3, 14 (1999)).

¹³⁰ *Turkey Point*, CLI-01-17, 54 NRC at 11-12.

¹³¹ *Id.* at 12; see also 10 C.F.R. § 51.53(c)(3)(i)-(ii) (2018). In *Turkey Point*, the Commission recognized that the rules “provide a number of opportunities for individuals to alert the Commission to new and significant information that might render a generic finding invalid, either with respect to all nuclear power plants or for one plant in particular. In the hearing process, for example, petitioners with new information showing that a generic rule would not serve its purpose at a particular plant may seek a waiver of the rule.” *Turkey Point*, CLI-01-17, 54 NRC at 12. No request for waiver has been requested by Petitioner here.

¹³² *Entergy Nuclear Vermont Yankee, LLC & Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), *Entergy Nuclear Generation Co. & Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-07-03, 65 NRC 13, 17-18 (footnotes omitted), reconsid. denied, CLI-07-13, 65 NRC 211, 214-15 (2007). This approach has been found to comply with NEPA. See, e.g., *Massachusetts v. NRC*, 708 F.3d 63, 68-69 (1st Cir. 2013).

B. Analysis of Proffered Contentions

Petitioner proffers one safety contention and one environmental contention for litigation in this proceeding. Appended to the Petition as Attachment 4 is a declaration and report by Petitioner's expert, David A. Lochbaum, and his resume.¹³³ As discussed below, the Staff objects to the admission of Contentions 1 and 2 because they do not meet the admissibility criteria in 10 C.F.R. § 2.309(f) and should not be admitted absent the grant of a petition for waiver or exception under 10 C.F.R. § 2.335.

1. Contention 1: Failure to Satisfy NRC Regulations for Aging Management Programs

Exelon's subsequent license renewal application fails to comply with NRC safety regulation 10 C.F.R. § 54.21(a)(3), nor does it meet the NRC's standards for renewal of an operating license in 10 C.F.R. §§ 54.29(a)(1) and 54.31(a)(1)[sic],¹³⁴ because its aging management programs for the subsequent license renewal term do not address any of the following issues:

- (a) The degree to which Exelon's aging management programs depend on external operating experience,
- (b) How Exelon will determine what amount of operating experience information is sufficient, and
- (c) How operating experience will be augmented if it is deemed insufficient.

Exelon's license for Peach Bottom Units 2 and 3 should not be renewed until these actions have been taken.^[135]

¹³³ See Declaration of David A. Lochbaum (Nov. 16, 2018) (Lochbaum Declaration) and appended "Proposed Subsequent License Renewal of Peach Bottom Units 2 and 4: Exelon's Aging Management Programs Fail to Provide Adequate Measures for Consideration of Operating Experience Throughout the Period of Extended Operation: A Report By David A. Lochbaum Prepared for Beyond Nuclear, Inc." (Nov. 16, 2018) (Lochbaum Report).

¹³⁴ There is no regulation at 10 C.F.R. § 54.31(a)(1), and 10 C.F.R. § 54.31(a), which requires a renewed license to be of the class for which the operating license or combined license currently in effect was issued, does not appear relevant. The Staff believes that Petitioner intended to refer to 10 C.F.R. § 54.21(a)(1).

¹³⁵ Petition at 4.

Staff Response to Contention 1

Petitioner's sole basis for this contention is the Lochbaum Report, which "it adopts by reference and incorporates into [its] contention."¹³⁶ The Lochbaum Report asserts that the operating licenses for Peach Bottom Units 2 and 3 should not be renewed until the subsequent license renewal application is revised to discuss the role of operating experience in aging management as specified by the three items in Contention 1. The goal of the contention is to impose requirements not included in the regulations to address a posited potential "decline" in operating experience and to ensure that the application provides a basis to require harvesting of materials in permanently shut down reactors.¹³⁷ Because the contention seeks to impose new requirements not included in the cited regulations, it is outside the scope of this proceeding contrary to the requirements of 10 C.F.R. § 2.309(f)(1)(iii), and constitutes an attack on the adequacy of current regulations, which is not permitted in adjudicatory proceedings except under the provisions of 10 C.F.R. § 2.335(b).¹³⁸ In addition, Petitioner fails to demonstrate that the items listed are material to findings the NRC must make.¹³⁹ Finally, the basis for this contention is unsupported speculation about potential future events, which fails to provide adequate support or sufficient information to show a genuine dispute with the applicant on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(v) and (vi).

a. Contention 1 Is Out of Scope and Constitutes an Impermissible Challenge to the Commission's Regulations

Contentions that seek to impose "requirements" that go beyond the regulations are inadmissible in adjudicatory proceedings both because they are outside the scope of the

¹³⁶ See Petition at 4.

¹³⁷ See Lochbaum Report at 31-41.

¹³⁸ 10 C.F.R. § 2.335(a)-(b).

¹³⁹ See 10 C.F.R. § 2.309(f)(1)(iv).

proceeding as required by 10 C.F.R. § 2.309(f)(1)(iii) and because they are explicitly barred by 10 C.F.R. § 2.335(a).¹⁴⁰ A collateral attack on Commission rules or regulations or a contention that “merely seeks to advance generalizations regarding a petitioner’s particular view of what applicable policies ought to be” is not admissible.¹⁴¹ Members of the public who wish to draw the Commission’s attention to potential regulatory improvements have other means of doing so, such as filing a petition for rulemaking under 10 C.F.R. § 2.802. But the scope of contentions that may be admitted in a license renewal proceeding is “limited by the nature of the application and pertinent Commission regulations.”¹⁴²

Through Contention 1, as circumscribed by its basis statement, Petitioner in essence seeks to increase the requirements of 10 C.F.R. §§ 54.21(a)(1), (a)(3) and 54.29. Petitioner believes that these regulations should require that an application include the listed items concerning operating experience in order to demonstrate that the plant’s “aging management programs” will manage aging of the specified structures, systems and components.¹⁴³ However, Contention 1 points to no statement in the regulations that expressly requires the information it specifies. The term “operating experience” is not mentioned in Part 54, but is one of the 10 elements listed in NRC guidance concerning the attributes of an NRC aging management program.¹⁴⁴ Although Staff does not dispute that operating experience can inform licensee activities or programs to manage aging, the premise for the contention is grounded upon the

¹⁴⁰ Parties may petition the Commission to waive the application of a specific rule in an adjudicatory proceeding pursuant to 10 C.F.R. § 2.335(b). No such petition has been received in this case.

¹⁴¹ *PPL Susquehanna LLC* (Susquehanna Steam Elec. Station, Units 1 & 2), CLI-07-25, 66 NRC 101, 106 (Oct. 5, 2007) (citation and internal quotation marks omitted)

¹⁴² Policy on Conduct of Adjudicatory Proceedings; Policy Statement, 63 Fed. Reg. 41,872, 41,874 (Aug. 5, 1998).

¹⁴³ Petition at 4-5.

¹⁴⁴ GALL-SLR, Vol. 1, at xxxiv.

unsupported and conclusory assertion that the amount of reactor operating experience could be “significantly reduced” and that elucidation of the stated items is required for regulatory compliance.¹⁴⁵

The Lochbaum Report repeatedly misstates requirements and conflates guidance documents with regulations. The regulations cited in Contention 1 make no reference to “operating experience.” Instead, 10 C.F.R. § 54.21(a)(3) requires a license renewal application to “demonstrate that the effects of aging will be adequately managed [for structures and components identified in 10 C.F.R. § 54.21(a)(1)] so that the intended function(s) will be maintained consistent with the [current licensing basis] for the period of extended operation.” Section 54.21(a)(1) requires an application to identify and list structures and components subject to an aging management review and 10 C.F.R. § 54.29(a)(1) requires that a renewed license may issue if the Commission, in part, finds that actions have been identified and have been or will be taken with respect to managing the effects of aging during the period of extended operation such that there is reasonable assurance that activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis.¹⁴⁶

Citing the GALL-SLR Report, Interim Staff Guidance, a Standard Review Plan, and an Inspection Procedure, the Lochbaum Report asserts that the NRC *requires* discussion of operating experience in license renewal applications.¹⁴⁷ For example, the report states that:

The NRC also *requires* consideration of operating experience in the context of license renewal. Operating experience during the initial license term *must* be considered in a license renewal application; and ongoing consideration of operating experience *must* be included in an applicant’s aging management plan . . . Since issuance of [an Interim Staff Guidance document], the NRC has *mandated* that reactor operating license

¹⁴⁵ Petition at 5.

¹⁴⁶ As noted above, Petitioner’s cite to 10 C.F.R. § 54.31(a)(1) appears to be erroneous.

¹⁴⁷ Lochbaum Report at 7-12.

renewal applications *must* expressly describe how operating experience will be used on an ongoing basis.¹⁴⁸

Each use of “must,” “mandated” and “requires” is incorrect. The NRC has never mandated that operating experience be discussed in a license renewal application, nor could such a mandate be issued in the form of a guidance document. NRC guidance in the GALL-SLR Report does suggest that applicants for subsequent license renewal include operating experience as one of the program elements to show the technical adequacy of AMPs for compliance with the above-cited aging management regulations.¹⁴⁹ If applicants adopt AMPs listed in the GALL-SLR Report, applicants should confirm that plant-specific conditions and operating experience are bounded by the conditions and operating experience for which the GALL-SLR program was evaluated; if not, the applicant should augment AMPs as needed in order to be within the GALL-SLR guidance.¹⁵⁰ However, as with all NRC guidance documents, the recommendations in the GALL-SLR are not requirements, and, as stated in the document itself, “[t]he use of the GALL-SLR Report is not required.”¹⁵¹

The heart of Contention 1 is a claim that the agency should require additional discussion of the availability of operating experience in the SLRA, in essence increasing what is required by 10 C.F.R. §§ 54.21(a)(1) and (a)(3), and 54.29(a)(1).¹⁵² A similar contention was found

¹⁴⁸ Lochbaum Report at 7-8 (emphasis added).

¹⁴⁹ The applicant has chosen to follow the GALL-SLR guidance. See SLRA at A-10, B-6 (describing how operating experience is captured, reviewed and used to enhance AMPs if appropriate).

¹⁵⁰ GALL-SLR at xli.

¹⁵¹ *Id.* (stating that the “GALL-SLR Report contains one acceptable way to manage aging effects for subsequent license renewal (SLR). An applicant may propose alternatives for staff review in its plant-specific SLRA.”); see also *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 & 2), CLI-04-29, 60 NRC 417, 424 (2004), *reconsid. denied*, CLI-04-37, 60 NRC 646 (2004) (“Guidance documents are, by nature, only advisory. They need not apply in all situations and do not themselves impose legal requirements on licensees.”).

¹⁵² See Petition at 4 (stating that the SLRA fails to comply with NRC regulations “because its aging management programs for the subsequent license renewal term do not address any of

inadmissible by the Commission in the *Seabrook* case.¹⁵³ In that proceeding, one petitioner asked NRC to require a license renewal applicant to “preclude” moisture from affecting non-environmentally qualified inaccessible cables.¹⁵⁴ The Commission found that, because the requirement to preclude such effects “appears nowhere in [NRC] regulations,” the petitioner was “ask[ing] the agency to impose a burden greater than the requirement imposed by section 54.21(a)(3) to adequately *manage* aging effects.”¹⁵⁵ Therefore, the Commission found the contention inadmissible as a collateral attack on NRC regulations.

Contention 1 is directly analogous. By arguing in essence that the existing Part 54 aging management requirements are insufficient, the Lochbaum Report asks the agency to go beyond the regulations and impose an additional burden on the Applicant by requiring the specified discussions of operating experience. Such an attack on NRC regulations is both outside of the scope of this proceeding under 10 C.F.R. § 2.309(f)(1)(iii) and inadmissible under 10 C.F.R. § 2.335(a) unless a petition for waiver or exception is granted. The Board, therefore, should follow the Commission’s “longstanding practice of rejecting, as a collateral attack, any contention calling for requirements in excess of those imposed by our regulations” and find Contention 1 inadmissible in its entirety.¹⁵⁶

the following issues . . .”); *see also* Lochbaum Report at 12.

¹⁵³ *Seabrook*, CLI-12-5, 75 NRC at 301.

¹⁵⁴ *Id.* at 314-15.

¹⁵⁵ *Id.* (internal quotation marks omitted).

¹⁵⁶ *Id.* at 315. Similarly, to the extent that Contention 1 challenges the adequacy of Staff SLR review and inspection efforts, it raises an issue that is not admissible in an NRC licensing proceeding.

b. Contention 1 is Not Material to Required Findings

To be admissible under 10 C.F.R. § 2.309(f)(1)(iv), a contention must demonstrate that the issue raised is “material to the findings the NRC must make to support the action that is involved in the proceeding.” The Commission has interpreted materiality to entail a showing that the resolution of the issue in the contention would affect the agency’s ultimate determination.¹⁵⁷ In this case, Petitioner has not shown that adding the explicit description of operating experience called for by Contention 1 would change the NRC’s ultimate determination on the Applicant’s subsequent license renewal, particularly since Petitioner has not shown that there is either any NRC requirement or NRC guidance recommendation to discuss operating experience in the manner specified by Contention 1.

Contention 1(a) claims that the Applicant must discuss “the degree to which [its] aging management programs depend on external operating experience” before the application can be granted. However, statements by Petitioner’s expert in this regard are conclusory and fail to explain why this information is material to NRC’s disposition of the application. The NRC must assess whether the applicant has demonstrated that the effects of aging on relevant structures and components will be adequately managed.¹⁵⁸ Whether the applicant’s AMPs are “substantially” or “slightly” dependent on external operating experience would not be determinative, because the pertinent inquiry for applicants who choose to follow the GALL-SLR guidance is whether the AMP was informed by (or is bounded by) relevant external operating experience—not the “degree of dependence on operating experience.”¹⁵⁹

¹⁵⁷ *Palisades Nuclear Plant*, LBP-15-20, 81 NRC at 850.

¹⁵⁸ 10 C.F.R. § 54.21(c)(3); 10 C.F.R. § 54.29(a)(1).

¹⁵⁹ See SRP-SLR at 1.2-4, 1.2-5.

Similarly, the claims in Contention 1(b) and (c) that criteria are needed to define “sufficient operating experience” or address how such experience would be “augmented” appear to be based on Petitioner’s view that there is a “declining body of external operating experience.”¹⁶⁰ However, Petitioner points to no NRC regulations or guidance documents to support the claim that a certain quantum of operating experience is needed for effective aging management. Just as specifying “sufficient operating experience” is not material to a finding the NRC must make under NRC regulations, neither is a plan for augmenting operating experience based on a speculative and conclusory assertion of unavailability. Rather, NRC regulations require applicants to make a showing regarding the adequacy of their aging management, rather than requiring speculation about the future availability of information (which may or may not inform any given AMP).¹⁶¹

It is the petitioner’s burden to supply support for its contention.¹⁶² If a petitioner fails to “explain how its claims would affect the Staff’s ability to make the findings required for license renewal,” the contention will not meet the materiality criterion of 10 C.F.R. § 2.390(f)(1)(iv).¹⁶³ Because an applicant’s “degree of dependence” on external operating experience and its potential estimates of the availability of future operating experience would not affect the Staff’s ultimate decision on the application, Contention 1 is inadmissible.

¹⁶⁰ Petition at 2-3.

¹⁶¹ See 10 C.F.R. § 54.21(a)(3); SRP-SLR at 1.2-1.

¹⁶² *Oyster Creek*, CLI-09-7, 69 NRC at 260-61; see also Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,171 (August 11, 1989) (final rule).

¹⁶³ *Pacific Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-15-21, 82 NRC 295, 305 (2015) (upholding Board findings that a contention was inadmissible for lack of materiality and specificity).

c. Contention 1 Fails to Show a Genuine Dispute with the Applicant

Petitioner must “provide a concise statement of the alleged facts or expert opinion which support the requestor’s/petitioner’s position on the issue” to show that “a genuine dispute exists with the applicant/licensee on a material issue of law or fact.”¹⁶⁴ Speculation, even informed by expertise, is insufficient to show a genuine dispute over an issue of law or fact.¹⁶⁵ Contention 1 fails to meet these strict standards in several respects: it is vague, it is supported by mere speculation about a future chain of events, and it expresses a generalized grievance about the nuclear industry.

The Lochbaum Report argues that because the number of operating U.S. power reactors is decreasing, there is a “credible potential for the amount of operating experience to decline” so that AMPs could be reduced in effectiveness, resulting in declining “reactor safety margins.”¹⁶⁶ The concern raised by the Lochbaum Report appears to be with four specific aging effects: reactor pressure vessel embrittlement, irradiation-assisted stress corrosion cracking of reactor internals, concrete and containment degradation, and electrical cable qualification and condition assessment.¹⁶⁷ However, Petitioner does not point to specific flaws in any particular aging management program described in the application nor does it specify which safety margins could be jeopardized. Further, Petitioner incorporates by reference the Lochbaum Report, but it fails to explain how the report supports its claims.¹⁶⁸

¹⁶⁴ 10 C.F.R. § 2.390(f)(1)(v) and (vi).

¹⁶⁵ *Fansteel*, CLI-03-13, 58 NRC at 203 (citing *Oyster Creek*, CLI-00-6, 51 NRC at 208); see also *Palisades Nuclear Plant*, CLI-15-23, 82 NRC at 328-30.

¹⁶⁶ Lochbaum Report at 14, 33.

¹⁶⁷ Petition at 5 (citing Lochbaum Report at 3).

¹⁶⁸ Petition at 4-6; see also *Consolidated Edison Co., Entergy Nuclear Indian Point 2, LLC, & Entergy Nuclear Operations, Inc.* (Indian Point, Units 1 & 2), CLI-01-19, 54 NRC 109, 132-33 (2001) (noting that the Commission will not approve incorporation by reference when it has the effect of circumventing specificity requirements).

Petitioner's concern that the amount of operating experience could decline is speculative and ignores publicly available information. While there is no NRC-endorsed definition of the term, the common industry understanding of "operating experience" encompasses several different sources of information. Plant-specific or "internal" operating experience, "external" operating experience from other plants, including international plants, and even operating experience from industries other than nuclear could, when relevant, inform a licensee's operations. Petitioner overlooks most of these sources to focus narrowly on external operating experience from domestic boiling water reactors. Further, Petitioner does not appear to recognize that operating experience accumulates even on days when there is no reported or unusual occurrence. And Petitioner provides no reason to dispute the obvious—that operating experience will continue to accrue as long as nuclear power plants operate. Therefore, although nuclear power plant shutdowns could decrease the rate at which new operating experience accrues, the total body of available operating experience will continue to grow throughout the period of extended operation. Contention 1 provides no evidence that plant-specific AMPs would be affected by a decrease in the rate of accrual of domestic external operating experience. Moreover, Petitioner supplies no evidence that internal operating experience, international operating experience, or research results could not be used to maintain the effectiveness of applicant's aging management during ongoing AMP revisions.

In addition, Petitioner ignores publicly available information about the four aging issues listed in the Lochbaum Report.¹⁶⁹ The Commission disapproved rulemaking for subsequent license renewal, including an option to consider reducing the time period (before expiration of an

¹⁶⁹ The Commission held a public meeting discussing the Staff's conclusions in April 2017. As a presenter from the Department of Energy stated, "[o]ur research has not identified any technical showstoppers to long-term operation. We are developing improved materials monitoring techniques that will help detect degradation earlier, should it occur." 2017 Briefing Transcript at 10; see also Briefing on the Status of Subsequent License Renewal Preparations (Slide Presentation) (Apr. 26, 2017), available at <https://www.nrc.gov/reading-rm/doc-collections/commission/slides/2017/20170426/staff-20170426.pdf>.

existing license) that SLR may be sought in order to provide additional operating experience before SLR.¹⁷⁰ Instead, SRM-SECY-14-0016 directed Staff to “address emerging technical issues and operating experience through alternative vehicles,” such as updated guidance, generic communications, voluntary industry initiatives, and inspection enhancements.¹⁷¹

The Lochbaum Report opines that an “[e]xplicit description of operating experience information sufficiency is needed in the subsequent license renewal application to enable plant workers and NRC inspectors/reviewers to properly gauge whether a condition adverse to quality under Appendix B to 10 C.F.R. 50 results from permanent reactor closures.”¹⁷² However, effective aging management ensures that the functionality of relevant systems, structures and components is maintained, thereby avoiding the creation of conditions adverse to quality. The Lochbaum Report’s suggestions that existing Appendix B requirements are insufficient to maintain the current licensing basis, that the licensee will not implement its Appendix B program correctly, or that NRC reviewers could not adequately review applicant’s aging management are insufficiently supported, speculative and conclusory.¹⁷³

The Commission has previously held that contentions based on a licensee’s inchoate future plans are inadmissible.¹⁷⁴ Similarly, the Commission has stated that it is “particularly reluctant to engage in prognostication . . . Unsupported hypothetical theories or projections, even in the form of an affidavit, will not support invocation of the hearing process.”¹⁷⁵ As such, a

¹⁷⁰ SRM-SECY-14-0016 at 1 (ML14241A578); SECY-14-0016 (ML14241A578) at 7-8.

¹⁷¹ SRM-SECY-14-0016 at 1.

¹⁷² Lochbaum Report at 12.

¹⁷³ The NRC will not presume without evidence that a licensee will violate agency regulations. *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-9, 53 NRC 232, 235 (2001).

¹⁷⁴ *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-14, 55 NRC 278, 292 (2002).

¹⁷⁵ *Power Auth. of the State of N.Y. and Entergy Nuclear Fitzpatrick LLC, Entergy*

contention resting on speculation about a chain of causation by which a decreased number of operating U.S. nuclear power reactors might lead to a future in which unspecified “reactor safety margins would decline” is inadmissible because such speculation fails to support a genuine dispute with the applicant in this proceeding.¹⁷⁶

Contention 1 is also inadmissible insofar as it represents a general plea for the U.S. nuclear industry to perform “harvesting,” or to retrieve samples of structures and components from decommissioned reactors for the purpose of testing and assessing aging effects.¹⁷⁷ This goal does not appear to be based on anything unique about the Peach Bottom SLRA, but rather applies to current operating plants in general.¹⁷⁸ As the Commission has held, an adjudicatory proceeding is not the proper venue “to express generalized grievances about NRC policies”¹⁷⁹ or about the nuclear industry as a whole.¹⁸⁰ Thus, generalized grievances about the need for harvesting to address the four issues are outside the scope of this proceeding.

Contention 1 therefore fails to meet the criteria of 10 C.F.R. §§ 2.390(f)(1)(v) and (vi) in several respects. The contention ignores publicly available information; it fails to explain how

Nuclear Indian Point 3 LLC, and Entergy Nuclear Operations, Inc. (James A. Fitzpatrick Nuclear Power Plant; Indian Point, Units 3), CLI-00-22, 52 NRC 266, 315 (2000).

¹⁷⁶ Lochbaum Report at 14.

¹⁷⁷ See Lochbaum Report at 39-40 (“With explicit discussion with the [SLRA] for Peach Bottom of aging management program dependence on operating experience feedback, the opportunity for harvesting materials from permanently shut down reactors or collected from operating reactors may be lost.”) The Lochbaum Report (at 37) cites a draft PNNL document that has not been endorsed by the NRC. The Commission has previously held that staff working papers or position papers, drafted by NRC Staff but not endorsed by the Commission, have “no legal significance for any [NRC] regulatory purpose.” *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-355, 4 NRC 397, 416 (1976) (citations omitted) (denying admission of a contention related to mixed oxide fuel when the licensee was under contract for future fuel purchases). *A fortiori*, then, a position paper drafted by researchers outside the NRC has no regulatory significance; it merely represents the authors’ opinion.

¹⁷⁸ Lochbaum Report at 35-41.

¹⁷⁹ *Oconee*, CLI-99-11, 49 NRC at 334.

¹⁸⁰ *Fitzpatrick*, CLI-00-22, 52 NRC at 296.

the Lochbaum Report supports its claim; it improperly attempts to use the adjudicatory process to pursue a generalized grievance about the nuclear industry; and it is based on vague and speculative prognostication.

2. Contention 2: Failure to Address Environmental Impacts of Operating Aging Reactor Equipment During a Second License Renewal Term

Contention 2¹⁸¹ incorporates by reference Petitioner's expert report and claims that (1) Exelon's ER violates NEPA and 10 C.F.R. § 51.53(c)(2) because it fails to address accident

¹⁸¹ Contention 2 (Petition at 6-8) states:

Exelon's Environmental Report for Peach Bottom Units 2 and 3 violates the National Environmental Policy Act ("NEPA") and NRC implementing regulation 10 C.F.R. § 51.53(c)(2) by failing to address the accident risks posed by operating aging reactor equipment during a second license renewal term. Exelon incorrectly claims that the risk of operating Peach Bottom with aging equipment is a "Category 1" issue and therefore exempt from consideration under 10 C.F.R. § 51.53(c)(3) and 10 C.F.R. Part 50, Appendix A. Environmental Report at 4-12 (citing Category 1 designation of "design-basis accidents"). In taking this position, Exelon disregards the plain language of § 51.53(c)(3), which states that the regulation applies only to "initial" operating license renewal applications. Exelon's application is governed by 10 C.F.R. § 51.53(c)(2), which contains no such exemption.

Exelon also violates NEPA by failing to review and evaluate the existing body of literature regarding reactor aging phenomena and their effects beyond 60 years. *Pacific Gas & Elec. Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-11-11, 74 NRC 427, 443 (2011) (where the Environmental Report had conceded the relevance of seismic risk, holding admissible the question of whether an additional technical study should be considered). Here, there can be no question that the accident risk posed by operating Peach Bottom for an additional twenty years is a relevant environmental consideration. But Exelon does not address the significant body of studies raising concerns about how much is still unknown about the effects of aging on reactor safety equipment. See Lochbaum Expert Report, Section 4 and technical studies listed therein. Relevant studies include, for instance, the Expanded Materials Degradation Assessment (EMDA), a five-volume report prepared by the NRC and the U.S. Department of Energy ("DOE"), NUREG/CR-7153, ORNL/TM-2013/532, Oct. 2014 ("EMDA Report"). Other examples of relevant studies of aging reactor equipment are listed in Section 10 of the attached Lochbaum Expert Report.

Exelon's Environmental Report should also address the environmental implications of reactor aging issues identified by the NRC Staff in SECY-14-0016, Memorandum from Mark A. Satorius, NRC Executive Director of Operations, to NRC Commissioners, re: Ongoing Staff Activities to Assess Regulatory Considerations for Power Reactor Subsequent License Renewal (Jan. 31, 2014) (NRC ADAMS Accession No. ML14050A306). These issues, characterized by the Staff as "the most significant technical issues challenging [reactor] operation beyond 60 years," include reactor pressure vessel embrittlement; irradiation-assisted stress corrosion cracking of reactor internals, concrete structures and containment degradation; and electrical cable qualification and condition assessment. *Id.*, Enclosure 1 at 2-3. As stated by senior NRC management, "it is the industry's responsibility to resolve these and other issues to

risks posed by aging equipment and incorrectly claims that the risk of “design-basis” accidents during SLR operation is a Category 1 issue under § 51.53(c)(3) that “applies only to ‘initial’ license renewal applications,” (2) that Exelon violates NEPA by not reviewing and evaluating literature regarding post-60-year aging effects, such as the EMDA Report and other relevant studies cited by its expert, (3) that the ER should address “the environmental implications” of four aging issues identified in SECY-14-0016, Enclosure 1 (i.e., RPV embrittlement; irradiation-assisted stress corrosion cracking of reactor internals, concrete structures and containment degradation; and electrical cable qualification and condition assessment), and (4) that Exelon should address the degree to which the lack of information affects the environmental risks of extended operation and the significance of the decline in external operating experience to “assist and increase” its understanding of age-related environmental risks.¹⁸²

As bases for this contention, Petitioner discusses NEPA’s purpose to ensure that an agency has information available to consider the environmental impacts in agency decisions and quotes the 10 C.F.R § 51.45(c) requirement that an applicant’s environmental report must include an environmental analysis that, to the extent practicable, quantifies factors considered and discusses any important qualitative considerations that cannot be quantified in qualitative

provide the technical bases to ensure safe operation beyond 60 years.” *Id.* at 3. Beyond Nuclear is aware of no determination that these issues have been resolved since publication of SECY-14-0016. The Environmental Report should address the degree to which a lack of information regarding the effects of aging on reactor systems and components affects the environmental risk posed by extended operation. See 40 C.F.R. § 1502.22, which provides “guidance” to the NRC (74 NRC at 444) that “when an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.”

Finally, the environmental report should address the significance of the declining amount of external operating experience available to Exelon to assist and increase its understanding of age-related environmental risks during the subsequent license renewal term. See Lochbaum Expert Report, which is attached and incorporated by reference herein.

¹⁸² Petition at 5-8 (citing ER at 4-12; SECY-14-0016, Encl.1 at 2-3; and the 2014 EMDA Report). Petitioner mentions, without discussion, that “other examples of relevant studies are listed in the Lochbaum Report). *Id.* at 7.

terms to aid the Commission's analysis.¹⁸³ Petitioner further claims that the ER does not address "the environmental risks of design-basis accidents raised by operating Peach Bottom Units 2 and 3 for twenty years beyond the initial license term" because the ER improperly relies on the Category 1 "exemptions" in Table B-1 and that "such risks are not addressed in any EIS."¹⁸⁴ Petitioner ultimately (1) claims the 2013 GEIS "simply 'reviews and reevaluates'" findings in the 1996 GEIS,¹⁸⁵ (2) claims the ER should discuss the "implications of the environment risk" and lack of information concerning four age-related technical issues identified in the 2014 EMDA Report because the Lochbaum Report shows a "decline" in external operating experience,¹⁸⁶ and (3) asserts that the ER should discuss Exelon's plans to account for the decline in achieving an understanding of the behavior of its aging equipment.¹⁸⁷

Staff Response to Contention 2

At bottom, Contention 2 claims that Applicant may not rely on Category 1 determinations in 10 C.F.R. Part 51, Subpart A, Table B-1, and must include additional information on the environmental impacts of design-basis accidents and the environmental implications of the four aged-related issues listed above.¹⁸⁸ In light of regulatory history of the license renewal framework, Petitioner, in effect, impermissibly challenges NRC license renewal regulations and has not obtained the necessary waiver or exception to bring this matter within the scope of this

¹⁸³ Petition at 9-11.

¹⁸⁴ Petition at 11.

¹⁸⁵ *Id.* at 12.

¹⁸⁶ *Id.* at 14.

¹⁸⁷ *Id.* at 14.

¹⁸⁸ *Id.* at 6-14.

adjudicatory proceeding.¹⁸⁹ This is contrary to the requirements of 10 C.F.R. § 2.309(f)(1)(iii).¹⁹⁰ In addition, contrary to the requirements of 10 C.F.R. § 2.309(f)(1)(v) and (vi), Petitioner fails to provide adequate support or sufficient information to show a genuine dispute with the applicant on a material issue of law or fact. Therefore, Contention 2 is not admissible.

a. The Regulatory History of License Renewal Regulations in 10 C.F.R. Part 51 Shows That Those Regulations (Including § 51.53(c)(3) and the Generic Determinations in Appendix B, Table B-1) Apply to SLR Applicants

Petitioner claims that SLRA applicants must comply with 10 C.F.R. § 51.53(c)(2) and may not rely upon the generic determinations in 10 C.F.R. Part 51, Appendix B and the GEIS.¹⁹¹ To support its argument, Petitioner points to (1) the word “initial” in § 51.53(c)(3), (2) statements describing proposed Part 51 regulations and the 1996 GEIS as applying to one renewal beyond the expiration of the original license, and (3) the 1996 GEIS description of the proposed action as being an extension after the original license, arguing that the scope of the analysis was not expanded by the 2013 GEIS Revision.¹⁹² Petitioner also argues that the Staff’s view (stated in SECY-14-0016) that the 2013 GEIS is adequate for SLR is not supported and that Staff’s “opinion” cannot expand the scope of the GEIS without first publishing that determination for public comment.¹⁹³

¹⁸⁹ 10 C.F.R. § 2.335(a)-(b). A petition for waiver or exception cannot be granted without a showing of special circumstances that application of the particular rule or provision would not serve the purposes for which the rule was adopted and must be supported by an affidavit. *Id.*

¹⁹⁰ A contention that challenges a rule or statute is not within the scope of a licensing proceeding. See *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 and 3), CLI-08-15, 68 NRC 1, 3-4 (2008).

¹⁹¹ Petition at 6-7, 11.

¹⁹² *Id.* at 11-12 (citing Proposed 1991 Rule, 56 Fed. Reg. at 47,017; 1996 GEIS, Vol. 1 at 2-28 to 2-29; Revised GEIS, Vol. 1, at 1-7).

¹⁹³ *Id.* at 12 (citing SECY-14-0016 at 3; *Perez v. Mortg Bankers Ass’n*, 135 S. Ct 1199, 1206 (2015)).

However, Petitioner ignores the regulatory history of the Commission's license renewal regulations. Commission and GEIS statements support the Staff's position.

Contrary to Petitioner's assertions, the history of the Commission's license renewal rulemaking and its adoption of the 2013 revision of the GEIS demonstrates the Commission's intent to apply the revised regulations and the Revised GEIS to subsequent license renewal applications, rather than limit them only to initial license renewal applications. Both the 1996 GEIS and the 2013 GEIS noted that the AEA does not impose a specific limit on the number of license renewals.¹⁹⁴ And, the NRC explicitly considered the potential receipt of SLR applications in both the draft and final regulatory analyses supporting the 2013 rulemaking.¹⁹⁵ The consideration of potential SLR applicants in the regulatory cost benefit analysis implies that the NRC viewed the rule and Revised GEIS as being applicable to SLR applicants.¹⁹⁶

Significantly, although the 1991 proposed rulemaking appears to have considered that the proposed environmental regulations for license renewal in 10 C.F.R. Part 51 would apply to "initial" license renewals,¹⁹⁷ that limitation was not discussed in the subsequent regulatory history for the 1996 rule. Also, the limitation was neither discussed in, nor imposed by, the 2013 rulemaking. Specifically, there is no suggestion that the 2013 rulemaking applies only to initial license renewals in: the *Federal Register* notice of the NRC's intent to update the GEIS and conduct a scoping process (or the notice of a reopening of the comment period);¹⁹⁸ the scoping

¹⁹⁴ Revised GEIS, Vol. 1 at S-1 and 1-1.

¹⁹⁵ See, e.g., Draft Regulatory Analysis at 15; Final Regulatory Analysis at 25.

¹⁹⁶ See *id.*

¹⁹⁷ [Proposed Rule] Environmental Review for Renewal of Operating Licenses, 56 Fed. Reg. 47,016, 47,017 (Sept. 17, 1991) (stating that, although 10 C.F.R. Part 54 "could be applied to multiple renewals of an operating license for various increments . . . , the [P]art 51 amendments apply to one renewal of the initial license for up to 20 years beyond the expiration of the initial license).

¹⁹⁸ See Notice of Intent to Prepare an Environmental Impact Statement for the License Renewal of Nuclear Power Plants and to Conduct Scoping Process, 68 Fed. Reg. at

meeting summaries;¹⁹⁹ the Scoping Summary Report;²⁰⁰ SECY-09-0034 or the related SRM;²⁰¹ the draft Regulatory Analysis;²⁰² the *Federal Register* notice for the proposed rule;²⁰³ the draft

33,210; Notice of Extension of the Public Comment Period for Scoping Process to Prepare an Environmental Impact Statement for the License Renewal of Nuclear Power Plants, 70 Fed. Reg. 57,628, 57,628 (Oct. 3, 2005).

¹⁹⁹ See Summary of Public Scoping Meeting to Discuss Update to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (NUREG-1437) and Companion Rule Change, Atlanta, GA (Aug. 12, 2003) (ML032170942); Summary of Public Scoping Meeting to Discuss Update to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (NUREG-1437) and Companion Rule Change, Oak Lawn, IL (Aug. 13, 2003) (ML032260339); Summary of Public Scoping Meeting to Discuss Update to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (NUREG-1437) and Companion Rule Change, Anaheim, CA (Aug. 13, 2003) (ML032260715); Summary of Public Scoping Meeting to Discuss Update to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (NUREG-1437) and Companion Rule Change, Boston, MA (Aug. 13, 2003) (ML032170934).

²⁰⁰ Environmental Impact Statement Scoping Process, Summary Report, Update of the Generic Environmental Impact Statement for License Renewal of Nuclear Plants, at 1 (May 2009) (ML073450750) (stating that the NRC is planning to prepare “an update to the GEIS”).

²⁰¹ SECY-09-0034, “Proposed Rulemaking – Environmental Protection Regarding the Update of the 1996 Generic Environmental Impact Statement for Nuclear Power Plant License Renewal,” at 1 (Mar. 3, 2009) (ML091050197) (explaining that the subject of the rulemaking is environmental issues that must be addressed in “*a license renewal* application”) (emphasis added); Staff Requirements – SECY-09-0034 – Proposed Rulemaking – Environmental Protection Regarding the Update of the 1996 Generic Environmental Impact Statement for Nuclear Power Plant License Renewal (May 4, 2009) (ML091240582); SECY-09-0034 Commission Voting Record (ML091260122).

²⁰² Draft Regulatory Analysis at 15.

²⁰³ Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 74 Fed. Reg. 38,117, 38,117 (July 31, 2009) (proposed rule) (providing notice that the NRC proposes to amend the environmental issues that must be addressed in “applications for *license renewal*”) (emphasis added).

revised GEIS;²⁰⁴ the draft revised Regulatory Guide 4.2;²⁰⁵ draft NUREG-1555;²⁰⁶ SECY-12-0063 or the related SRM;²⁰⁷ the final Regulatory Analysis;²⁰⁸ the *Federal Register* notice for the final rule;²⁰⁹ the final revised GEIS;²¹⁰ final Regulatory Guide 4.2;²¹¹ or final revised NUREG-1555.²¹² To the contrary, each of these regulatory documents discuss license renewal *in*

²⁰⁴ Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Main Report, Draft for Comment at S-1, 1-1 (July 2009) (ML090220654) (stating that “[t]here are no specific limitations in the Atomic Energy Act or the NRC’s regulations restricting the number of times a license may be renewed”).

²⁰⁵ Draft Regulatory Guide DG-4015, Preparation of Environmental Reports for Nuclear Power Plant License Renewal Applications, at 1 (July 2009) (ML091620409) (providing that “[t]his guidance document provides general procedures for the preparation of environmental reports . . . submitted as part of an application for *the renewal* of a nuclear power plant operating license”) (emphasis added).

²⁰⁶ NUREG-1555, Supplement 1, Revision 1, Standard Review Plans for Environmental Reviews of Nuclear Power Plants, Supplement 1: Operating License Renewal, Draft Report for Comment, at 1 (July 2009) (ML090230497) (providing instructions for Staff use in “conducting environmental reviews for *the renewal* of nuclear power plant operating licenses”) (emphasis added).

²⁰⁷ SECY-12-0063, “Final Rule: Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses,” at 1 (Apr. 20, 2012) (ML110760045) (“The final rule will redefine the number and scope of the environmental impact issues that must be addressed by the NRC and applicants during *license renewal* environmental reviews.”) (emphasis added); Staff Requirements – SECY-12-0063 – Final Rule: Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses (Dec. 6, 2012) (ML12341A134) (same); SECY-12-0063 Commission Voting Record (ML12341A250).

²⁰⁸ Final Regulatory Analysis at 25.

²⁰⁹ Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 78 Fed. Reg. 37,282, 37,282 (June 20, 2013) (final rule) (“The final rule redefines the number and scope of the environmental impact issues that must be addressed by the NRC during *license renewal* environmental reviews.”) (emphasis added).

²¹⁰ Revised GEIS, Vol. 1, at S-1 and 1-1 (stating that “[t]here are no specific limitations in the Atomic Energy Act or the NRC’s regulations restricting the number of times a license may be renewed”).

²¹¹ Regulatory Guide 4.2, Supplement 1, Preparation of Environmental Reports for Nuclear Power Plant License Renewal Applications, at 1 (June 2013) (ML13067A354) (providing that “[t]his regulatory guide provides general procedures for the preparation of environmental reports . . . submitted as part of an application for *the renewal* of a nuclear power plant operating license”) (emphasis added).

²¹² NUREG-1555, Supplement 1, Revision 1, Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Supplement 1: Operating License Renewal, at 1 (June 2013) (ML13106A246) (providing instructions for Staff use in “conducting an environmental review for *the renewal* of a nuclear power plant operating license(s)”) (emphasis added).

general, and do not differentiate between initial and subsequent license renewal. In particular, the 2013 GEIS, which is among the documents made available in draft for public comment, states that its purpose is “to assess the environmental impacts that could be associated with license renewal and an additional 20 years of power plant operation,” that the proposed action is “[t]o renew commercial nuclear power plant operating licenses,” and that the purpose and need for the proposed action is “[t]o provide an option of continued plant operation *beyond the current licensing term*.”²¹³ The “Glossary” in the 2013 GEIS also defines the “[l]icense renewal term” as being the “period of time past the *original or current license term* for which the renewed license is in force.”²¹⁴

The Commission’s SRM-SECY-14-0016 disapproving Staff’s recommendation to initiate rulemaking for subsequent license renewal and directing Staff to clarify the license renewal framework using vehicles such as issuance of generic communications, voluntary industry initiatives, and updates to the GALL Report,²¹⁵ confirms the applicability of the existing environmental regulatory framework to SLR applications. Moreover, the Commission subsequently indicated that the existing regulatory framework is sufficient for SLR.²¹⁶ In light of this extensive history, as well as the lack of any specific requirements that apply *only* to subsequent license renewal,²¹⁷ it is apparent that the Commission intended that the existing

²¹³ Revised GEIS, Vol 1, at S-3, 1-2, 1-3.

²¹⁴ Revised GEIS, Vol. 1, at 7-27 (emphasis added).

²¹⁵ See SRM-SECY-14-0016 (which further directed Staff to continue to implement inspection enhancements related to aging management, including an implementation of an inspection procedure on the operating experience update process).

²¹⁶ 2017 Briefing Transcript at 52; Barrasso Letter Enclosure at 45-46.

²¹⁷ Petitioner incorrectly asserts that 10 C.F.R. § 51.53(c)(2) requires other than initial license renewal applications to describe the matters therein. See Petition at 10. All license renewal ERs must address the matters set forth in § 51.53(c)(2), including a description of the proposed action, detailed description of the affected environment around the plant, and any modifications directly affecting the environment. Section 51.53(c)(3), specifically states that ERs “shall include the information required in [§ 51.53(c)(2), subject to the . . . conditions and

regulatory framework, including the 2013 GEIS and revised Table B-1, apply to both initial and subsequent license renewal applications even though the word “initial” remains in 10 C.F.R. § 51.53(c)(3). Thus, Petitioner’s suggestion that the applicability of existing regulations to SLR is merely a Staff “opinion”²¹⁸ should not be accepted.

In sum, based on the regulatory history of license renewal, Petitioner’s view that 10 C.F.R. § 51.53(c)(3), including the determinations in 10 C.F.R. Part 51, Appendix B, Table B-1 and the license renewal GEIS, does not apply to subsequent license renewal applicants, should be rejected.

b. Petitioner’s Interpretation of 10 C.F.R. § 51.53(c)(3) Conflicts with the Regulatory Framework of 10 C.F.R. Part 51 and Would Have an Odd or Absurd Result

Petitioner’s claim that 10 C.F.R. § 51.53(c)(3) and Category 1 environmental impact determinations in Part 51, Subpart A, Table B-1 apply only to those applicants that seek an *initial* renewed license is (1) not consistent with the regulatory framework for license renewal and (2) would lead to an odd or absurd result.

First, although Petitioner understands that the Commission’s regulations in 10 C.F.R. Part 51 are intended to implement the agency’s responsibilities under NEPA, Section

considerations [in (c)(3)(i) – (iv)].”

²¹⁸ See Petition at 12 n.1. Similarly, Petitioner’s argument (at 12 n.1) that the scope of the GEIS cannot be modified without notice and comment overlooks that the 2013 GEIS was made available for public comment and Petitioner could have raised any concerns about its content or scope during the over 75-day public comment period. See Notice of Availability of the Draft Revision to [GEIS] for License Renewal of Nuclear Plants, Revision 1, NUREG–1437 and Public Meetings, 74 Fed. Reg. 38,239 (July 31, 2009); License Renewal of Nuclear Power Plants; [GEIS] and Standard Review Plans for Environmental Reviews, 78 Fed. Reg. 37,325 (Jun. 20, 2013) (noting the extension of the 75-day comment period). The draft Revised GEIS, Vols. 1 and 2, (ML090220654) included language that indicated that it would apply to more than just initial renewals. For example, Vol. 1 describes the proposed action as “renewal of commercial power plant operating licenses” and the purpose and need for the action as providing “an option to continue plant operations beyond the current licensing term.” *Id.* at S-2 to S-3. The glossary of that draft Revised GEIS also included a generic definition of the “[l]icense renewal term” as being the “period of time past the original or current license term for which the renewed license is in force.” *Id.* at 7-26.

102(2)(C),²¹⁹ Petitioner argues that Exelon’s ER is governed by NEPA, overlooking that NEPA does not impose *any* requirement on a license applicant. Rather, the Commission, in adopting its regulations in 10 C.F.R. Part 51, established the framework by which the NRC implements its NEPA responsibilities—including specific requirements governing its review of various categories of license applications, and related requirements to be satisfied by applicants for those licensing actions.²²⁰

Second, 10 C.F.R. § 51.95(c) governs the NRC’s environmental evaluations “[i]n connection with the renewal of an operating license.” It directs Staff to prepare a final SEIS for license renewal as “a supplement to the [GEIS],”²²¹ in which Staff is to “address those issues as required by 10 C.F.R. § 51.71.”²²² Section 51.95(c)(4) also directs that “the NRC staff, adjudicatory officers, and Commission shall integrate the conclusions in the [GEIS] for issues designated as Category 1 with information developed for those Category 2 issues applicable to the plant under § 51.53(c)(3)(ii) and any new and significant information.” Further, section 51.95(c)(4) requires that “the NRC staff, adjudicatory officers, and Commission shall determine whether or not the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable”—based on site-specific information on applicable Category 2 issues, the generic determinations on Category 1 issues set out in 10 C.F.R. Part 51, Appendix B, Table B-1, and the GEIS. Moreover, 10 C.F.R. § 51.71(d) states that the NRC’s draft supplemental environmental impact statement “prepared under § 51.95(c) will rely on conclusions as amplified

²¹⁹ 42 U.S.C. § 4332.

²²⁰ For license renewal, the Staff is required to prepare a Draft and Final Supplemental Impact Statement (“SEIS”), supplementing the GEIS on a plant-specific basis. See 10 C.F.R. § 51.71(d) (draft SEIS); 10 C.F.R. § 51.95(c) (final SEIS).

²²¹ 10 C.F.R. § 51.95(c).

²²² 10 C.F.R. § 51.95(c)(1).

by the supporting information in the GEIS for issues designated as Category 1 in appendix B to subpart A of [10 C.F.R. Part 51],” in addition to considering applicable Category 2 issues.

As indicated above, the regulations rely on license renewal applicants to supply relevant information for NRC to consider in preparing its NEPA-mandated environmental documents. As pertinent here, 10 C.F.R. § 51.53(c)(1) requires “[e]ach applicant for renewal of [an operating license]” to submit a document entitled, “Applicant’s Environmental Report—Operating License Renewal Stage [ER].” Section 51.53(c)(2) requires, in part, that this ER describe the proposed action, “describe in detail the affected environment around the plant, the modifications directly affecting the environment or any plant effluents, and any planned refurbishment activities,” and “discuss . . . the environmental impacts of alternatives.” Section 51.53(c)(3), specifies “conditions and considerations” governing the scope of information that must be provided by a license renewal applicant.²²³

NRC requirements governing information to be provided in an applicant’s environmental report are designed to assist the NRC in preparing its environmental evaluation. As the Commission has explained, an environmental report “is essentially the applicant’s proposal” for the Staff’s environmental impact statement.²²⁴ Accordingly, 10 C.F.R. § 51.41 requires an

²²³ The “conditions and considerations” in 10 C.F.R. § 51.53(c)(3) provide, *inter alia*, that the environmental report for *the operating license renewal stage* is not required to contain analyses of the environmental impacts of the license renewal issues identified as Category 1 issues in appendix B to subpart A of [10 C.F.R. Part 51],” and that the ER “must contain analyses of the environmental impacts of the proposed action . . . associated with license renewal and the impacts of operation during the renewal term.” Except for the reference in § 51.53(c)(3), § 51.53(c)(3)(i) and (ii) refer to the report for “the operating license renewal stage” and “license renewal” in general. Similarly, 10 C.F.R. 51.53(c)(3)(iii) and (iv) refer to “license renewal issues” and “license renewal” generally. Moreover, the preamble to Appendix B states that Table B-1 “summarizes the Commission’s finding on the scope and magnitude of environmental impacts of renewing the operating license for a nuclear power plant” and “subject to an evaluation of those issues identified in Category 2 as requiring further analysis and possible significant new information, *represents the analysis of the environmental impacts associated with renewal of any operating license....*” (Emphasis added).

²²⁴ [Final Rule] Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,172 (Aug. 11, 1989) (“1989 Final Rule”); *Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), CLI-10-2, 71 NRC 27, 34 (2010).

applicant for a license, license amendment, or license renewal “to submit such information to the Commission as may be useful in aiding the Commission in complying with section 102(2) of NEPA.”

Third, inasmuch as the Commission has promulgated regulations to improve regulatory efficiency in its evaluation of the environmental impacts of license renewal by relying on the generic determinations in 10 C.F.R. Part 51, Appendix B, Table B-1,²²⁵ and the GEIS, the regulations require license renewal applicants to provide only such information as is needed to support the NRC’s NEPA evaluation. Accordingly, pursuant to 10 C.F.R. § 51.53(c)(3)(ii) and (iv), license renewal applicants need only address Category 2 issues along with any “new and significant information” regarding the environmental effects of license renewal of which they are aware.²²⁶

While Petitioner argues that § 51.53(c)(3) does not apply to SLR applicants, Petitioner does not explain how the NRC’s NEPA obligations would be served by requiring SLR applicants to provide information in their environmental reports that differs from that required of initial license renewal applicants. Indeed the effect of the Petitioner’s interpretation of 10 C.F.R. § 51.53(c)(3) would be that SLR applicants would be *prohibited* from relying upon Table B-1 and

²²⁵ See [Final Rule] Environmental Review for Renewal of Operating Licenses, 61 Fed. Reg. 28,467 (the amendment defining generic impacts for adoption in plant-specific reviews “improves regulatory efficiency in environmental reviews by drawing on the considerable experience of operating nuclear power reactors to generically assess many of the environmental impacts that are likely to be associated with license renewal. The increased efficiency will result in lower costs to both the applicant in preparing a renewal application and to the NRC for reviewing plant specific applications and better focus of review resources on significant case-specific concerns. The results should be a more focused and therefore more effective NEPA review for each license renewal.”).

²²⁶ The Commission has recognized that the rules “provide a number of opportunities for individuals to alert the Commission to new and significant information that might render a generic finding invalid, either with respect to all nuclear power plants or for one plant in particular. For example, hearing petitioners (with new information showing that a generic rule would not serve its purpose at a particular plant) may seek a waiver of or exception to the rule. See *Turkey Point*, CLI-01-17, 54 NRC at 12.

its Category 1 and Category 2 determinations, while the Staff, by contrast, would be *required* by other Part 51 regulations to rely upon Category 1 determinations. This would have the odd or absurd result of requiring SLR applicants to provide information that, contrary to 10 C.F.R. § 51.41, would either *not* be useful to the Staff's preparation of an EIS and "in aiding the Commission in complying with section 102(2) of NEPA" or would require review of information that is duplicative of that already used by the Commission to reach its generic determinations of environmental impacts.²²⁷ Any efficiencies the Commission contemplated would be achieved during its consideration of impacts that are not plant-specific would be lost.

Moreover, if Petitioner's position were adopted, an SLR application would not be required to address new and significant information of which it is aware, as required by 10 C.F.R. § 51.53(c)(3)(iv). This requirement assists the NRC in fulfilling its 10 C.F.R. § 51.95(c)(3) obligation to consider any new or significant information, enabling Staff to focus its resources on salient information that could affect its analysis of environmental impacts.²²⁸ If SLR applicants were not obliged to identify such information, this, too, would yield an absurd result and would not further the purposes of NEPA.²²⁹

Thus, Petitioner's interpretation of 10 C.F.R. § 51.53(c)(3) would have the effect that, for subsequent license renewal—unlike any other agency licensing action—the applicant would be

²²⁷ See 10 C.F.R. § 51.41; see also 10 C.F.R. 51.45(c).

²²⁸ The Commission has "recognize[d] that even generic findings sometimes need revisiting in particular contexts." *Turkey Point*, CLI-01-17, 54 NRC at 12. Petitioners "with new and significant information that might render a generic finding invalid for all plants" may, among other things, file a petition for rulemaking under 10 C.F.R. § 2.802. *Id.*

²²⁹ It would be odd to conclude that an SLR applicant could not rely on the GEIS, given that 10 C.F.R. § 51.53(a) specifically allows an ER to incorporate by reference "*any information contained in a final* environmental document previously prepared by the NRC staff that relates to the facility. Interestingly, another NRC regulation, 10 C.F.R. § 50.32, "Elimination of Repetition," allows license applicants to "incorporate by reference any information contained in previous applications, statements or reports filed with the Commission: *Provided*, That such references are clear and specific." (Emphasis in original).

required to submit an environmental report that addresses environmental issues in a manner that differs from the way in which the NRC evaluates those impacts. Therefore, the ER would not serve as a “proposal” for the Staff’s environmental impact statement and would not be of assistance to the Staff in preparing its evaluation.

Further, like statutes, regulations should be interpreted within the broader context of the regulatory scheme as a whole.²³⁰ Words must be read “in their context with a view to their place in the overall statutory scheme.”²³¹ A statute (or regulation) should be construed in connection with other parts to produce a “harmonious whole.”²³² Moreover, departure from a literal construction is justified to avoid an absurd, unreasonable, or odd result that is clearly inconsistent with the purpose or policies of the act in question.²³³ Therefore, although 10 C.F.R. § 51.53(c)(3) uses the term “initial,” this regulation, when read in the context of the overall regulatory scheme and construed in conjunction with other relevant sections as a harmonious whole, should be interpreted as applying to license renewal in general, including subsequent license renewal.

This reading is consistent with the Commission’s intent as stated in SRM-SECY-14-0016 and in subsequent Commission statements.²³⁴

²³⁰ *Hydro Resources, Inc.* (P.O. Box 777, Crownpoint, New Mexico 87313), CLI-04-11, 63 NRC 483, 491 (2004) (citations omitted).

²³¹ *FDA v. Brown & Williamson*, 529 U.S. 120, 133 (2000) (quoting *Davis v. Michigan Dept. of Treasury*, 489 U.S. 803, 809 (1989)).

²³² *Id.* at 133 (quoting *FTC v. Mandel Brothers, Inc.*, 359 U.S. 385, 389 (1959)).

²³³ See, e.g., *United States v. Granderson*, 511 U.S. 39, 47 n.5 (1994) (dismissing an interpretation that led to an absurd result); *Am. Tobacco Co. v. Patterson*, 456 U.S. 63, 71, (1982) (“Statutes should be interpreted to avoid untenable distinctions and unreasonable results whenever possible”); *Pub. Citizen v. Dep’t of Justice*, 491 U.S. 440, 454-55 (1989) (“Where the literal reading of a statutory term would ‘compel an odd result,’ we must search for other evidence of congressional intent to lend the term its proper scope.”) (citations omitted); *Chickasaw Nation v. United States*, 534 U.S. 84, 94 (2001) (noting that courts may reject words as surplusage if they are inadvertently inserted or repugnant to the rest of the statute) (citation omitted).

²³⁴ 2017 Briefing Transcript at 52 (Svinicki); Barrasso Letter Enclosure at 45-46.

In sum, Petitioner's interpretation of 10 C.F.R. § 51.53(c)(3) is inconsistent with the NRC's regulations governing the agency's evaluation of the environmental impacts of license renewal, would not serve the underlying purpose for the NRC's requirements governing the submittal of environmental reports for license renewal, and would produce an absurd or odd result. Accordingly, Petitioner's arguments supporting its interpretation of § 51.53(c)(3) should therefore be rejected.

c. Petitioner's Arguments Constitute an Impermissible Challenge to the Commission's Regulations

As discussed above, the regulatory history of the Commission's license renewal regulations, a holistic approach to the interpretation of those regulations, and Commission statements concerning its regulations, support the view that 10 C.F.R. § 51.53(c)(3) applies to SLR applicants. Accordingly, SLR applicants may rely upon the Commission's summary findings on NEPA issues in Table B-1 of 10 C.F.R. Part 51, Subpart A, Appendix B, including the generic impact determinations made concerning Category 1 issues. For Category 1 issues, applicants may reference and adopt the codified findings in Table B-1.²³⁵ Thus, Applicant is not required to include an analysis of the impacts of SLR operation at Peach Bottom for Category 1 issues because they have been determined to be similar for all plants and are not required to be evaluated in a plant-specific analysis.²³⁶ Additional analysis is only required if there is new and significant information that differs from the determinations in Part 51, Table B-1, and the Revised GEIS.

Moreover, NRC regulations allow an applicant to incorporate by reference into its ER any information from a prior environmental report that relates to the facility or site, or "*any information in a final environmental document previously prepared by the NRC staff that relates*

²³⁵ *Turkey Point*, CLI-01-17, 54 NRC at 11.

²³⁶ *See id.*

to the production or utilization facility.”²³⁷ This would include the Category 1 impact determinations set forth in the 2013 GEIS, which form the technical basis for Table B-1.²³⁸

Petitioner’s challenge to Applicant’s reliance on Category 1 impact findings in Table B-1 thus constitutes an attack on the Commission’s regulations that is not permissible under 10 C.F.R. § 2.335(a) unless a petition for waiver is granted based on a showing of special circumstances unique to the facility.²³⁹ Because challenges to the provisions of 10 C.F.R. Part 51 are outside the scope of this proceeding, Petitioner fails to satisfy 10 C.F.R. § 2.309(f)(1)(iii).²⁴⁰ Consequently, the contention should be rejected.

d. The Contention Does Not Raise a Genuine Dispute as to a Material Issue of Law or Fact

Like Contention 1, Contention 2 is premised on speculative and incorrect assertions that the amount of external operating experience is declining.²⁴¹ As discussed in section II.B.1.c, above, the claim that external operating experience is declining is based on speculation by

²³⁷ 10 C.F.R. § 51.53(a) (emphasis added).

²³⁸ See Revised GEIS, Vol. 1, Section S.5; 10 C.F.R. Part 51, Subpart A, Table B-1, n.1 (“Data supporting this table are contained in NUREG–1437, Revision 1...(June 2013).”).

²³⁹ See *Turkey Point*, CLI-01-17, 54 NRC at 10. Alternatively, because Petitioner raises generalized concerns that are not unique to Peach Bottom, it could pursue its concerns regarding the sufficiency of Table B-1 findings for SLR by filing a petition for rulemaking pursuant to 10 C.F.R. § 2.802. See *id.* at 12.

²⁴⁰ Notably, if Contention 2 were admitted, Petitioner’s contention challenging reliance on generic determinations in Table B-1 would migrate to challenge the Staff’s EIS. See *Southern Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-08-2, 67 NRC 54, 64 (2008), citing *McGuire*, CLI-02-28, 56 NRC at 383 (explaining that a contention of inadequacy is migrated if the EIS analysis is essentially *in pari materia* with the environmental report analysis at issue and that a contention of omission is mooted if the omitted information is later supplied in the EIS; otherwise, new or amended contentions must be filed in order to raise specific challenges regarding the new information in the EIS). The contention, therefore, would become an impermissible challenge to the 10 C.F.R. §§ 51.71(d) and 51.95(c) requirements that Staff rely, in part, on the generic determinations in 10 C.F.R. Part 51, Appendix B, and the GEIS. Such challenges would still be outside the scope of this proceeding absent the grant of a petition for waiver under 10 C.F.R. § 2.335.

²⁴¹ See *American Centrifuge Plant*, CLI-06-10, 63 NRC at 472; *Fansteel*, CLI-03-13, 58 NRC at 203.

Petitioner's expert. Mere speculation, even by an expert, does not support the admission of a contention.

As noted above, it is obvious that the body of external operating experience that exists today could not decline. As long as other nuclear power plants, whether here or abroad, continue to operate that body will continue to grow. In addition, because the generic determinations concerning the impacts of design-basis accidents may be incorporated by reference by the Applicant pursuant to 10 C.F.R. § 51.53(a) and Staff is required to use Table B-1 in preparing its EIS,²⁴² Petitioner does not raise a genuine dispute regarding a material issue of law or fact concerning a finding that the NRC must make to support the proposed licensing action. Petitioner does not provide an arguable basis to conclude that the studies it cites contain information unique to Peach Bottom.²⁴³ Nor does it explain why the studies constitutes new and significant information about the impacts of design-basis accidents (a Category 1 issue) that would paint a serious or dramatically different picture of environmental impacts and raise a genuine dispute concerning the generic determinations regarding environmental impacts.²⁴⁴

The Lochbaum Report contains no discussion of environmental consequences of SLR. Petitioner's brief reference to studies listed in the Lochbaum Report, and the incorporation by reference of that report, fails to disclose new and significant information concerning the environmental impacts of design-basis accidents or the risk of such accidents. Neither the Board nor the parties should have to sift through attachments to a pleading to find support for a

²⁴² See 10 C.F.R. § 51.71(d) and 51.95(c).

²⁴³ See *Turkey Point*, CLI-01-17, 54 NRC at 12 (stating that petitioners with new and significant information that shows a generic rule would not serve its purpose at a particular plant, can seek a waiver of the rule).

²⁴⁴ See *Massachusetts v. NRC*, F. 3d at 68-69 (citation omitted); *Ameren Missouri*, CLI-11-5, 74 NRC at 167-68.

petitioner's assertions.²⁴⁵ Rather, Petitioner bears the responsibility to set forth its grievances in a clear manner.²⁴⁶ In fact, it is not clear that the Lochbaum Report supports the premise that accident risks will be significantly different during the SLR period or that there is new and significant information about environmental impacts.

Significantly, Petitioner provides no arguable basis to conclude that the effects of aging will not be managed such that the impacts of design-basis accidents would be other than SMALL.²⁴⁷ Petitioner quotes from the 2014 EMDA Report that describes research needs concerning degradation that could occur during post-60-year reactor operation. But, Petitioner, overlooks publicly available information that indicates that NRC guidance documents have been revised to address information related to managing aging effects of aging during the SLR period.

The GALL-SLR Report and the SLR-SRP incorporate revisions "to reflect aging differences for increased operating time from 60-80 years" as well as revisions "to consider new operating experience and provide information identified as missing since the release of GALL Report Rev 2 [ML103490041]."²⁴⁸ Moreover, the GALL-SLR Report specifically states that Staff "used the results of the [2014] EMDA report to identify gaps in current technical knowledge or

²⁴⁵ See *Seabrook*, CLI-12-5, 75 NRC at 332.

²⁴⁶ See *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-10-15, 71 NRC 479, 482 (2010) (citation omitted).

²⁴⁷ The 2013 GEIS (at S-17) explains that the Category 1 finding that environmental impacts of design-basis accidents are SMALL for all nuclear plants because "[d]ue to the requirements for nuclear plants to maintain their licensing basis and implement aging management programs during the license renewal term, the environmental impacts during a license renewal term should not differ significantly from those calculated for design-basis accident assessment conducted as part of the initial plant licensing process."

²⁴⁸ Final Guidance Documents for [SLR], 82 Fed. Reg. 32,588 (also noting the incorporation of Interim Staff Guidance documents).

issues not being addressed by planned industry or DOE research, and to identify aging management programs that will require modification for SLR.”²⁴⁹

Petitioner also ignores SRM-SECY-14-0016 directions concerning how emerging issues are to be addressed, as well as public NRC and DOE statements on the status of technical issues at the 2017 Commission Briefing.²⁵⁰ In addition, Petitioner’s narrow focus on domestic external experience²⁵¹ appears to discount the availability of international operating experience.

Similarly, Petitioner does not address whether Applicant has committed to adopt all of the aging management program enhancements specific to the four aging issues identified in the contention or allege a deficiency in a particular AMP. Petitioner’s failure to examine Exelon’s treatment of the GALL-SLR refinements to aging management programs reveals that its concerns about environmental impacts associated with accidents risks and are generalized and not adequately supported. Absent the requisite showing of new and significant information concerning environmental impacts that is specific to Peach Bottom and the grant of a petition for wavier pursuant to 10 C.F.R. § 2.335(b), Petitioners have not raised a genuine dispute with Applicant on a material issue for contention admission as required by 10 C.F.R. § 2.309(f)(1)(v) and (vi).

Moreover, Petitioner’s inclusion of a Council on Environmental Quality (CEQ) regulation in its contention²⁵² is inappropriate because it gives the impression that the regulation imposes binding requirements on the NRC. In the *Diablo Canyon* decision (cited in the text of

²⁴⁹ See, e.g., GALL-SLR at xxvii. The ER indicates that Applicant adopts by reference the applicable generic findings in Table B-1 in Part 51, Subpart A, Appendix B. ER at 4-2 to 4-4, 4-12, including the SMALL impact finding for the Category 1 Issue 65, “Design-basis accidents,” because no new and significant information was found and Applicant references the 2013 GEIS.

²⁵⁰ See discussion at section II.A.3, and footnote 83, above.

²⁵¹ See, e.g., Petition at 14; Lochbaum Report at 22-25.

²⁵² See Petition at 8 (citing 40 C.F.R. § 1502.22).

Petitioner's contention), the Commission stated that "the NRC, as an independent regulatory agency, 'is not bound by those portions of CEQ NEPA regulations' that, like [40 C.F.R. §] 1502.22, 'have a substantive impact on the way in which the Commission performs its regulatory functions.'"²⁵³ There, the Commission restated the contention without the CEQ regulation.²⁵⁴

Further, *Diablo Canyon* can be distinguished from the circumstances here. That case involved a challenge to the applicant's Severe Accident Mitigation Alternatives Analysis (SAMA) for failing to consider information regarding a nearby seismic fault, citing the 10 C.F.R. § 51.53(c)(3)(L) requirement to consider SAMAs.²⁵⁵ Here, Petitioner makes no mention of SAMAs and does not show why the inclusion, in the ER, of the cited studies or a discussion of "plans" to compensate for "reduced" external operating experience is required by NRC regulations or material to the consideration of environmental impacts of SLR. No arguable basis has been provided for the Board to conclude that the information constitutes new and significant information concerning codified impact determinations in 10 C.F.R. Part 51. Generalized concerns and unsupported prognostication are not sufficient for admission of a contention.²⁵⁶

Thus, Contention 2 should also be rejected because it is not adequately supported and fails to show a genuine dispute concerning a material issue of law or fact as required by 10 C.F.R. § 2.309(f)(1)(v) and (vi).

²⁵³ See *Pacific Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 1), CLI-11-11, 74 NRC 427, 443-444 (2011).

²⁵⁴ *Id.* at 444. If the Board decides Contention 2 is admissible here, it should similarly strike text related to the CEQ regulation.

²⁵⁵ *Id.* at 438-40. Even if Contention 2 were construed as raising an issue regarding SAMAs, the issue would be treated as the "functional equivalent of a Category 1 issue" in Table B-1, and would be inadmissible (absent the grant of a waiver), given that the issue was considered in a previous NRC EIS. See *Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 386 (2012).

²⁵⁶ See *Fitzpatrick*, CLI-00-22, 52 NRC at 315.

CONCLUSION

For the reasons set forth above, the NRC Staff respectfully submits that Petitioner has demonstrated its standing to intervene in this proceeding, but has not proffered at least one admissible contention. Accordingly, the Petition should be denied.

Respectfully submitted,

/Signed (electronically) by/

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Dated at Rockville, Maryland
this 14th day of December 2018

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
EXELON GENERATION COMPANY, LLC) Docket Nos. 50-277-SLR
) 50-278-SLR
(Peach Bottom Atomic Power Station,)
Units 2 and 3))

CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R § 2.305 (as revised), I hereby certify that copies of the foregoing “NRC STAFF ANSWER TO BEYOND NUCLEAR, INC.’S HEARING REQUEST AND PETITION TO INTERVENE” dated December 14, 2018, have been served upon the Electronic Information Exchange (the NRC’s E-Filing System), in the above-captioned proceeding, this 14th day of December, 2018.

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