ORAL ARGUMENT NOT YET SCHEDULED

NO. 20-1026

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

FRIENDS OF THE EARTH, ET AL.,
Petitioners,

v.

UNITED STATES NUCLEAR REGULATORY COMMISSION and
UNITED STATES OF AMERICA,
Respondents

On Petition for Review of Actions by the
Nuclear Regulatory Commission

PETITIONERS' OPPOSITION TO RESPONDENTS' MOTION TO DISMISS

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GLOSSARY

BLM	Bureau of Land Management
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FPL	Florida Power & Light Company
IBLA	Interior Board of Land Management
NEPA	National Environmental Policy Act
NRC	Nuclear Regulatory Commission

INTRODUCTION

Petitioners Friends of the Earth, Natural Resources Defense Council, Inc. (NRDC), and Miami Waterkeeper (collectively, "Petitioners") seek review of the Nuclear Regulatory Commission's ("NRC" or "Commission") issuance of two licenses for the Turkey Point nuclear power plant that became effective on December 4, 2019 because the NRC issued the licenses in violation of the National Environmental Policy Act (NEPA), the NRC's NEPA regulations, and the Administrative Procedure Act. The NRC's "final decision regarding the environmental review" of the license application is embodied in the Record of Decision that the NRC also issued on December 4, 2019.

NEPA strictly prohibits the NRC from granting the licenses at issue here without first preparing an adequate environmental impact statement (EIS). Respondents claim that the licenses are not "final orders" because the Commission may (someday?) rule on petitions for review and questions referred to the Commission that have been pending since before the licenses became effective. They are simply incorrect. An action requiring preparation of an EIS under NEPA (here, the issuance of a license) is reviewable under the Hobbs Act as a "final order" once it becomes "effective." To hold otherwise would turn NEPA on its head by authorizing the NRC to act first and comply later.

BACKGROUND

Florida Power & Light Company (FPL) owns and operates the Turkey Point nuclear power plant. FPL applied to renew Turkey Point's two reactor licenses to extend their operational life into the early 2050s, meaning the reactors would remain operational up to a total of 80 years – twice their original life expectancy. The NRC's NEPA regulations provide that license renewals are actions that require preparation of an EIS. 10 C.F.R. § 51.20(b)(2). Petitioners intervened in the licensing proceeding to ensure that the NRC and FPL fully comply with NEPA and NRC regulations in conducting the environmental review. Because the NRC did not comply with NEPA and NRC regulations before the NRC issued the licenses, Petitioners petitioned this Court for review.

I. Legal Background

The NRC will grant new nuclear power plants a license for up to 40 years, after which the reactor owner must apply for a renewed license. 42 U.S.C. § 2133(c). NRC grants renewed licenses for up to 20 years at a time, but additional renewals are possible. 10 C.F.R. § 54.31. The term "initial renewed license" refers to the first renewal license that extends the reactor's life up to a total of 60 years. The term "subsequent renewed license" refers to the second renewal license that extends the reactor's life up to 80 years.

Granting a subsequent renewed license is a major federal action and therefore must undergo NEPA review. *Id.* § 51.20(b)(2). NRC regulations implementing NEPA require a license applicant to submit an "environmental report" as part of the application for a subsequent renewed license. *Id.* § 51.45. NRC Staff rely on the environmental report to produce the draft and final EIS. In order to challenge the NEPA review in an NRC license proceeding, a party must petition to intervene in the license proceeding, stating "contentions" questioning the applicant's environmental report. *Id.* § 2.309(f)(2).[1] When the NRC issues its draft, and then final EIS, a petitioner must then "migrate" or "amend" its original contentions regarding the environmental report to address the draft EIS and then the final EIS. *Id.* § 2.309(c), (f)(2); *See Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), LBP-01-23, 54 N.R.C. 163, 172 n.3 (2001). A petitioner can also move to admit new contentions based on new information in the draft and final EIS. 10 C.F.R. § 2.309(f)(2).

NRC orders can be appealed directly to the federal court of appeals through the Hobbs Act. 28 U.S.C. § 2342. The Hobbs Act provides for judicial review of "all final orders of the Atomic Energy Commission made reviewable by section

[1] If a petitioner fails to raise an issue in its environmental report contentions, it may be precluded from doing so in later stages if the draft or final EIS adopt a substantially similar analysis of information that was previously available. 10 C.F.R. § 2.309(c).

2239 of title 42," *id*. § 2342(4), which authorizes judicial review of Commission actions "in the manner prescribed in" the Administrative Procedure Act. 42 U.S.C. § 2239(b). To appeal under the Hobbs Act, a party "aggrieved by the final order" has a 60-day window from the day the agency issues a final order to file a petition for review with the court of appeals. 28 U.S.C. § 2344.

II. Procedural Background

FPL's Turkey Point Power Station has two nuclear reactors, Units 3 and 4. The NRC originally licensed these reactors to operate until 2012 and 2013, and both reactors received their initial 20-year renewed licenses that extended the original licenses until 2032 and 2033, respectively. In anticipation of the renewed licenses expiring in the 2030s, FPL applied to the NRC in January 2018 seeking subsequent renewed licenses (*i.e.*, a second 20-year license renewal) to extend Turkey Point's licenses until the 2050s.

In August 2018, Petitioners submitted to NRC a Request for Hearing and Petition to Intervene in Turkey Point's subsequent renewed license proceeding and submitted five contentions on FPL's Environmental Report. The NRC's Atomic Safety and Licensing Board (Licensing Board) that reviewed the Request admitted two of Petitioners' contentions and dismissed the others. Respondents' Motion to Dismiss, Exhibit 1. Because the Licensing Board found one of the contentions it dismissed had such "overarching significance to this and other SLR [subsequent

license renewal] cases" that the Commission should have the opportunity to review it immediately, *id.* 89 N.R.C. at 260, the Licensing Board directly referred that contention straight to the Commission. Even though a year has passed, the Commission never responded to the Licensing Board's referral of this significant issue.

Thereafter, in March 2019, NRC published the Draft Supplemental EIS for the Turkey Point subsequent renewed licenses. In May 2019, FPL filed a Motion to Dismiss Petitioners' remaining contentions, arguing that in the Draft Supplemental EIS the NRC cured the faults Petitioners identified in the Environmental Report. The Licensing Board agreed and in July 2019 dismissed all of Petitioners' contentions. Respondents' Motion to Dismiss, Exhibit 2. Because the Licensing Board's Order disposed of all of Petitioners' then-admitted contentions, in August 2019 Petitioners petitioned the Commission for review of this Order and the Licensing Board's March 2019 Order. This petition for review remains pending before the Commission.

In June 2019, while FPL's Motion to Dismiss was still pending before the Licensing Board, Petitioners moved to amend its original contentions and to admit new contentions based on the Draft Supplemental EIS. In October 2019, the Licensing Board denied Petitioners' motion. Respondents' Motion to Dismiss, Exhibit 3. As no other contentions were live, the Licensing Board terminated the

proceeding. In November 2019, Petitioners petitioned the Commission to review this order.

Thus, by the end of November 2019, all proceedings before the Licensing Board were completed and multiple petitions for review sat pending before the Commission. Before the Commission ruled on those petitions, on December 4, 2019 the NRC issued a Record of Decision and the subsequent renewed licenses for Turkey Point Units 3 and 4. And on December 4, 2019 and March 5, 2020, the Commission indefinitely extended the time it has to make a decision on the appeals before it. Respondent's Motion to Dismiss, Exhibits 8 and 9.

FPL's purpose in filing an application and setting off this case – the subsequent renewed licenses – has been granted and is effective. The NRC has therefore made a final decision and Petitioners have sought review in this Court.

ARGUMENT

To the best of Petitioners' knowledge, this Court has not been presented with the precise issue raised in Respondents' Motion to Dismiss – that is whether an action requiring preparation of an EIS under NEPA is reviewable under the Hobbs Act as a "final order" once it becomes "effective." This Court should hold that the action is reviewable because NEPA does not "permit an agency to act first and comply later." *Oglala Sioux Tribe v. NRC*, 896 F.3d 520, 523 (D.C. Cir. 2018). To hold otherwise and (potentially) not allow for judicial review of the NRC's

licensing action here would place regulations for the conduct of agency business (like the NRC adjudicatory rules) ahead of Congress's instruction to protect environmental values of "high order" through NEPA's strict procedural requirements. *Id.* at 529. This concern is particularly apt here because Petitioners "afford[ed] the full Commission an *opportunity*" to address the NEPA issues now raised before this Court *before* the licenses were issued. *Vt. Dep't of Pub. Serv. v. United States*, 684 F.3d 149, 157 (D.C. Cir. 2012) (emphasis added). Therefore, this Court has jurisdiction over this Petition now.

I. The issuance of an effective license is a "final order" subject to judicial review under the Hobbs Act.

This Court's jurisdiction over NRC decisions is normally limited to "final orders" in NRC "proceedings" for which a "hearing" is available. 28 U.S.C. § 2342(4); 42 U.S.C. § 2239(a)(1)(A), (b) (providing for judicial review of final orders "[i]n any proceeding . . . for the granting, suspending, revoking or amending of any license"). Simply, no party questions this Court's jurisdiction to review the NRC's actions under the Hobbs Act. Jurisdiction is proper now because, as NRC itself has argued in the past, in licensing proceedings before the NRC, "it is the *order granting or denying the license* that is ordinarily the final order." Exhibit A, Federal Respondents' Motion to Dismiss for Lack of Jurisdiction, *NRDC v. NRC*, No. 13-1311 (D.C. Cir. Feb. 10, 2014), ECF No. 1479284 (emphasis in original) (citing *City of Benton v. NRC*, 136 F.3d 824, 825 (D.C. Cir. 1998) ("[O]rder

granting or denying the license is ordinarily the final order"); *Massachusetts v. NRC*, 924 F.2d 311, 322 (D.C. Cir. 1991); *NRDC v. NRC*, 680 F.2d 810, 815–16 (D.C. Cir. 1982) ("[A]n agency order in certain circumstances may be 'final' even if it is not the last that may be entered") (internal quotations omitted); *Ohio Citizens for Responsible Energy, Inc. v. NRC*, 803 F.2d 258, 260 (6th Cir. 1986) ("[I]n licensing proceedings before the NRC, a final order is the order granting or denying a license."); *Ecology Action v. AEC*, 492 F.2d 998, 1000–01 (2nd Cir. 1974)).[2] Turkey Point was granted licenses for both units on December 4, 2019.

Petitioners are compelled to file this petition for review now to preserve our arguments. If we had waited until some indeterminate point in the future when the Commission might (or might not?) rule on the pending petitions, we would expect Respondents to argue, as they did in the prior litigation (*see* Exhibit A), that the licenses were the final orders and therefore the Court has no jurisdiction because the Hobbs Act's 60-day window had run long ago. Though the NRC is taking the opposite position in this litigation, the case law demonstrates that the issuance of an "effective" license for which NEPA requires an EIS is a "final order" for purposes of judicial review under the Hobbs Act because the NRC's approval of the licenses satisfies the Supreme Court's two-part test in *Bennett v. Spear*: (1) "the

[2] Parentheticals did not appear in government's brief but were supplied by Petitioners.

action must mark the consummation of the of the agency's decisionmaking process" and "must not be of a merely tentative or interlocutory nature"; and (2) "the action must be one by which rights or obligations have been determined, or from which legal consequences will flow." 520 U.S. 154, 177–78 (1997) (internal quotations omitted).

A. The NRC consummated its decisionmaking process when the subsequent renewal licenses became effective.

The issuance of the licenses consummated the NRC's decisionmaking process. The licenses became effective immediately, and thus, by not staying the licenses pending review, the NRC consummated its decisionmaking process for the NEPA review since NEPA "does not permit an agency to act first and comply later." *Oglala Sioux Tribe*, 896 F.3d at 523. To rule otherwise would thwart the "environmental values protected by NEPA" that Congress declared "are of high order," *id.* at 529, and would fail to "serve[] the interest of insuring prompt review by deterring lengthy and indefinite extensions of the NRC . . . review period." *See Sierra Club v. NRC*, 862 F.2d 222, 225 (9th Cir. 1988).

The NRC's NEPA regulations require a "record of decision" for any Commission decision for which a final EIS has been prepared. 10 C.F.R. § 224 F.3d 1049. The Record of Decision at issue here declares that it incorporates the Final Supplemental EIS and "document[s] *the NRC's final decision* regarding the environmental review . . . ." Respondents' Motion to Dismiss, Exhibit 6 at 5

(emphasis added). Further, the licenses state that they became "effective as of the date of issuance," which was December 4, 2019. *See* Respondents' Motion to Dismiss, Exhibit 7 at 8.

These are final actions notwithstanding any possible future rulings on appeal by the Commission. Neither the Record of Decision nor the licenses are conditioned on any further action by the Commission. The possibility they might be modified or rescinded on an appeal or referral to the Commission does not make them any less final. *See Sierra Club*, 862 F.2d at 224–25 (decision of NRC Licensing Appeal Board was reviewable as a final order, even though the NRC retained power to act *sua sponte* to review the order at the time the petition was filed with the court of appeals); *Nat'l Envtl. Dev. Association's Clean Air Project v. EPA*, 752 F.3d 999, 1006–07 (D.C. Cir. 2014) (EPA directive was final action subject to review despite the EPA's assertion that the Directive itself stated that deliberations were still ongoing because "agency action may be final even if the agency's position is 'subject to change' in the future").

NRC's actions here do not satisfy the Supreme Court's description of the circumstances under which an initial or provisional agency action would deprive a court of jurisdiction under the finality doctrine. In *Darby v. Cisneros,* the Supreme Court explained:

> Agencies may avoid the finality of an initial decision, first, by adopting a rule that an agency appeal be taken before judicial

> review is available, and, second, by providing that the initial decision would be "inoperative" pending appeal. Otherwise, the initial decision becomes final and the aggrieved party is entitled to judicial review.

509 U.S. 137, 152 (1993).[3] NRC regulations satisfy the first factor by requiring "a party to an NRC proceeding [to] file a petition for Commission review before seeking judicial review of an agency action," which Petitioners did. 10 C.F.R. §§ 2.1212, 2.341(b)(1).[4] This "afford[s] the full Commission an *opportunity*" to address the issues raised by the party. *Vt. Dep't of Pub. Serv.*, 684 F.3d at 157 (emphasis added).

However, NRC regulations do not meet the second factor because "effective" licenses are not automatically stayed pending the Commission's review (nor do they require a party to seek a stay before seeking judicial review). 10 C.F.R. §§ 2.1212, 2.323(g), 2.341(b)(1), (e). The Commission, on its own accord, has authority to issue a stay. *Id.* § 2.341(b)(1); *see also Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-19-11, __ N.R.C. __, (slip.

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[3] *Darby* addresses the issue of finality in the context of the Administrative Procedure Act. Various courts recognize that the Administrative Procedure Act "final agency action requirement" is "analytically equivalent" to the "final order" requirement under the Hobbs Act. *See US W. Commc'ns, Inc. v. Hamilton*, 224 F.3d 1049, 1055 (9th Cir. 2000) (agreeing with *Am. Trucking Ass'n, Inc. v. United States*, 755 F.2d 1292, 1296 (7th Cir. 1985); *see also Blue Ridge Env'l Def. League v. NRC*, 668 F.3d 747, 753 (D.C. Cir. 2012) (citing *Bennett v. Spear* on the issue of finality in a Hobbs Act case).

[4] NRC regulations do not require a party to file a motion to stay or seek reconsideration.

op. 6) (Dec. 17, 2019)[5] ("[The Commission has] inherent supervisory authority to stay the [NRC] Staff's action or to rescind a license amendment."). The Commission therefore can choose to stay the licenses (rendering it "inoperable") pending further administrative review or the Commission can allow the license to remain effective and subject to judicial review.

This Court has encountered agency regulations that illustrate how agencies can "avoid the finality of an initial decision." *Darby*, 509 U.S. at 152. *WildEarth Guardians v. Jewell* shows as much for Department of Interior (Interior) regulations. 738 F.3d 298 (D.C. Cir. 2013). Pursuant to Interior regulations, before a party can seek judicial review of a BLM decision it must first file an appeal with the Interior Board of Land Appeals (IBLA) (the first prong of the *Darby* test). Unlike NRC regulations, Interior regulations stay the underlying BLM decision until the parties have an opportunity to file the administrative appeal. 43 C.F.R. § 4.21(a)(1).[6] Also unlike the NRC regulations, the BLM's decision becomes "effective immediately" after the IBLA denies the stay request or fails to rule on it within 45 days. *Id.* § 4.21(a)(3), (b)(4). Once the underlying decision becomes "effective," it is subject to judicial review as a "final" agency action. *Id.* § 4.21(c). Thus, the Interior regulations satisfy the second prong of

[5] Slip opinion available at https://www.nrc.gov/docs/ML1935/ML19351D695.pdf.
[6] A party also must move the IBLA to stay the action if it wishes to seek judicial review (NRC regulations do not include this requirement). 43 C.F.R. § 4.21(c).

Darby by rendering an "initial" decision "inoperative" during a pending administrative appeal. *See Darby*, 509 U.S. at 152. At the same time, judicial review becomes available once the "initial" decision becomes final, i.e., "effective."

WildEarth Guardians also demonstrates that there can be more than one "final" action for purposes of judicial review. In *WildEarth Guardians*, two sets of plaintiffs sought judicial review of a BLM record of decision. *WildEarth Guardians*, 738 F.3d at 304. This Court noted that jurisdiction was proper for one party because the IBLA failed to act on its request for a stay. *Id.* at 304. Jurisdiction was also proper for a second party which, unlike the first, pursued its appeal at the IBLA to a complete decision on the merits. *Id.* Thus, under the *Darby*-compliant rules in *WildEarth Guardians*, a party may choose to pursue its challenge of an "effective" (i.e., final) decision in court, or it can first seek review at the IBLA and then seek review in court.

Another case may seem instructive on the finality issues raised here, but it is not on this point. In *Oglala Sioux Tribe,* the petitioners chose to pursue their challenges at the administrative level rather than petitioning this Court for review when the NRC licenses became "effective." They followed the same course as the party in *WildEarth Guardians* that pursued its appeal at the IBLA. Here,

Petitioners' actions parallel the *WildEarth Guardians* party that sought judicial review when the BLM decisions became "effective."

Petitioners are well aware of the complexity of the issue presented to the Court here, and well aware that two petitions sit before the Commission awaiting review. Indeed, we filed them. But licenses were issued that precisely state, as noted above, that this is a final decision and that it is effective immediately. *See* Respondents' Motion to Dismiss, Exhibit 6 at 5 and Exhibit 7 at 8. By not staying those licenses, the Commission consummated its decisionmaking process for purposes of judicial review.

B. Turkey Point's renewed licenses determined rights or obligations and have legal consequences.

Turkey Point's renewed licenses also satisfy the second prong of the *Bennett v. Spear* test. The renewal licenses are not abstract slips of paper that only matter once the previous licenses expire in the 2030s – they are legally "effective" now. If the Court does not take jurisdiction now, it may be "unable to remedy [an] injury to the public interest—an interest that NEPA's procedural mandate was intended to vindicate." *Oglala Sioux Tribe*, 896 F.3d at 529.

1. The subsequent renewal licenses are effective now.

NRC regulations make clear that Turkey Point's renewal licenses are already "effective." 10 C.F.R. § 54.31(c). A renewed license does not start when the existing license is set to expire. Rather, the renewed license becomes "effective

immediately upon its issuance, thereby superseding the . . . license previously in effect." *Id.* The subsequent renewed licenses, not the renewed licenses, currently control Turkey Point's rights and obligations.

While the NRC regulations recognize that further appellate review can "set aside" the subsequent renewal licenses and reinstate the previous ones (unless the former licenses expire under their terms), this possibility does not render today's licenses without legal effect, *i.e.*, "inoperative." *See Darby,* 509 U.S. at 152. Respondents' reliance on *NRDC v. NRC* on this point is inapposite. Respondents' Brief at 20 (citing *NRDC v. NRC*, 879 F.3d 1202 (D.C. Cir. 2012)). In that case, this Court considered whether it was appropriate to remand a case to the NRC having found the NRC violated NEPA before issuing a license. The Court allowed the agency to cure the defects in an EIS after a license was issued, but before being challenged in court. *Id.* at 1211. The Court referred to the "provisional" nature of the license for purposes of remand, not jurisdiction as Respondents suggest. *Id.* at 1210. That the NRC *could* modify the licenses in the future does not mean the licenses have no legal consequences today.

A concrete example of the current effect of the subsequent renewal licenses is that they obligate FPL to take certain actions by 2024—years before its prior licenses would have expired. *See* Respondents' Motion to Dismiss, Exhibit 7, No. DPR-31 at 7 ¶ J(3). The obligations exist now, not sometime in the future. FPL is

also now free to take any actions it wishes to prepare for operating Turkey Point Units 3 and 4 until the 2050s.

2. NEPA is a procedural statute, and therefore when the procedure is not followed, a claim for failure to comply is ripe.

Petitioners claims cannot get "any riper than at the time NEPA's obligation commenced and was disregarded," *i.e.*, when the action requiring an EIS becomes effective without an adequate NEPA review. *See Ctr. for Biological Diversity v. U.S. Dep't of Interior*, 563 F.3d 466, 481 (D.C. Cir. 2009) (plaintiff's NEPA claims would ripen at leasing stage of program). NEPA's procedural requirements demand that an EIS *precede* major federal actions like the issuance of renewed nuclear power plant operating licenses. 42 U.S.C. § 4332(2)(C); 10 C.F.R. § 51.20(b)(2). Neither NEPA nor the Commission's regulations implementing NEPA carve out an exception to this rule for a license renewal that is "effective immediately" while possibly also subject to further review. Respondents' argument ignores these "pragmatic" consequences of issuing a license in violation of NEPA and NRC regulations implementing NEPA, *i.e.*, the "specific statutes and regulations that govern [the NRC]." Respondents' Brief at 19 (first quoting *U.S. Army Corps of Eng'rs v. Hawkes Co.*, 136 S. Ct. 1807, 1815 (2016); and then quoting *Ipsen Biopharmaceuticals, Inc. v. Azar,* 943 F.3d 953, 956 (D.C. Cir. 2019)).

Consistent with the Supreme Court's pronouncement in *Darby* and this Court's precedent, an agency's failure "to complete the *required review* before authorizing a proposed project . . . runs the risk that important effects will . . . be overlooked or underestimated only to be discovered . . . after the die has been cast." *Oglala Sioux Tribe*, 896 F.3d at 532 (emphasis added) (internal quotations and edits omitted) (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

3. Delay could foreclose reasonable alternatives.

A NEPA-compliant EIS could lead the NRC to select the cooling tower alternative as an environmentally-preferable means of addressing groundwater degradation problems that have been caused by Turkey Point's cooling canal system.[7] Petitioners' Statement of Issues in this filing directly relate to this cooling canal system, which has created an extensive underground plume of hypersaline water. Critical here, the hypersaline plume migrates through the subsurface beyond the plant's boundaries, threatening drinking water supplies for South Florida and the Florida Keys. Should Petitioners prevail on the merits of their

[7] The Turkey Point reactor units at issue here use an approximately 10 square mile system of canals to dissipate heat from the system. Water enters the cooling canal system and snakes through 168 miles of canals before it returns to the plant for reuse. 40 million gallons per day are lost to the atmosphere during this process through evaporation. This concentrates pollutants in the canals, including salt. Exhibit C at 3-123, A-100. Final Environmental Impact Statement available at https://www.nrc.gov/docs/ML1929/ML19290H346.pdf.

NEPA claims, it may lead the NRC to select the cooling tower alternative for mitigating and preventing further groundwater degradation.

As FPL acknowledged in recent Clean Water Act litigation involving Turkey Point, the design, permitting, and construction of a cooling tower alternative could take nearly a decade and cost $1.84 billion to complete. Exhibit B, Defendant's Motion to Exclude, Exhibit 2, Report of Ron Seagraves at 3, *S. All. for Clean Energy v. Fla. Power & Light Co.*, No. 1:16-cv-23017 (S.D. Fla. Oct. 17, 2018). Thus, while the former licenses would not expire until the early 2030s, the actions required to complete the cooling tower alternative (and other reasonable alternatives) would start long before then. It is therefore necessary to complete the "hard look" demanded by NEPA in time to avoid foreclosing reasonable alternatives, which the NRC, guided by a proper NEPA review, may require.

II. This Court also has jurisdiction under the "immediate effectiveness" doctrine.

Jurisdiction also exists under this circuit's "immediate effectiveness doctrine." Under this doctrine, the court will review NRC licensing decisions that are not "final adjudication[s] on the merits" and are "without prejudice to any pending administrative appeal or subsequent adjudication." *Massachusetts*, 924 F.2d at 322; *see also Blue Ridge Envtl. Def. League*, 668 F.3d at 757 ("In the context of NRC actions, an order issued during ongoing administrative proceedings

is reviewable . . . if, for example, it authorizes a plant operator to operate at full power pending further review by the Commission.").

In *Massachusetts v. NRC*, this Court took jurisdiction over the Commission's decision to lift an administrative stay that automatically attached to a licensing board's initial authorization of a full power license. *Massachusetts*, 924 F.2d at 322. Under prior NRC regulations, a licensing board could grant an initial license, but it would not become effective until the Commission conducted what was termed an "immediate effectiveness review." *Id.* at 315–16. The Commission could either leave the stay in place or (as in *Massachusetts*) approve the "initial" license pending further review on the merits. The Court held that judicial review of the decision was appropriate because it would not "disrupt the orderly process of adjudication within the agency and because significant legal consequences flow[ed] from the Commission's action." *Id.* at 322.

The reasons for asserting jurisdiction in *Massachusetts* apply with equal or greater force here. In both cases a nuclear power plant operator received a license from which significant legal consequences flow. And in both, there is no disruption to the orderly process of adjudication, though for different reasons. Here, the NRC has already taken the major federal action requiring NEPA review (issuing a subsequent renewal license) and Petitioners' claims are ripe for review.

Ohio Forestry Ass'n Inc. v. Sierra Club, 523 U.S. 726, 737 (1998); *Ctr. for Biological Diversity*, 563 F.3d at 481.

The NRC's pending review can either affirm the Final Supplemental EIS or offer a *post hoc* rationalization for the already-granted licenses, neither of which would alter the administrative record that existed when the licenses were granted. The Commission could also vacate the licenses and remand the NEPA issues to the Licensing Board to address the issues Petitioners have raised; but its ability to do so does not alter the fact that the NRC has already taken the action requiring an EIS. The Commission's review here, moreover, is subject to "lengthy and indefinite extensions" and delay. *See Sierra Club*, 862 F.2d at 225 (finding jurisdiction despite NRC's ongoing *sua sponte* review of license amendment). Therefore, asserting jurisdiction now would not disrupt the orderly process of adjudication because under NEPA and *Darby*, the time for agency adjudication is *before* the action becomes effective. To rule otherwise would turn NEPA on its head by allowing an agency to act first and comply later.

CONCLUSION

For the foregoing reasons, this Court should deny Respondents' Motion to Dismiss.

Dated April 2, 2020

Respectfully submitted,

/s/ Kenneth J. Rumelt

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CERTIFICATE OF COMPLIANCE WITH FEDERAL RULE OF APPELLATE PROCEDURE 27(d)

I certify that this filing complies with the requirements of Fed. R. App. P. 27(d)(1)(E) because it has been prepared in 14-point Times New Roman, a proportionally spaced font.

I further certify that this filing complies with the type-volume limitation of Fed. R. App. P. 27(d)(2)(A) because it contains 4729 words, excluding the parts of the filing excluded by Fed. R. App. P. 32(f), according to the word count of Microsoft Word.

Respectfully submitted,

/s/ Kenneth J. Rumelt

CERTIFICATE OF SERVICE

I certify that on April 2, 2020 I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the District of Columbia Circuit using the appellate CM/ECF system.

I certify that all participants in this case are registered CM/ECF users and service will be accomplished by the CM/ECF system.

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EXHIBIT A

Federal Respondents' Motion to Dismiss for Lack of Jurisdiction,

NRDC v. NRC, No. 13-1311 (D.C. Cir. Feb. 10, 2014), ECF No. 1479284

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

NATURAL RESOURCES DEFENSE COUNCIL, INC., Petitioner,	)	
v.	)	
UNITED STATES NUCLEAR REGULATORY COMMISSION and the UNITED STATES OF AMERICA Respondents,	)	No. 13-1311
and	)	
EXELON GENERATION COMPANY, LLC, Proposed Intervenor.	)	

FEDERAL RESPONDENTS' MOTION TO DISMISS
FOR LACK OF JURISDICTION

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Dated: February 10, 2014

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FEDERAL RESPONDENTS' MOTION TO DISMISS
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The U.S. Nuclear Regulatory Commission ("NRC" or "Commission") and the United States of America (together, "Federal Respondents") move to dismiss the petition for review of Natural Resources Defense Council ("NRDC") for lack of jurisdiction. The petition impermissibly seeks review of an interlocutory NRC decision in a licensing proceeding that does not represent a final order for which judicial review is authorized by law. The NRC decision at issue here is *Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-13-07, 78

NRC ___ (Oct. 31, 2013) (Exhibit 1). That decision does not rule upon all of the NRDC's contentions in the proceeding below and, if accepted for review, would result in piecemeal litigation, one of the primary scenarios that the "final order" requirement of the Hobbs Act is designed to prevent.

Pursuant to the Hobbs Act's jurisdictional provision, 28 U.S.C. § 2342(4), the agency must issue a "final order" before the Court may exercise jurisdiction. Once a final order issues, a 60-day window opens for filing petitions for review. Petitions to review an interlocutory order rather than a final order, as in this case, are incurably premature and must be dismissed for lack of jurisdiction. This Court has repeatedly held that the "final order" in an NRC licensing proceeding is the order granting or denying the license.

Here, NRDC is a participant in a proceeding on the application by Exelon Generation Company, LLC ("Exelon") seeking a 20-year renewal of the operating licenses for Limerick Generating Station, Units 1 and 2 ("Limerick"). Under established principles set forth in numerous decisions by this Court, the "final order" would be an NRC order granting or denying license renewal, which has not yet been issued.

NRDC has a firmly established right under the Hobbs Act to seek judicial review of a final NRC order in the license renewal proceeding for Limerick. However, premature, interlocutory review in this Court is not necessary to protect

NRDC's right ultimately to seek review of the interlocutory order described in its petition, or any other issue, once a final order has been issued. Accordingly, NRDC's petition must be dismissed.

BACKGROUND

I. NRDC's admission to the Limerick licensing proceeding.

On June 22, 2011, Exelon, the Limerick plants' owner and operator, applied for renewal of the Limerick operating licenses for an additional 20 years. On November 22, 2011, NRDC petitioned to intervene in the license renewal proceeding, proposing four "contentions" [1] relating to the National Environmental Policy Act, 42 U.S.C. § 4321 *et seq.* ("NEPA"). Three of those contentions related to "severe accident mitigation alternatives" and the fourth proposed consideration of the "no action" alternative.[2]

The presiding Atomic Safety and Licensing Board ("Licensing Board" or "Board") granted NRDC's request for a hearing and petition to intervene and admitted a narrowed version of one NRDC contention claiming that that Exelon's

[1] Any interested person may participate in an NRC proceeding upon a showing of standing and submission of at least one contention that meets NRC admissibility requirements for specificity and basis. 10 C.F.R. § 2.309(a), (f); *New Jersey Envtl. Fed. v. NRC*, 645 F.3d 220, 228-29 (3d Cir. 2011). A contention is a "specific statement of the issue of law or fact to be raised or controverted" that is material to the proceeding and supported by alleged facts or expert opinion. 10 C.F.R. § 2.309(f)(1).

[2] *See Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), LBP-12-8, 75 NRC 539, 545 (2012) (Exhibit 2).

Environmental Report[3] failed to include new and significant information regarding severe accident mitigation alternatives.[4] The Board denied NRDC's contention relating to the no action alternative.[5]

The NRC Staff and Exelon appealed the Licensing Board's admission of the severe-accident-mitigation-alternatives contention to the Commission, arguing that NRDC's contention impermissibly challenged the Commission's rules governing analysis of this subject. In CLI-12-19, a decision issued April 4, 2012, the Commission concluded that the NRC rule governing such analyses at 10 C.F.R. § 51.53(c)(3)(ii)(L) did not require Exelon to include in its Environmental Report consideration of site-specific mitigation alternatives during license renewal because the NRC had previously considered severe accident mitigation design alternatives before issuing the Limerick Units 1 and 2 operating licenses for an initial 40-year term.[6] The Commission followed guiding precedent in two earlier

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[3] Under 10 C.F.R. § 51.45, each applicant for a license must prepare an Environmental Report that tracks each of the subjects the NRC is required by NEPA to address in its Environmental Assessment or Environmental Impact Statement for the licensed activity. The requirements for an Environmental Report submitted by a license renewal applicant are stated in 10 C.F.R. § 51.53(c).

[4] *See Limerick*, LBP-12-8, 75 NRC at 570-71.

[5] *Id*. at 569-70.

[6] *Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), CLI-12-19, 76 NRC 377, 386 (2012)(Exhibit 3).

license renewal cases that applied the same "new and significant information" test to severe accident mitigation alternatives, holding that the issue "has been resolved by rule" and noting that "Limerick is specifically named in the Statements of Considerations [of the rule] as a plant for which [severe accident mitigation alternatives] 'need not be reconsidered . . . for license renewal.'"[7]

Because the environmental issue had been resolved by rule, the Commission reasoned that the contention that the Board had admitted, "reduced to its simplest terms, amount[ed] to a challenge" to 10 C.F.R. § 51.53(c)(3)(ii)(L).[8] Although NRC regulations specifically preclude a participant to an adjudicatory proceeding from challenging a regulation in a hearing, the same regulation permits a party to seek a waiver of the regulation.[9] The Commission explained that "the proper procedural avenue for NRDC to raise its concerns is to seek a waiver of the relevant provision in section 51.53(c)(3)(ii)(L)."[10] Accordingly, the Commission found that the Board erred in admitting the contention relating to analysis of severe accident mitigation alternatives in the absence of a waiver, reversed the Board's

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[7] *Id.* at 386 & n.53 (citing Final Rule: "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses," 61 Fed. Reg. 28,467, 28,481 (June 5, 1996)).

[8] *Id.* at 386.

[9] *See* 10 C.F.R. § 2.335.

[10] *Limerick*, CLI-12-19, 76 NRC at 386.

decision granting NRDC's intervention petition, and remanded to the Board for the limited purpose of considering such a waiver petition.[11]

On remand, NRDC sought the waiver contemplated by the Commission's ruling. Although the Board found that NRDC's waiver petition did not meet the waiver standard, it referred its ruling to the Commission because it found that NRDC's waiver petition presented a novel legal issue worthy of the Commission's attention.[12] In CLI-13-07, the subject of NRDC's petition for review, the Commission affirmed the Board's denial of NRDC's waiver petition on grounds other than those stated by the Board but agreed that NRDC had not met the deliberately "stringent" waiver standard.[13]

In particular, the Commission found that that NRDC's waiver petition did not meet NRC's waiver standard because NRDC did not demonstrate that its claims were unique to Limerick. Instead, the Commission held, its waiver petition "amount[ed] to a general claim that could apply to any license renewal applicant for whom [severe accident mitigation alternatives] already were considered."[14] The waiver sought by NRDC would "swallow the rule," the Commission

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[11] *Id.* at 389.

[12] *Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 and 2), LBP-13-1, 77 NRC 57 (2013) (Exhibit 4).

[13] *Limerick*, CLI-13-07, 78 NRC ___ (slip op. at 8).

[14] *Id.* at 18.

concluded, because "NRDC offers little to show how the information it provides sets Limerick apart from other plants undergoing license renewal."[15] Nonetheless, the Commission directed its Staff "to review the significance of any new [severe accident mitigation alternatives]-related information in its environmental review of Exelon's license renewal application, including the information presented in NRDC's waiver petition, and to discuss its review in the final supplemental EIS."[16]

II. NRDC's new "Waste Confidence" contention.

On July 9, 2012, after NRDC was admitted to the proceeding, but before the Commission ruled that NRDC's proposed contention relating to severe accident mitigation alternatives impermissibly challenged NRC regulations, NRDC moved the Licensing Board to admit a new contention based on this Court's remand to the NRC in *New York v. NRDC*, 681 F.3d 471 (D.C. Cir. 2012). That decision invalidated the NRC's Waste Confidence Decision Update and Rule, which analyzed under NEPA the environmental impacts of storing spent nuclear fuel after the licensed life of nuclear power reactors that had generated the spent fuel. Specifically, NRDC's proposed contention asserted that Exelon's Environmental

[15] *Id.* at 20.

[16] *Id.* at 23. The Commission must issue a final supplemental EIS prior to renewing the Limerick operating license. *See* 10 C.F.R. § 51.94 (final EIS, "together with any comments and any supplement, will accompany the application . . . through, and be considered in, the Commission's decisionmaking process"). Preparation of the Final Supplemental EIS for Limerick remains ongoing.

Report did not address the environmental impacts of continued storage of reactor spent fuel after expiration of the Limerick licenses and, in particular, the impacts of potential spent fuel pool leakage and fires as well as impacts that might occur if a spent fuel repository does not become available.[17]

The admissibility of NRDC's proposed Waste Confidence contention has not yet been decided. In its August 8, 2012 decision in *Calvert Cliffs*, the Commission directed that Waste Confidence contentions, like NRDC's, be held in abeyance in all affected licensing proceedings, pending agency compliance with the remand in *New York v. NRDC*: "[A]s an exercise of our inherent supervisory authority over adjudications, we direct that these [Waste Confidence] contentions – and any related contentions that may be filed in the near term – be held in abeyance pending our further order."[18] In accordance with the Commission's order in *Calvert Cliffs*, the Board ordered in *Limerick* that NRDC's newly proposed Waste Confidence contention be held in abeyance pending further Commission instructions.[19]

To comply with the Court's remand in *New York v. NRDC*, the Commission determined that it would prepare a Generic Environmental Impact Statement

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[17] *Limerick,* LBP-13-1, 77 NRC at 69 n.46.

[18] *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63, 68-69 (2012).

[19] *See Limerick,* LBP-13-1, 77 NRC at 69 n.46.

(Generic EIS) analyzing the environmental impacts of continued storage of reactor spent fuel after the licensed life of nuclear power reactors.[20] At this point, the NRC has received comments on the draft Generic EIS, and the agency anticipates publication of the Final Generic EIS this fall. Thus, a decision on the admissibility of NRDC's proposed Waste Confidence contention remains in abeyance, pending completion of this NEPA process. A final decision on Exelon's application for Limerick license renewal cannot be issued until that contention has been resolved.

ARGUMENT

I. NRDC's petition for review is incurably premature.

A. Under the Hobbs Act, only a final order granting or denying a license may be reviewed.

Under the Hobbs Act, this Court's jurisdiction is limited to review of "final orders." 28 U.S.C. § 2342(4); 42 U.S.C. § 2239(a)(1)(A), (b). When an agency issues a final order, a 60-day "window" commences during which petitions for review must be filed. *See Public Citizen v. NRC*, 845 F.2d 1105, 1109 (D.C. Cir. 1988). Review petitions filed before this 60-day window must be dismissed for lack of jurisdiction. *Id.*

"Courts exercising jurisdiction under [the Hobbs Act] have narrowly construed the term 'final order.'" *NRDC v. NRC*, 680 F.2d 810, 815 (D.C. Cir.

[20] *See generally* Waste Confidence – Continued Storage of Spent Nuclear Fuel; Proposed Rule, 78 Fed. Reg. 56,776 (Sept. 13, 2013).

1982). For an agency order to be deemed final, "the action must mark the consummation of the agency's decisionmaking process – it must not be of a merely tentative or interlocutory nature," and "the action must be one by which rights or obligations have been determined, or from which legal consequences will flow." *Bennett v. Spear*, 520 U.S. 154, 177-78 (1997) (quotation marks and citation omitted).

Applying these principles to NRC licensing proceedings, this Court has repeatedly held that "it is the *order granting or denying the license* that is ordinarily the final order." *City of Benton v. NRC*, 136 F.3d 824, 825 (D.C. Cir. 1998) (emphasis added); *see Massachusetts v. NRC,* 924 F.2d 311, 322 (D.C. Cir. 1991); *NRDC*, 680 F.2d at 815-16; *see also Ohio Citizens for Responsible Energy, Inc. v. NRC*, 803 F.2d 258, 260 (6th Cir. 1986); *Ecology Action v. AEC*, 492 F.2d 998, 1000-01 (2d Cir. 1974). As this Court has explained, permitting judicial review of non-final orders "would make unclear the point at which agency orders become final," *City of Benton*, 136 F.3d at 826, and would "disrupt the orderly process of adjudication," *Alaska v. FERC*, 980 F.2d 761, 765 (D.C. Cir. 1992).

This Court has recognized that it makes practical sense to interpret the term "final order" narrowly. If the agency proceeding is not yet complete when judicial review is sought, it would be imprudent for the reviewing court nonetheless to take up the case. Unforeseen future developments in the ongoing agency proceeding

could render the dispute before the court "moot or insignificant," resulting in "a waste of judicial time and effort." *See Alaska*, 980 F.2d at 764; *see also Consolidated Edison Co. of New York, Inc. v. FERC*, 2004 WL 764494 (D.C. Cir. 2004) (unpublished). In addition, interlocutory judicial review can often result in delaying the final outcome of the proceeding below and thereby "needlessly intrude" on its conduct. *Alaska*, 980 F.2d at 764. Thus, reviewing courts require that agency proceedings be complete before the court undertakes its review.

Because the Hobbs Act creates a jurisdictional 60-day "window" for seeking court of appeals review only after a "final order" is issued, this Court must dismiss NRDC's petition for review. The Commission has not yet made a final decision on whether to grant the 20-year license renewal requested for the Limerick reactors, and hence there is no "final order" for NRDC to appeal. This renders NRDC's petition for review incurably premature under the Hobbs Act and requires dismissal.

NRDC's right to seek review of a final NRC licensing order, however, is protected. Once an order granting or denying the renewed licenses is issued, NRDC may challenge any or all of the Commission's interlocutory orders, including (1) its waiver denial in CLI-13-07; (2) its ultimate disposition of NRDC's proposed Waste Confidence contention; (3) the Board's rejection of NRDC's contention on the "no action" alternative (after Commission review);

(4) denial of any other late contention. *E.g., City of Benton v. NRC,* 136 F.3d at 86 (interlocutory antitrust finding reviewable upon issuance of license); *Alaska,* 980 F.2d at 763 (petition for review to challenge grant of partial summary disposition as well as "any past or future Commission ruling" in the proceeding would be proper after a final FERC order).

B. Judicial review of an interlocutory agency decision is permitted under the Hobbs Act only where, unlike here, the right to participate in a hearing has been denied altogether.

As described above, where, as here, a putative Hobbs Act petitioner has been admitted as a party to an agency proceeding, that party must await the final agency order before seeking judicial review of any and all interlocutory agency orders, like the Commission's waiver denial here in CLI-13-07. *See Alaska*, 980 F.2d at 763; *NRDC*, 680 F.2d at 816; *Thermal Ecology*, 433 F.2d at 525. This rule does not apply, however, where the NRC has denied altogether a request for a hearing and intervention by refusing to admit *any* of a petitioner's proposed contentions. In that circumstance, complete denial of a hearing petitioner's contentions, and hence its right to intervene and participate in the requested hearing, has always resulted in a right to seek review immediately. *See Alaska*, 980 F.2d at 763.

The reason for allowing immediate judicial review of a hearing petition denial is that, having failed to achieve formal "party" status in the litigation by having any of its contentions admitted, a putative intervenor cannot later seek

review of the agency's final decision on the merits. *Alaska*, 980 F.2d at 763 (citing *Brotherhood of R.R. Trainmen v. Baltimore & Ohio R.R.*, 331 U.S. 519, 524 (1947)); *see also Thermal Ecology Must be Preserved v. AEC*, 433 F.2d, 524, 525 (D.C. Cir. 1970). This is so because, under the Hobbs Act, only a "*party* aggrieved" by an agency order may challenge it in the court of appeals. 28 U.S.C. § 2342(4) (emphasis added). Allowing judicial review in the case of intervention petition denials preserves the right of review that would otherwise be lost. *Alaska*, 980 F.2d at 763.

Here, however, the NRC has not yet determined whether NRDC's proposed Waste Confidence contention will be admitted and, hence, whether NRDC's petition for intervention as a party will be granted. Accordingly, those cases allowing immediate judicial review of the NRC's denial of intervention are not applicable here. As noted, the Commission reversed the Board's grant of intervention based on one of three NRDC contentions relating to severe accident mitigation alternatives analysis,[21] but the Commission's order did not reach the question of whether to admit NRDC's Waste Confidence contention, which remains in abeyance.

If review of NRC's waiver denial decision were allowed here, NRDC's pending Waste Confidence contention would not be resolved. But NRDC cannot

[21] *Limerick*, CLI-12-19, 76 NRC at 389.

contend that it has been denied the right to participate as a party, and that it is entitled to seek judicial review prior to a final decision, until this determination is made. Additionally, other issues *could* arise in the hearing that would bear upon NRDC's participation in the proceeding. For example, parties often offer late-filed contentions (like NRDC's Waste Confidence contention here)[22] or even move to reopen the record after the Licensing Board has issued its Initial Decision.[23] Further, once the Board has issued its Initial Decision on the Limerick license renewal application, NRDC may also seek Commission review of the Board's denial of its contention on the "no action" alternative, and may likewise seek Commission review if its proposed Waste Confidence contention is denied.[24] Thus, many issues could arise before issuance of a final licensing order requiring further Licensing Board action and Commission review, including newly proposed contentions when the NRC Staff issues its Final Supplemental EIS for Limerick. Piecemeal review of these issues would fly in the face of the Hobbs Act requirement of finality.

To be sure, one court has allowed interlocutory review more broadly for an entity already a party to the hearing, but only if *all* of that party's contentions have

[22] *See* 10 C.F.R. § 2.309(c); *New Jersey Envtl.,* 645 F.3d at 229.

[23] *See* 10 C.F.R. § 2.326; *New Jersey Envtl.*, 645 F.3d at 232-33.

[24] *See* 10 C.F.R. § 2.341(b)(1). Under this provision, Commission review must precede judicial review.

been decided against it on the merits, thus ending that party's participation in the hearing altogether. In *Environmental Law & Policy Center v. NRC*, 470 F.3d 676 (7th Cir. 2006), the Seventh Circuit held that, even absent a final licensing order, the court has jurisdiction to review summary judgment against an NRC intervenor that "concluded the intervention," *id.* at 681, and thus "terminated the contested portion" of the proceeding.[25] *Id.* at 680. That court reasoned that, having "terminated" the intervenor's participation in the agency proceeding, NRC's interlocutory order had "determined" the intervenor's rights. *Id.* at 681.

But *Environmental Law & Policy Center* is easily distinguished. First, unlike the Seventh Circuit, this Court has not expanded Hobbs Act judicial review beyond an order denying admission of all contentions and thus denying party status to a putative intervenor. Second, the Seventh Circuit rule applies only if the agency order decides *all* the party's contentions against it, thus *terminating* not just the party's participation in the hearing, but the hearing itself. Here, by contrast, NRDC has a proposed a new Waste Confidence contention that has yet to be decided. It also has a "no action" alternative contention for which review by the Commission is possible. Thus, NRDC's participation in the *Limerick* proceeding is far from "terminated" or "concluded." 470 F.3d at 681. In short, even applying

[25] A licensing proceeding can be "contested," *i.e.,* a request for hearing and petition for intervention are granted, or "uncontested," *i.e.,* the NRC Staff reviews the application against regulatory criteria in the absence of a hearing. *See* 10 C.F.R. § 2.4.

Environmental Law & Policy Center rather than this Court's own precedent, NRDC's petition for review must be dismissed for lack of jurisdiction.

II. NRDC's claims are not ripe for review.

The current posture of this case also renders this dispute unripe, which independently counsels against the Court's review at this time. Ripeness is a justiciability doctrine that draws upon Article III limitations on judicial power as well as prudential reasons for refusing to exercise jurisdiction prematurely. *See In re Aiken County*, 645 F.3d 428, 433 (D.C. Cir. 2011). Under the constraints of Article III, "federal courts may exercise power only in the last resort, and as a necessity." *Id.* at 433. Prudentially, the doctrine enables the courts to avoid "entangling themselves in abstract disagreements over administrative policies." *Id.* at 434. This serves "to protect the agencies from judicial interference until an administrative decision has been formalized and its effects felt in a concrete way by the challenging parties." *Id.* at 433 (quoting *Abbott Labs. v. Gardner,* 387 U.S. 136, 148–49 (1967)).

The risk of an abstract disagreement is quite real here. Though rejecting NRDC's waiver petition in CLI-13-07, the Commission has referred it "to the Staff as additional comments on the Limerick draft supplemental EIS for the Staff's

consideration and response."[26] It remains to be seen how the NRC Staff will respond to NRDC's concerns in its review outside the hearing process; NRDC's concerns might be resolved by NRC Staff actions without further litigation.[27] Likewise, NRC has not yet published its final Waste Confidence Generic EIS, a prerequisite to deciding pending Waste Confidence contentions. The Generic EIS might similarly resolve NRDC's Waste Confidence concerns to its satisfaction.

As this Court recently reiterated, "a claim is not ripe for adjudication if it rests upon contingent future events that may not occur as anticipated, or indeed may not occur at all." *Aiken County*, 645 F.3d at 434 (internal quotation marks omitted). This has led the Court to observe: "We have noted that it is sometimes true that if we do not decide a case prematurely, we may never need to decide it." *Id.* Whatever the outcome, NRDC can safely await final agency action to seek judicial review.

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[26] *Limerick*, CLI-13-07, 78 NRC ___, slip op. at 22. As the Commission noted, NRDC has commented on the draft Supplemental EIS for Limerick license renewal, as parties routinely comment on a draft EIS, even absent party status in the hearing. *Id.* at 16 n.68. All such comments will be considered in preparing the Final Supplemental EIS. *Id.* at 22 n.96.

[27] This will not be known until the NRC Staff completes its review of the Environmental Report and publishes the Final Supplemental EIS. *See* 10 C.F.R. § 51.95(c). At that point, NRDC can see how the NRC Staff has taken its concerns into consideration.

CONCLUSION

The finality provisions of the Hobbs Act compel dismissal of NRDC's petition for review for lack of jurisdiction. Yet, NRDC loses no judicial review rights by awaiting a final licensing decision. Once the NRC decides whether to issue renewed operating licenses for Limerick, NRDC may then petition for review challenging that decision or any interlocutory NRC orders, including the waiver denial in CLI-13-07. With a final NRC license renewal decision on Limerick still some time away, the doctrine of ripeness likewise counsels in favor dismissal. Accordingly, the Federal Respondents respectfully request that the Court dismiss the petition for review.

Respectfully submitted,

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Dated: February 10, 2014

CERTIFICATE OF SERVICE

I hereby certify that on February 10, 2014, the undersigned counsel for Respondent U.S. Nuclear Regulatory Commission filed the attached Federal Respondents' Motion to Dismiss for Lack of Jurisdiction with the U.S. Court of Appeals for the District of Columbia Circuit by filing the same with the Court's CM/ECF filing system and by filing four (4) copies with the Court by U.S. Mail, First-Class, postage prepaid. That method is calculated to serve:

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No. 13-1311
Federal Respondents' Motion to Dismiss
For Lack of Jurisdiction

Exhibit 1

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Allison M. Macfarlane, Chairman
Kristine L. Svinicki
George Apostolakis
William D. Magwood, IV
William C. Ostendorff

In the Matter of	)	
EXELON GENERATION COMPANY, LLC	)	Docket Nos. 50-352-LR & 50-353-LR
(Limerick Generating Station, Units 1 and 2)	)	

CLI-13-07

MEMORANDUM AND ORDER

The Licensing Board has referred to us its ruling denying Natural Resources Defense Council's (NRDC) petition to waive a provision of our regulations.[1] For the reasons set forth below, we take review of the referred ruling. We find that the Board erred in its reasoning for denying NRDC's waiver petition, but we affirm the Board's decision on a different ground.

I. BACKGROUND

Exelon Generation Company, LLC, has applied to renew its operating licenses for Limerick Generating Station, Units 1 and 2, for an additional twenty years. NRDC requested a hearing on Exelon's license renewal application, proposing four contentions.[2] Of those

[1] LBP-13-1, 77 NRC 57 (2013).

[2] *Natural Resources Defense Council Petition to Intervene and Notice of Intention to Participate* (Nov. 22, 2011).

contentions, the Board admitted only one—a narrowed version of Contention 1-E, which claimed that Exelon's Environmental Report failed to include new and significant information relating to severe accident mitigation.[3]

Exelon and the NRC Staff appealed the Board's contention admissibility ruling.[4] Both Exelon and the Staff argued that Contention 1-E constituted a collateral attack on 10 C.F.R. § 51.53(c)(3)(ii)(L).[5] The rule exempts Exelon from including in its Environmental Report a site-specific severe accident mitigation alternatives (SAMA) analysis because the Staff previously considered severe accident mitigation design alternatives (SAMDAs) in the Final Environmental Statement supporting issuance of the Limerick operating licenses.[6] We agreed that the contention impermissibly challenged section 51.53(c)(3)(ii)(L).[7]

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[3] *See* LBP-12-8, 75 NRC 539, 561-62 (2012). NRDC's motion to admit a new waste-confidence-related contention currently is pending before the Board; the Board is holding that contention in abeyance in accordance with our direction in CLI-12-16. *See* Memorandum (Clarifying the Board's July 12, 2013 Order) (Aug. 6, 2013), at 2 (unpublished) (Board Clarification Order); Order (Suspending Procedural Date Related to Proposed Waste Confidence Contention) (Aug. 8, 2012), at 3 (unpublished) (citing *Calvert Cliffs Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63 (2012)); *NRDC's Motion for Leave to File a New Contention Concerning Temporary Storage and Ultimate Disposal of Nuclear Waste at Limerick* (July 9, 2012); *Natural Resources Defense Council's Resubmission of Contentions in Response to Staff's Supplemental Draft Environmental Impact Statement* (May 30, 2013), at 2-3 (Resubmitted Contentions).

[4] *Exelon's Notice of Appeal of LBP-12-08* (Apr. 16, 2012); *Exelon's Brief in Support of the Appeal of LBP-12-08* (Apr. 16, 2012) (Exelon Appeal); *NRC Staff's Notice of Appeal of LBP-12-08* (Apr. 16, 2012); *NRC Staff's Appeal of LBP-12-08* (Apr. 16, 2012) (Staff Appeal).

[5] *See* Exelon Appeal at 6-7; Staff Appeal at 5-6.

[6] *See generally* "Final Environmental Statement Related to the Operation of Limerick Generating Station, Units 1 and 2," NUREG-0974 Supplement (Aug. 1989) (ADAMS accession no. ML11221A204) (1989 SAMDA Analysis). The 1989 analysis considered SAMDAs, a subset of mitigation alternatives that are based on a plant's design. *See* CLI-12-19, 76 NRC 377, 382 (2012).

[7] CLI-12-19, 76 NRC at 386.

Nonetheless, in light of an apparent ambiguity in our license renewal regulations—which, on the one hand exempt Exelon and similarly-situated license renewal applicants from including a SAMA analysis in their environmental reports, but on the other hand require an applicant to identify "any new and significant information of which it is aware"—we invited NRDC to submit a petition to waive the SAMA-analysis exception.[8] We likened the regulatory conflict to other instances in our license renewal adjudications where a petitioner claimed that purported "new and significant information" called into question a "Category 1," or broadly-applicable, environmental-impact finding codified in 10 C.F.R. Part 51.[9] Challenges to Category 1 findings based on new and significant information require a waiver of 10 C.F.R. Part 51, Subpart A, Appendix B, in order to be litigated in a license renewal adjudication.[10] We held that "the exception in section 51.53(c)(3)(ii)(L) operates as the functional equivalent of a Category 1 issue, removing SAMAs from litigation in this, as well as certain other, case-by-case license

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[8] *See id.* at 385-86, 388.

[9] *See id.* at 386. "Category 2" issues, on the other hand, require a site-specific analysis for the plant whose license is up for renewal. "Severe accidents" is a Category 2 site-specific issue in 10 C.F.R. Part 51, Subpart A, Appendix B. Our remand decision provides a brief discussion of Category 1 and Category 2 issues. *See* CLI-12-19, 76 NRC at 381-82. The Generic Environmental Impact Statement for License Renewal (GEIS) provides the environmental analysis that supports our "Category 1" and "Category 2" findings. *See* "Generic Environmental Impact Statement for License Renewal of Nuclear Plants—Main Report" (Final Report), NUREG-1437, Vol. 1 (May 1996) (ML040690705) (GEIS); "Generic Environmental Impact Statement for License Renewal of Nuclear Plants—Main Report" (Final Report), NUREG-1437, Rev. 1, Vol. 1 (June 2013) (ML13106A241) (GEIS Rev. 1). *See generally* Final Rule, Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 78 Fed. Reg. 37,282 (June 20, 2013) (GEIS Revisions). In our recent revisions to the GEIS, we did not change the Category 2 status of severe accidents or the exception in 10 C.F.R. § 51.53(c)(3)(ii)(L). *See* GEIS Revisions, 78 Fed. Reg. at 37,289-90.

[10] *See Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 17, 20 (2007) (Vermont Yankee/Pilgrim).

renewal adjudications."[11] Accordingly, we remanded the case to the Board for the limited purpose of permitting NRDC to file a waiver petition.[12] We included in the remand all of NRDC's SAMA-related contentions, Contentions 1-E, 2-E, and 3-E, to the extent the Board denied them as challenges to section 51.53(c)(3)(ii)(L).[13]

NRDC thereafter filed a waiver petition that again raised the issues that the Board originally had admitted in Contention 1-E, as well as an issue in Contention 3-E that the Board originally had rejected.[14] With regard to Contention 1-E, NRDC sought to litigate its claims that: (1) "Exelon has omitted from its [Environmental Report] a required analysis of new and significant information regarding potential new [SAMAs] previously considered for other [Mark II

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[11] CLI-12-19, 76 NRC at 386.

[12] *Id.* at 388.

[13] We did not include in the remand NRDC's remaining contention, Contention 4-E, which challenged the Environmental Report's discussion of the "no-action alternative," an unrelated issue. *See id.* at 388 & n.58. The Board rejected Contention 4-E as inadmissible. *See* LBP-12-8, 75 NRC at 570.

[14] *Natural Resources Defense Council's Petition, By Way of Motion, for Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L) as Applied to Application for Renewal of Licenses for Limerick Units 1 and 2* (Nov. 21, 2012) (Waiver Petition). NRDC attached two declarations in support of its waiver petition. *Declaration of Christopher J. Weaver, Ph.D., on Behalf of the Natural Resources Defense Council in Support of Motion for Waiver* (Nov. 21, 2012) (Weaver Declaration); *Declaration of Geoffrey H. Fettus, Counsel for the Natural Resources Defense Council (NRDC), Regarding Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L) as Applied to Application for Renewal of Licenses for Limerick Units 1 and 2* (Nov. 21, 2012) (Fettus Declaration).

NRDC continues to assert its disagreement with our determination in CLI-12-19 that a waiver is required. *See Natural Resources Defense Council's Brief in Support of Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L) as Applied to Application for Renewal of Licenses for Limerick Units 1 and 2* (Mar. 13, 2013), at 28 (NRDC Initial Brief); Waiver Petition at 13. To the extent that NRDC's claim is, in substance, a motion for reconsideration of our determination in CLI-12-19, its request is procedurally defective, out of time, and fails to assert compelling circumstances justifying reconsideration. *See* 10 C.F.R. § 2.323(e); *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 and 3), CLI-10-9, 71 NRC 245, 252 (2010).

boiling water reactors]"; and (2) "Exelon's reliance on data from Three Mile Island . . . in its analysis of the significance of new information regarding economic cost risk constitutes an inadequate analysis of new and significant information."[15] With regard to Contention 3-E, NRDC sought to litigate the claim that Exelon must use "modern techniques for assessing whether the newly considered [SAMAs] are cost-beneficial."[16] Exelon and the Staff opposed NRDC's waiver petition, arguing that it failed to satisfy our waiver standard in 10 C.F.R. § 2.335(b).[17]

We review waiver petitions under section 2.335, as well as our case law.[18] In interpreting section 2.335, we identified four factors—often referred to as the "*Millstone* factors"—that waiver petitioners must satisfy. The Board's analysis began and ended with the first *Millstone* factor—a demonstration that applying the rule would not serve its intended purpose.[19] The Board determined that the purpose of the exception in section 51.53(c)(3)(ii)(L)

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[15] Waiver Petition at 3.

[16] *Id.*

[17] *Exelon's Response Opposing NRDC's Petition for Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L)* (Dec. 14, 2012), at 3-4 (Exelon Answer); *Exelon's Counter Affidavit Supporting Exelon's Response Opposing NRDC's Petition for Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L)* (Dec. 14, 2012) (Exelon Affidavit); *NRC Staff Answer to Natural Resources Defense Council Petition for Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L)* (Dec. 14, 2012), at 1 (Staff Answer). NRDC replied. *Reply of Natural Resources Defense Council in Support of Petition, By Way of Motion, for Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L) as Applied to Application for Renewal of Licenses for Limerick Units 1 and 2* (Dec. 21, 2012).

[18] *See generally Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 559-60 & nn.29-34 (2005).

[19] *See* LBP-13-1, 77 NRC at 66; *Millstone*, CLI-05-24, 62 NRC at 560; 10 C.F.R. § 2.335(b). In denying NRDC's waiver petition, the Board declined to apply the *Millstone* test, opining that it "establishes an appreciably higher burden for . . . waiver seekers than does [section 2.335(b)]." LBP-13-1, 77 NRC at 64. According to the Board, only the first two *Millstone* factors are consistent with the requirements of section 2.335(b). *Id.* We disagree. The *Millstone* decision, which aggregates cases interpreting the waiver standard, is an example of a uniform, permissible interpretation of our regulations. *See U.S. Steel Mining Co., LLC v. Director,* (continued . . .)

"is to exempt those plants that have already performed SAMA analyses from considering [SAMAs] at license renewal."[20] The Board then reasoned that the purpose of the SAMA-analysis exception "will always be met if no further analysis is required or submitted by the applicant."[21] Based on its interpretation of the rule, the Board therefore concluded that the exception in section 51.53(c)(3)(ii)(L) is "unwaivable."[22] Accordingly, the Board denied the waiver petition. Finding our remand of the proceeding incompatible with its own finding that waiver of section 51.53(c)(3)(ii)(L) is an "impossibility," however, the Board referred to us its ruling, seeking a clarification of the interplay between section 51.53(c)(3)(ii)(L) and our waiver criteria in section 2.335(b).[23] The parties have filed initial and response briefs to offer their views on the Board's decision.[24]

(. . . continued)
OWCP, 386 F.3d 977, 985 (11th Cir. 2004). All four of the *Millstone* requirements derive from the language and purpose of section 2.335(b). Further, a licensing board may not disregard binding Commission case law. *Cf. Nat'l Fed'n of Federal Employees v. FLRA*, 412 F.3d 119 (D.C. Cir. 2005) ("[A]gencies act arbitrarily and capriciously when they 'ignore [their] own relevant precedent.'" (quoting *BB&L, Inc. v. NLRB*, 52 F.3d 366, 369 (D.C. Cir. 1995))). *Accord Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Services, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-09-4, 69 NRC 170, 184 (2009), *aff'd*, CLI-09-20, 70 NRC 911, 917-18, 924 (2009) (acknowledging that a licensing board is bound by Commission precedent; "it is for the Commission, not licensing boards, to revise its rulings").

[20] LBP-13-1, 77 NRC at 66.

[21] *Id.* (emphasis omitted).

[22] *Id.*

[23] *Id.* at 69. *See* 10 C.F.R. § 2.323(f)(1).

[24] NRDC Initial Brief; *Exelon's Initial Brief in Response to the Referral of LBP-13-1 to the Commission* (Mar. 13, 2013); *NRC Staff's Brief on the Board's Referred Ruling in LBP-13-1* (Mar. 13, 2013); *Natural Resources Defense Council's Response Brief in Support of Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L) As Applied to Application for Renewal of Licenses for Limerick Units 1 and 2* (Mar. 20, 2013); *Exelon's Reply Brief in Response to the Referral of LBP-13-1 to the Commission* (Mar. 20, 2013); *NRC Staff's Reply on the Board's Referred Ruling in LBP-13-1* (Mar. 20, 2013). *See generally Unopposed Motion Requesting Briefing* (Feb. 19, 2013); Order (continued . . .)

As discussed below, we take review of the Board's referred ruling, and find that the Board erred in concluding that it is impossible to waive the exception in section 51.53(c)(3)(ii)(L). Nevertheless, we affirm, on different grounds, the Board's denial of the waiver petition.

II. DISCUSSION

Although we disfavor piecemeal review of licensing board decisions, boards may refer rulings that, although interlocutory, raise "significant and novel legal or policy issues" or require our "resolution . . . to materially advance the orderly disposition of the proceeding."[25] We find that the Board has raised a significant and novel issue that warrants our attention. The Board's referral questions the applicability of one of our basic rules of practice, and it could have broad-reaching implications in future license renewal proceedings.[26] We therefore take review of the Board's referred ruling. We begin with an overview of our waiver criteria in section 2.335(b).

Section 2.335(b) provides a limited exception to our general prohibition against challenges to NRC rules or regulations in adjudicatory proceedings.[27] To litigate an issue that

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(. . . continued)
(Feb. 26, 2013) (unpublished) (granting unopposed motion requesting briefing and setting briefing schedule).

[25] 10 C.F.R. § 2.341(f)(1). We revised Part 2 of our rules of practice last year, including section 2.341(f)(1). Prior to the rule revision, section 2.341(f)(1) required that the referred ruling raise a "significant and novel legal or policy issue" *and* necessitate "resolution . . . to materially advance the orderly disposition of the proceeding." Amendments to Adjudicatory Process Rules and Related Requirements, 77 Fed. Reg. 46,562, 46,576 (Aug. 3, 2012). *See also Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-12-13, 75 NRC 681, 686 (2012).

[26] For example, the provision in section 51.53(c)(3)(ii)(L) could come into play in a proceeding on an application for a second license renewal term under 10 C.F.R. § 54.31(d), or for the renewal of a license issued under 10 C.F.R. Part 52. Staff Answer at 35. *See infra* note 83 and accompanying text.

[27] *Compare* 10 C.F.R. § 2.335(b), *with id.* § 2.335(a).

otherwise would be outside the scope of an adjudication, a petitioner must file a petition for waiver showing that "special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which . . . [it] was adopted."[28] The waiver petitioner must include an affidavit that states "with particularity" the special circumstances that justify waiver of the rule.[29]

Our waiver standard is stringent by design. The NRC has discretion to transact its business broadly, through rulemaking, or case-by-case, through adjudication.[30] When we engage in rulemaking, we are "carving out"[31] issues from adjudication for generic resolution.[32] Therefore, to challenge the generic application of a rule, a petitioner seeking waiver must show that there is something extraordinary about the subject matter of the proceeding such that the rule should not apply.[33]

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[28] *Id.* § 2.335(b).

[29] *Id.*

[30] *See Balt. Gas & Electric Co. v. Natural Res. Def. Council*, 462 U.S. 87, 101 (1983).

[31] *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-88-10, 28 NRC 573, 596 (1988).

[32] *See* Restructuring of Facility License Application Review and Hearing Processes, 37 Fed. Reg. 15,127, 15,129 (July 28, 1972) (Waiver Standard) (creating general prohibition on challenges to NRC rules and regulations with limited exceptions "[i]n view of the expanding opportunities for participation in Commission rulemaking proceedings and increased emphasis on rulemaking proceedings as the appropriate forum for settling basic policy issues"). *Accord Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 345 (1999); *Potomac Electric Power Co.* (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-218, 8 AEC 79, 85 (1974).

[33] *See* 10 C.F.R. § 2.335(b). *See also, e.g.*, *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-12-6, 75 NRC 352, 364-65 (2012); *Seabrook*, CLI-88-10, 28 NRC at 596.

The waiver standard in section 2.335(b) has remained virtually unchanged since its codification in 1972.[34] Since that time, our case law has given meaning to the "special circumstances" requirement.[35] In 2005, in the *Millstone* license renewal proceeding, we compiled the waiver case law to reflect the four-part test that we have long used.[36] To set aside a Commission rule or regulation in an adjudicatory proceeding, a petitioner must demonstrate that:

(i) the rule's strict application would not serve the purposes for which it was adopted;

(ii) special circumstances exist that were not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived;

(iii) those circumstances are unique to the facility rather than common to a large class of facilities; and

(iv) waiver of the regulation is necessary to reach a significant safety problem.[37]

All four *Millstone* factors must be met to justify a rule waiver.[38] The waiver petitioner faces a

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[34] *See* Waiver Standard, 37 Fed. Reg. at 15,136 (adding then-section 2.758 to permit waiver of a Commission rule or regulation in special circumstances); Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2224 (Jan. 14, 2004) (Part 2 Amendments) (moving section 2.758 to section 2.335 without substantive change).

[35] *See, e.g.*, *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-89-20, 30 NRC 231, 235 (1989); *Seabrook*, CLI-88-10, 28 NRC at 596-97; *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-80-16, 11 NRC 674, 675 (1980).

[36] *See Millstone*, CLI-05-24, 62 NRC at 559-60. We issued *Millstone* over a year after a major restructuring of our 10 C.F.R. Part 2 rules of practice, thus demonstrating the continued applicability of our waiver case law. *See* Part 2 Amendments, 69 Fed. Reg. at 2182.

[37] *Millstone*, CLI-05-24, 62 NRC at 559-60.

[38] *See id.* at 560.

substantial burden,[39] but not an impossible one.

The *Millstone* factors are derived from the language and purpose of section 2.335. The first two factors, as the Board observed, closely track the plain language of section 2.335(b).[40] The second two factors interpret section 2.335(b) in accordance with the provision's underlying purpose.

A showing of "uniqueness," the third *Millstone* factor, is necessary to justify our setting aside that regulation for the purposes of a specific proceeding.[41] This reflects our view that, in general, challenges to regulations are best evaluated through generic means.[42] Only where a particular challenge to a regulation rests on issues that are legitimately unique to the proceeding and do not imply broader concerns about the rule's general viability or appropriateness would it make sense to resolve the matter through site-specific adjudication. To be sure, if an issue were "common to a large class of facilities," then it would be appropriate for us to address the issue through rulemaking. And in view of the fact that we will not set aside a duly-promulgated regulation lightly, the fourth *Millstone* factor requires a showing that the requested waiver is

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[39] *Cf. Long Island Lighting Co.* (Shoreham Nuclear Power Station), CLI-85-1, 21 NRC 275, 280 (1985) (Separate Views of Commissioner Asselstine).

[40] LBP-13-1, 77 NRC at 64. *See* 10 C.F.R. § 2.335(b) ("The sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted.").

[41] *See Seabrook*, CLI-88-10, 28 NRC at 597-98.

[42] If a petitioner's challenge to an agency rule or regulation relates to an issue of broader significance, then filing a petition for rulemaking under 10 C.F.R. § 2.802 is the better approach. *See* 10 C.F.R. § 2.802(a) ("Any interested person may petition the Commission to issue, amend or rescind any regulation."). *See also* Waiver Standard, 37 Fed. Reg. at 15,129; *Pilgrim*, CLI-12-6, 75 NRC at 364-65; *Vermont Yankee/Pilgrim*, CLI-07-3, 65 NRC at 20-21.

necessary to address an issue of some significance. The rationale that we provided over twenty years ago holds true today: our "agenda is crowded with significant regulatory matters . . . . It would not be consistent with [our] statutorily mandated responsibilities to spend time and resources on matters that are of no substantive regulatory significance."[43]

The underlying issue in *Millstone* related to safety, as did the issue in the *Seabrook* proceeding referenced therein.[44] Since our decision in *Millstone*, we have not stated expressly whether "significance" would apply to an environmental question, but we have implied in other cases, including this one, that a waiver could be obtained for an environmental contention as well.[45] We clarify now that the fourth *Millstone* factor also may apply to a significant environmental issue.

A. The Referred Ruling

Here, presented with the perceived "impossibility" of finding a prima facie case for waiver, the Board referred to us the Board's denial of NRDC's waiver petition, asking us to explain the interplay between 10 C.F.R. § 51.53(c)(3)(ii)(L) and 10 C.F.R. § 2.335(b).[46] The Board focused on the language of section 51.53(c)(3)(ii)(L) and determined that the purpose of the provision is to exempt license renewal applicants from considering SAMAs if they have been

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[43] *Seabrook*, CLI-88-10, 28 NRC at 597.

[44] *See Millstone*, CLI-05-24, 62 NRC at 555 (emergency planning); *Seabrook*, CLI-88-10, 28 NRC at 600 (financial qualifications).

[45] *See, e.g.*, CLI-12-19, 76 NRC at 388; *Pilgrim*, CLI-12-6, 75 NRC at 365. Although we need not reach the fourth *Millstone* factor today (as discussed *infra*), we provide clarification on this point to reinforce that waiver of a rule pertaining to the agency's environmental responsibilities is possible.

[46] LBP-13-1, 77 NRC at 69.

considered already.[47] The source of the Board's confusion is its notion of the purpose of the exception in section 51.53(c)(3)(ii)(L).[48] Exempting certain applicants from providing a SAMA analysis at the license renewal stage is certainly the intended effect of the rule, but the rule's underlying purpose is more complex than that. Rather than assuming that a rule's purpose is simply to achieve its stated effect, one must "look further."[49]

Like all of our environmental regulations in 10 C.F.R. Part 51, section 51.53(c)(3)(ii)(L) is aimed at satisfying the NRC's obligations under the National Environmental Policy Act (NEPA).[50] NEPA requires the NRC to prepare a "detailed statement," i.e., an environmental impact statement (EIS), discussing the environmental impacts, alternatives, and mitigation measures for any "major Federal action[] significantly affecting the quality of the human environment."[51] To assist us in the preparation of a supplemental EIS, we require license renewal applicants to prepare an environmental report.[52] Among other Part 51 provisions, section 51.53(c)(3)(ii) describes the types of information that an environmental report must

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[47] *Id.* at 66.

[48] *See id.* at 69.

[49] *Seabrook*, CLI-88-10, 28 NRC at 599. The *Seabrook* case is instructive. In *Seabrook*, we recognized that a superficial reading of the rule sought to be waived—there, a rule that exempted electric utilities from a financial qualifications review at the operating license stage—would lead to a waiver "impossibility" result. *See id*. We explained that "[t]he purpose of the . . . rule sought to be waived is elimination of case-by-case financial qualifications reviews. If we go no further than the . . . rule, no waiver could ever be granted because any waiver, by its nature, would defeat rather than advance the rule's purpose." *Id.* (emphasis omitted). Recognizing that waivers were "clearly contemplated," we reasoned that we must look further than the rule language, by examining "the underlying purpose of the requirement that there be a financial qualifications review." *Id.* at 599-600 (emphasis omitted).

[50] *See* 10 C.F.R. § 51.10.

[51] NEPA § 102(2)(C), 42 U.S.C. § 4332(2)(C).

[52] *See* 10 C.F.R. §§ 51.41, 51.45(a), 51.95(c).

contain.[53] Section 51.53(c)(3)(ii)(L), in particular, requires that an environmental report include a discussion of SAMAs if the NRC has not considered them previously for the applicant's plant.[54] As we explained in the Statements of Consideration adopting section 51.53(c)(3)(ii)(L), we did not require license renewal applicants for whom SAMAs were considered previously to provide a supplemental SAMA analysis because we determined that one SAMA analysis would uncover most cost-beneficial measures to mitigate both the risk and the effects of severe accidents, thus satisfying our obligations under NEPA.[55] Putting all of this together, the purpose of the supplemental-SAMA-analysis exception in section 51.53(c)(3)(ii)(L), then, is to reflect our view that one SAMA analysis, as a general matter, satisfies our NEPA obligation to consider measures to mitigate both the risk and the environmental impacts of severe accidents.

That said, even at that time, we did not foreclose the possibility that cost-beneficial mitigation measures might be identified in future license-application reviews.[56] Indeed, we acknowledged that we are required under NEPA to consider new and significant information in our environmental analyses.[57] Therefore, when promulgating the final Part 51 rule, we included section 51.53(c)(3)(iv), which requires a license renewal applicant to identify in its environmental

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[53] *Id.* § 51.53(c)(3)(ii). *See generally id.* §§ 51.45(a), 51.53.

[54] *Id.* § 51.53(c)(3)(ii)(L).

[55] *See* Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,481 (June 5, 1996) (Part 51 Amendments) ("The Commission believes it unlikely that any site-specific consideration of [SAMAs] for license renewal will identify major plant design changes or modifications that will prove to be cost-beneficial for reducing severe accident frequency or consequences.").

[56] *See id.* (noting possible cost-beneficial "procedural and programmatic fixes").

[57] *Id.* at 28,468. *See Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 373-74 (1989).

report any "new and significant information of which the applicant is aware" to assist in the preparation of our own new-and-significant-information analysis.[58]

"New and significant information" related to SAMAs could undermine the purpose of the exception in section 51.53(c)(3)(ii)(L). If new and significant information is available, then the original SAMA analysis may be inadequate to satisfy NEPA at the license renewal stage, and may require supplementation.[59] Our rules provide a mechanism for supplementing an original NEPA analysis.[60] But our rules do not guarantee a hearing;[61] nor is a hearing necessary to satisfy our NEPA obligations.[62]

As we explained in CLI-12-19, if a petitioner wishes to litigate the adequacy of a previously-conducted SAMA analysis in a license renewal adjudication, a waiver of section 51.53(c)(3)(ii)(L) would be required. The environmental analysis of severe accidents is designated as a "Category 2" site-specific issue for license renewal, and therefore the SAMA

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[58] *See* 10 C.F.R. § 51.95(c)(4); Part 51 Amendments, 61 Fed. Reg. at 28,468, 28,488.

[59] *See Marsh*, 490 U.S. at 374 ("If there remains 'major Federal actio[n]' to occur, and if the new information is sufficient to show that the remaining action will 'affec[t] the quality of the human environment' in a significant manner or to a significant extent not already considered, a supplemental EIS must be prepared." (alterations in original)). As we stated earlier in this case, "[w]e would expect that, if the Staff had in hand new information that could render invalid the original site-specific analysis, then such information should be identified and evaluated by the Staff for its significance, consistent with our NEPA requirements." CLI-12-19, 76 NRC at 386-87 n.54.

[60] *See, e.g.*, 10 C.F.R. §§ 51.73, 51.95(c)(3), (c)(4).

[61] *See, e.g.*, *id.* §§ 2.309(f)(1), 2.335(b).

[62] *See Blue Ridge Environmental Defense League v. NRC*, 716 F.3d 183, 196 (D.C. Cir. 2013) (deferring to NRC's decision not to admit petitioners' NEPA contentions for hearing where NRC found the contentions did not satisfy 10 C.F.R. Part 2 contention admissibility requirements). *See also Massachusetts v. NRC*, 708 F.3d 63, 78 (1st Cir. 2013); *Vermont Yankee/Pilgrim*, CLI-07-3, 65 NRC at 22.

analysis normally is subject to challenge in a license renewal adjudicatory proceeding.[63] Thus, as a general matter, a petitioner may raise a SAMA-related contention in a license renewal adjudication if it satisfies our general contention admissibility criteria in section 2.309(f)(1).[64] In CLI-12-19, however, we explained that the exception in section 51.53(c)(3)(ii)(L) operates as the "functional equivalent" of a Category 1 designation "[f]or Limerick and similarly-situated plants for which SAMAs were already considered in an Environmental Impact Statement or Environmental Assessment."[65] For Limerick and certain other plants, "the SAMA issue has been resolved by rule," which means that the issue has been carved out from adjudication.[66] Consequently, to litigate a SAMA-related contention in this, as well as other adjudicatory proceedings where the SAMA-analysis exception applies, a petitioner must obtain a waiver by satisfying the requirements in section 2.335(b), in addition to satisfying the contention admissibility criteria in section 2.309(f)(1).[67] Alternatively, a petitioner may submit to the Staff any information that it believes to be new and significant by participating in our parallel NEPA

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[63] *See* 10 C.F.R. § 51.53(c)(3)(ii)(L); 10 C.F.R. pt. 51, subpt. A, app. B; CLI-12-19, 76 NRC at 386. *See, e.g.*, *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-12-1, 75 NRC 39 (2012).

[64] *See, e.g.*, *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 406-18 (2012); *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 322-37 (2012).

[65] CLI-12-19, 76 NRC at 386.

[66] *Id.* License renewal applicants whose facilities qualify for the SAMA-analysis exception are exempt from addressing severe accident mitigation in their environmental reports, just as they would be exempt from addressing Category 1 issues. *Compare* 10 C.F.R. § 51.53(c)(3)(i), *with id.* § 51.53(c)(3)(ii)(L).

[67] CLI-12-19, 76 NRC at 386.

process. Among other things, the Staff provides an opportunity for public comment on the draft supplemental EIS.[68]

The operation of the SAMA-analysis exception here is analogous to the Board's example of the waiver process relative to bird collisions with cooling towers,[69] which is analyzed in the license renewal Generic Environmental Impact Statement (GEIS) and designated as a "Category 1" issue.[70] As the Board observed, we determined that bird collisions "'have not been found to be a problem at operating nuclear power plants and are not expected to be a problem during the license renewal term.'"[71] Because this issue has been designated Category 1, it reflects the NRC's expectation that our NEPA obligations have been satisfied with reference to

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[68] *See* 10 C.F.R. §§ 51.73, 51.74. On April 30, 2013, the Staff published the Limerick draft supplemental EIS for public comment. "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants Regarding Limerick Generating Station, Units 1 and 2" (Draft Report for Comment), NUREG-1437, Supplement 49 (Apr. 30, 2013) (ML13120A078) (Limerick Draft SEIS). Thereafter, NRDC re-filed all four of its original contentions, as well as its pending waste confidence contention, *see supra* note 3, to apply them to the draft supplemental EIS, and to preserve its "rights to appeal either by a timely motion for reconsideration or to the Commission or an appellate court." Resubmitted Contentions at 2. In addition, NRDC filed comments on the draft supplemental EIS. *See* Fettus, Geoffrey H., et al., Natural Resources Defense Council, Letter to Cindy Bladey, NRC (June 27, 2013) (ML13189A129). The Board tolled the time for NRDC to resubmit the contentions associated with its waiver request until we issued a decision addressing the Board's referred ruling in LBP-13-1, but denied NRDC's request to resubmit its remaining contentions. *See* Memorandum and Order (Ruling on Resubmission of Contentions) (July 12, 2013), at 1 (unpublished); Board Clarification Order at 1-2. (The Board continues to hold the waste confidence contention in abeyance. *See supra* note 3.) Our decision today renders moot the need to toll the deadline for resubmitting the contentions associated with NRDC's waiver petition.

[69] *See* LBP-13-1, 77 NRC at 67.

[70] *See* GEIS at 4-45 to 4-48; GEIS Rev. 1, at 4-70 to 4-74.

[71] LBP-13-1, 77 NRC at 67 (quoting 10 C.F.R. pt. 51, subpt. A, app. B, tbl. B-1)). *See also* GEIS Revisions, 78 Fed. Reg. at 37,320 ("Bird collisions with cooling towers and other plant structures and transmission lines occur at rates that are unlikely to affect local or migratory populations and the rates are not expected to change.").

our previously-conducted environmental analysis in the GEIS.[72] And because it is a Category 1 issue, a license renewal applicant need not address bird collisions in its environmental report unless it is aware of relevant new and significant information.[73]

Continuing with the Board's example, if new and significant information showed that "changes in the migratory habits of a certain bird . . . led to a large number of collisions with the cooling towers at a specific plant," then "a petitioner might well be able to satisfy . . . [our waiver criteria] and, therefore, challenge [an] applicant's lack of consideration of bird collisions with cooling towers" in a license renewal adjudicatory proceeding.[74] In other words, the petitioner must show that new and significant information, unique to a particular plant, exists with regard to bird collisions, such that the Category 1 finding in 10 C.F.R. Part 51, Subpart A, Appendix B should be waived to litigate the issue in a site-specific proceeding. Likewise, the focus in this case is whether there is new and significant information, unique to Limerick, pertaining to the 1989 SAMDA analysis for Limerick's original operating licenses, such that the exception in section 51.53(c)(3)(ii)(L) should be waived to litigate NRDC's claims in this proceeding.[75]

B. NRDC's Waiver Petition

With this framework in mind, we turn to NRDC's waiver petition. As discussed above, NRDC raised three challenges to Exelon's Environmental Report, claiming that Exelon (and,

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[72] *See* GEIS at 1-7 to 1-11, 4-45 to 4-48; GEIS Rev. 1, at 1-16 to 1-19, 4-70 to 4-74.

[73] *See* 10 C.F.R. §§ 51.53(c)(3)(i), 51.53(c)(3)(iv). But even then, a waiver would be necessary to litigate the issue of potentially new and significant information pertaining to bird collisions in an adjudicatory proceeding. *See Vermont Yankee/Pilgrim*, CLI-07-3, 65 NRC at 20-21.

[74] LBP-13-1, 77 NRC at 67.

[75] *See* CLI-12-19, 76 NRC at 386-87. *See generally* 1989 SAMDA Analysis.

ultimately, the NRC in the supplemental EIS)[76] must: (1) consider potential new SAMAs that have been considered for other Mark II boiling water reactors; (2) use economic cost information specific to Limerick, rather than Three Mile Island; and (3) use "modern techniques for assessing whether the newly considered [SAMAs] are cost-beneficial."[77]

Exelon and the Staff argued that NRDC's waiver petition failed to meet any of the four *Millstone* factors.[78] Based on our review of NRDC's petition, we find that a waiver is not warranted here. We agree with Exelon and the Staff that NRDC has not shown that the issues it raises are unique to Limerick.[79]

NRDC's witnesses, Dr. Weaver and Mr. Fettus, claimed that Limerick is unique because it will be the only boiling water reactor not to update its SAMA analysis with the potentially new and significant information that NRDC identifies.[80] But at bottom, NRDC's challenge to Exelon's Environmental Report amounts to a general claim that could apply to any license renewal applicant for whom SAMAs already were considered. Due to the nature of the rule, twenty or more years may pass between an original SAMA analysis and the submission of a license

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[76] *See* 10 C.F.R. § 2.309(f)(2) ("On issues arising under the National Environmental Policy Act, participants shall file contentions based on the applicant's environmental report.").

[77] Waiver Petition at 3 & n.3. *See also* Fettus Declaration; Weaver Declaration. Exelon asserts that the Weaver Declaration is deficient because it is a revised version of the declaration that NRDC submitted with its hearing request that is signed only by Dr. Weaver, and therefore apparently lacks the approval of two of its original signatories. *See* Exelon Answer at 43. We need not address that issue. As discussed below, viewing NRDC's waiver petition and supporting documentation in the light most favorable to NRDC, we find that NRDC has not shown that a waiver is appropriate here.

[78] Exelon Answer at 3-4; Staff Answer at 1.

[79] Because NRDC's claims fail to satisfy the "uniqueness" factor, we need not, and do not, reach the other *Millstone* factors in today's decision.

[80] *See* Fettus Declaration ¶ 4; Weaver Declaration ¶ 9.

renewal application for most, if not all applicants that qualify for the SAMA-analysis exception in section 51.53(c)(3)(ii)(L).[81] For example, if the licensees for Comanche Peak Units 1 and 2, and Watts Bar Unit 1—whose plants also qualify for the SAMA-analysis exception—apply to renew their operating licenses, they may face the same criticism: essentially, that the passage of time between original licensing and renewal has rendered their SAMA analysis out-of-date.[82] Similarly, plants for which a SAMA analysis was conducted for the first time under section 51.53(c)(3)(ii)(L) may face this general criticism upon application for a subsequent renewal term.[83] As the Staff points out, waiver of the provision in section 51.53(c)(3)(ii)(L) based on NRDC's proffered new information alone would create an exception to litigate SAMAs in the

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[81] In other words, this time frame is inherent in our regulatory scheme, which provides for a forty-year license term, with the possibility of license renewal for an additional twenty-year period. *See, e.g.*, 10 C.F.R. §§ 2.109(b), 50.51(a), 54.17(c). The earliest a license renewal application may be submitted is twenty years before the expiration date of the operating license in effect. *Id.* § 54.17(c).

[82] *See* Part 51 Amendments, 61 Fed. Reg. at 28,481 ("NRC staff considerations of [SAMAs] have already been completed and included in an EIS or supplemental EIS for Limerick, Comanche Peak, and Watts Bar. Therefore, [SAMAs] need not be reconsidered for these plants for license renewal."). Although Comanche Peak Units 1 and 2 and Watts Bar Unit 1 are not boiling water reactors, additional SAMAs have been considered for other license renewal applications since they received their operating licenses. In addition, Comanche Peak and Watts Bar received their operating licenses prior to the release of the MACCS2 code. *See* Staff Answer at 29-30; Exelon Answer at 35. As we explained in the Statements of Consideration regarding section 51.53(c)(3)(ii)(L), we did not mandate a specific approach to SAMA analyses; instead, we stated that we would review "each severe accident mitigation consideration provided by a license renewal applicant on its merits and determine whether it constitutes a reasonable consideration of [SAMAs]." Part 51 Amendments, 61 Fed. Reg. at 28,481-82.

[83] *See* 10 C.F.R. § 54.31(d). This also could be the case for new plants licensed under 10 C.F.R. Part 52. *See, e.g.*, *South Carolina Electric & Gas Co. and South Carolina Public Service Authority (also referred to as Santee Cooper)* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-12-9, 75 NRC 421 (2012); *Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-2, 75 NRC 63 (2012).

Limerick proceeding that would "necessarily swallow the rule in [section] 51.53(c)(3)(ii)(L)."[84] Accordingly, "[t]he rulemaking process, as opposed to a site-specific licensing proceeding, is the appropriate venue for such a far-reaching challenge."[85]

That is not to say that a challenge based on new and significant information cannot overcome the "uniqueness" factor of our waiver standard. Here, however, NRDC offers little to show how the information it provides sets Limerick apart from other plants undergoing license renewal whose previous SAMA analyses purportedly also would be in need of updating. For example, some of NRDC's proposed SAMAs could be used for any boiling water reactor, not just those with Mark II containments.[86] And NRDC's argument that a new SAMA analysis should be performed because a newer methodology is available could apply to two other plants now (Comanche Peak and Watts Bar),[87] and presumably to other plants in the future whenever further developments occur regarding other methods of SAMA analysis.

Additionally, with regard to economic cost, NRDC provides data that is specific to Limerick and the surrounding area, but fails to make a sufficient connection between this data and the 1989 SAMDA analysis for Limerick.[88] Instead, Dr. Weaver concludes, without support, that "[n]ew information pertaining to economic risk could plausibly cause materially different results in the assessment of impacts of an accident at Limerick, and materially different cost-

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[84] Staff Answer at 35. *See also id.* at 27.

[85] *Id.* at 35.

[86] *See* Exelon Answer at 34; Exelon Affidavit ¶ 31, tbl. A.

[87] *See* Exelon Answer at 35.

[88] *See* Weaver Declaration ¶¶ 14-24.

benefit results in a new SAMA analysis for Limerick."[89] Similarly, Dr. Weaver asserts, without more, that use of the MACCS2 code or similar methodology would be "specific" to Limerick, and could show that additional mitigation alternatives are cost-beneficial.[90] In other words, NRDC offers new information, but makes no attempt, other than concluding that a change in the SAMA analysis is "plausible," to discuss its potential significance to Limerick.[91] To litigate SAMA-related issues in an adjudicatory proceeding, however, we require the demonstration of "a potentially significant deficiency" in the SAMA analysis—"that is, a deficiency that credibly could render the SAMA analysis unreasonable under NEPA standards."[92] Otherwise, "[i]t always will be possible to conceive of yet another input or methodology that could have been used in the SAMA computer modeling, and many different inputs and approaches may all be reasonable choices."[93] Given that similar updated information could be used for other plants that qualify for the SAMA-analysis exception, there is nothing unique about the information that NRDC identifies to justify waiving the rule for this particular adjudicatory proceeding.

We therefore find that NRDC has not shown that a waiver of section 51.53(c)(3)(ii)(L) is appropriate here. Fundamentally, NRDC claims that the SAMA analysis must be redone due to the passage of time between initial licensing and Exelon's submittal of its license renewal

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[89] *Id.* ¶ 17.

[90] *Id.* ¶ 4, 9, 13.

[91] *See id.* ¶ 17.

[92] *Pilgrim*, CLI-12-1, 75 NRC at 57 (emphasis omitted).

[93] *Id. See also Seabrook*, CLI-12-5, 75 NRC at 323 ("'[T]he proper question is not whether there are plausible alternative choices for use in the analysis, but whether the analysis that was done is reasonable under NEPA. We have long held that contentions admitted for litigation must point to a deficiency in the application, and not merely 'suggestions' of other ways an analysis could have been done, or other details that could have been included.").

application. If our waiver standard is to operate as intended, we decline to set aside the rule based merely on a claim of new and significant information, without the support necessary to show that it is unique to Limerick.[94] For these reasons, we deny NRDC's waiver request.

Nonetheless, we recognize the NRC's continuing duty to take a "hard look" at new and significant information for each "major federal action" to be taken.[95] The issues that NRDC raises are not appropriate for litigation in a site-specific proceeding due to NRDC's failure to demonstrate the need for a rule waiver. We find, however, that NRDC has identified information that bears consideration in our environmental review of Exelon's application outside of the adjudicatory process.[96] Therefore, we refer NRDC's waiver petition to the Staff as additional comments[97] on the Limerick draft supplemental EIS for the Staff's consideration and response.[98]

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[94] *Cf. Vermont Yankee/Pilgrim*, CLI-07-3, 65 NRC at 21 ("Adjudicating Category 1 issues site by site based merely on a claim of 'new and significant information,' would defeat the purpose of resolving generic issues in a GEIS.").

[95] *See Marsh*, 490 U.S. at 374.

[96] We disagree with NRDC's assertion, *see* Waiver Petition at 15, that obtaining a waiver and litigating a previously-considered environmental issue is the only way to consider new and potentially significant information regarding that issue. *See* CLI-12-19, 76 NRC at 387 (noting NRDC's option to participate outside of the adjudication by submitting comments on the draft supplemental EIS); Part 51 Amendments, 61 Fed. Reg. at 28,470 (noting that the NRC will consider all comments on the draft supplemental EIS "regardless of whether the comment is directed to impacts in Category 1 or 2"). *Accord Massachusetts*, 708 F.3d at 74.

[97] *See supra* note 68.

[98] *Cf. Tennessee Valley Authority* (Watts Bar Nuclear Plant, Unit 2), CLI-10-29, 72 NRC 556, 563 (2010) (directing the Staff to consider new information regarding need for power and alternative sources of energy).

We expect that the Staff will incorporate any new SAMA-related information that it finds to be significant in the final supplemental EIS.[99]

III. CONCLUSION

For the reasons set forth above, we *review* the Board's referred ruling, and *find* that the Board erred in interpreting the purpose of the SAMA-analysis exception in 10 C.F.R. § 51.53(c)(3)(ii)(L). We *affirm* the Board's denial of NRDC's waiver petition because NRDC has not shown that the issues it seeks to litigate are unique to Limerick and thereby justify waiver of the rule to permit litigation in this adjudicatory proceeding. Without a waiver, NRDC's SAMA-related contentions impermissibly challenge section 51.53(c)(3)(ii)(L). Nevertheless, we *direct* the Staff to review the significance of any new SAMA-related information in its environmental review of Exelon's license renewal application, including the information presented in NRDC's waiver petition, and to discuss its review in the final supplemental EIS.

IT IS SO ORDERED.

For the Commission

NRC SEAL

/RA/

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 31st day of October, 2013.

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[99] *See Marsh*, 490 U.S. at 374; *Warm Springs Dam Task Force v. Gribble*, 621 F.2d 1017, 1024 (9th Cir. 1980). *See also Watts Bar*, CLI-10-29, 72 NRC at 563; Part 51 Amendments, 61 Fed. Reg. at 28,470. In the Limerick draft supplemental EIS, the Staff already has considered some new information beyond what Exelon included in its Environmental Report, including whether to incorporate potentially cost-beneficial SAMAs identified at other plants, as well as the practicality of using state-of-the-art SAMA methodology. *See* Limerick Draft SEIS at 5-7, 5-11 to 5-13.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Exelon Generation Company, LLC	)	Docket Nos. 50-352-LR and 50-353-LR
(Limerick Generating Station, Units 1 and 2)	)	
	)	ASLBP No. 12-916-04-LR-BD01
(License Renewal)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing **COMMISSION MEMORANDUM AND ORDER (CLI-13-07)** have been served upon the following persons by Electronic Information Exchange.

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Limerick Generating Station, Units 1 and 2, Docket Nos. 50-362-LR and 50-363-LR
COMMISSION MEMORANDUM AND ORDER (CLI-13-07)

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[Original signed by Herald M. Speiser]
Office of the Secretary of the Commission

Dated at Rockville, Maryland
this 31st day of October, 2013

No. 13-1311
Federal Respondents' Motion to Dismiss
For Lack of Jurisdiction

Exhibit 2

75 N.R.C. 539, 2012 WL 8453645 (N.R.C.)

****1** IN THE MATTER OF EXELON GENERATION COMPANY, LLC
(Limerick Generating Station, Units 1 and 2)

Nuclear Regulatory Commission (N.R.C.)
Atomic Safety and Licensing Board

LBP-12-8

Docket Nos. 50-352-LR, 50-353-LR
(ASLBP No. 12-916-04-LR-BD01)

April 4, 2012

***539** Before Administrative Judges: William J. Froehlich, Chairman; Dr. Michael F. Kennedy; Dr. William E. Kastenberg

In this proceeding under 10 C.F.R. Part 54 regarding the application of Exelon Generation Co., LLC, to renew the operating licenses for Limerick Generating Station, Units 1 and 2, the Licensing Board concludes that petitioner Natural Resources Defense Council (NRDC) has established standing and has proffered at one contention that is admissible in part pursuant to 10 C.F.R. § 2.309(f)(1). In accordance with 10 C.F.R. § 2.309(a), we therefore grant the request for public hearing and admit NRDC as a party to this proceeding.

RULES OF PRACTICE: STANDING TO INTERVENE

It is well established that the NRC applies "contemporaneous judicial concepts of standing." *See, e.g., Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915 (2009) (quotation omitted). In other words, "a petitioner must demonstrate that (1) it has suffered a distinct and palpable harm that constitutes injury-in-fact within the zone of ***540** interests arguably protected by the governing statute; (2) that the injury can fairly be traced to the challenged action; and (3) that the injury is likely to be redressed by a favorable decision."*Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996).

RULES OF PRACTICE: STANDING TO INTERVENE; PRESUMPTION OF GEOGRAPHIC PROXIMITY

The Commission has found that geographic proximity to a facility (i.e., living or working within 50 miles) is presumptively

sufficient to meet these traditional standing requirements in certain types of proceedings, including operating license renewal proceedings. *See Calvert Cliffs 3*, CLI-09-20, 70 NRC at 915 n. 15 (citing with approval *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 150 (2001), *aff'd on other grounds*, CLI-01-17, 54 NRC 3 (2001) (applying proximity presumption in reactor operating license renewal proceeding)). This is because a license renewal allows operation of a reactor over an additional period of time during which the reactor could be subject to the same equipment failures and personnel errors as during operations over the original period of the license. *See Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), LBP-98-33, 48 NRC 381, 385 n.1 (1998).

RULES OF PRACTICE: STANDING TO INTERVENE; ORGANIZATIONAL AND REPRESENTATIONAL STANDING

****2** When the petitioner is an organization rather than an individual (as is the case here), it must demonstrate organizational or representational standing. "An organization may base its standing on either immediate or threatened injury to its organizational interests, or to the interests of identified members. To derive standing from a member, the organization must demonstrate that the individual member has standing to participate, and has authorized the organization to represent his or her interests."*Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995) (citations omitted).

RULES OF PRACTICE: CONTENTION ADMISSIBILITY

To intervene in a proceeding, a petitioner must not only demonstrate that it has standing, but it must also put forward at least one admissible contention. 10 C.F.R. § 2.309(f)(1) requires that each proffered contention must meet all of the following requirements: (i) provide a specific statement of the issue of law or fact to be raised; (ii) provide a brief explanation of the basis for the contention; ***541** (iii) demonstrate that the issue raised is within the scope of the proceeding; (iv) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (v) provide a concise statement of the alleged facts or expert opinions that support the petitioner's position and upon which the petitioner intends to rely at hearing; and (vi) show that a genuine dispute exists on a material issue of law or fact. 10 C.F.R. §2.309(f)(1)(i)-(vi).

NEPA: ENVIRONMENTAL REPORT

NRC regulations in 10 C.F.R. § 51.53 require a license renewal application to include an Environmental Report (ER) to assist the NRC Staff in preparing its EIS. *See*10 C.F.R. § 51.53(c)(1). The ER must address both the impacts of the proposed renewal and alternatives to those impacts. *See id.* § 51.53(c)(2). Applicants are further subject to the requirements of 10 C.F.R. § 51.53(c)(3), which lists the issues that an applicant must address in the ER, as well as those that it need not address.

NEPA: ENVIRONMENTAL REPORT; NEW AND SIGNIFICANT INFORMATION

A license renewal applicant's ER is further required to consider any "new and significant" information that might alter previous environmental conclusions. 10 C.F.R. § 51.53(c)(3)(iv). NEPA requires the agency to reevaluate any prior analysis if it is presented any new and significant information which would cast doubt on a previous environmental analysis. *Marsh v. Oregon Natural Resources Council Inc.*, 490 U.S. 360, 374 (1989).

NEPA: ENVIRONMENTAL IMPACT STATEMENT; CATEGORY 1 AND CATEGORY 2 ISSUES

**3 Part 51 of 10 C.F.R. divides the environmental requirements for license renewal into Category 1 and Category 2 issues. *See*10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1. Category 1 issues are those resolved generically by the Generic Environmental Impact Statement (GEIS) and need not be addressed as part of license renewal. Category 2 issues require plant-specific review. *See*61 Fed. Reg. at 28,467; *see also*10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1 n.2. For each license renewal application, Part 51 requires that the NRC Staff prepare a plant-specific supplement to the GEIS that adopts applicable generic impact findings from the GEIS and analyzes site-specific impacts. *See*10 C.F.R. §§ 51.95(c), 51.71(d).

NEPA: ENVIRONMENTAL IMPACT STATEMENT; ANALYSIS OF SEVERE ACCIDENT MITIGATION ALTERNATIVES

NEPA requires the NRC to take a "hard look" at alternatives, including Severe Accident Mitigation Alternatives (SAMAs), and to provide a rational basis for rejecting alternatives that are cost-effective. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989)*accord Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 737 (3d Cir. 1989).

NEPA: ENVIRONMENTAL IMPACT STATEMENT; ANALYSIS OF SEVERE ACCIDENT MITIGATION ALTERNATIVES; CATEGORY 1 AND CATEGORY 2 ISSUES

NRC regulations clearly specify that the SAMA analysis is a Category 2 issue. Table B-1 of 10 C.F.R. Part 51"summarizes the Commission's findings on the scope and magnitude of environmental impacts of renewing the operating license for a nuclear power plant."10 C.F.R. Part 51, Subpart A, App. B. Acknowledging that the risks posed by severe accidents are small for all plants, Table B-1 declares that "severe accidents" are a Category 2 issue, and provides that SAMAs "must be considered for all plants that have not considered such alternatives," repeating the admonition in 10 C.F.R. § 51.53(c)(3)(ii)(L).*Id.* Part 51, Subpart A, App. B, tbl. B-1 (Postulated Accidents).

NEPA: ENVIRONMENTAL IMPACT STATEMENT; ANALYSIS OF SEVERE ACCIDENT MITIGATION ALTERNATIVES; CATEGORY 1 AND CATEGORY 2 ISSUES

We reject the proposition that 10 C.F.R. §51.53(c)(3)(ii)(L) converts the Category 2 (site-specific) issue of SAMAs into a Category 1 issue. If the Commission intended SAMAs to be a Category 1 issue for Limerick and other plants that had previously considered SAMAs or SAMDAs, it would have said so explicitly. It is, of course, within the Commission's authority to declare an issue to be Category 1 for all plants or a subset of plants. However, this Board is unaware of any provision in our governing regulations that would transform an issue listed as a Category 2 issue into a Category 1 issue absent an *explicit* statement from the Commission.

NEPA: ENVIRONMENTAL REPORT; NEW AND SIGNIFICANT INFORMATION; ANALYSIS OF SEVERE ACCIDENT MITIGATION ALTERNATIVES

**4 Determining whether information regarding SAMAs is "new" and ""significant" *543 does not involve the same analysis

as performing an entirely new SAMA analysis, as the Applicant suggests. Insofar as this contention challenges the ER's lack of consideration of new and significant information regarding potentially new, previously unanalyzed SAMAs, it is admissible.

NEPA: ENVIRONMENTAL IMPACT STATEMENT; ANALYSIS OF SEVERE ACCIDENT MITIGATION ALTERNATIVES; 10 C.F.R. §51.53(c)(3)(ii)(L)

This Board finds that the intent of the Commission in promulgating 10 C.F.R. § 51.53(c)(3)(ii)(L) is clear -- to exempt applicants from being required to submit SAMA analyses in the license renewal proceedings for Limerick, Watts Bar, and Comanche Peak.

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***544 MEMORANDUM AND ORDER**

(Ruling on Petition to Intervene and Request for Hearing)

****5** Before this Atomic Safety and Licensing Board (Board) is a petition to intervene and request for a hearing (Petition) filed by the Natural Resources Defense Council (NRDC or Petitioner).[FN1] NRDC challenges the application filed by Exelon Generation Company, LLC (Exelon or Applicant) to renew its nuclear power reactor operating licenses for the Limerick Generating Station, Units 1 and 2 (Limerick) for an additional 20 years (i.e., until October 26, 2044, for Unit 1, and June 22, 2049, for Unit 2).[FN2] Limerick is a dual-unit nuclear power facility that is located on the east bank of the Schuylkill River in Limerick Township, Montgomery County, Pennsylvania, approximately 4 river miles downriver from Pottstown, 35 river miles upriver from Philadelphia, and 49 river miles above the confluence of the Schuylkill with the Delaware River. [FN3]

NRDC has proffered four contentions. While Exelon and the NRC Staff concede that NRDC has established standing, they both assert that all of NRDC's four proposed contentions are inadmissible.

The Board finds that NRDC has established standing and has proffered at least one contention that is admissible pursuant to 10 C.F.R. § 2.309(f)(1). In accordance with 10 C.F.R. § 2.309(a), we therefore grant the request for public hearing and admit NRDC as a party to this proceeding. As limited by the Board, the adjudicatory proceeding for the admitted contention will be conducted under the procedures set forth in 10 C.F.R. Part 2, Subpart L.

I. PROCEDURAL BACKGROUND

Exelon filed its license renewal application (LRA), which included an environmental report (ER) on June 22, 2011. [FN4] A notice was published in the *Federal Register* on August 24, 2011, stating that any person whose interests may be affected by this proceeding, and who wishes to participate as a party, must file a petition for leave to intervene within 60 days of the notice (i.e., by October 24, ***545** 2011) in accordance with 10 C.F.R. § 2.309. [FN5] On September 22, 2011, NRDC requested an extension of time for filing a Petition to Intervene until November 22, 2011. [FN6] On October 17, 2011, the Secretary of the Commission granted this request. [FN7]

On November 22, 2011, NRDC timely filed its Petition, proffering four contentions. [FN8] The Petition was supported by two Declarations -- one jointly submitted by Thomas B. Cochran, Ph.D., Matthew G. McKinzie, Ph.D., and Christopher J. Weaver, Ph.D. (Joint Declaration), [FN9] and the second submitted by Christopher Paine (Paine Declaration).[FN10] Contention 1-E alleges that the Environmental Report (ER) supporting license renewal has not adequately considered new and significant information relating to severe accident mitigation alternatives (SAMAs).[FN11] Contention 2-E alleges that in relying on a Severe Accident Mitigation Design Alternatives (SAMDA) analysis from 1989, Exelon has failed to provide an adequate analysis of alternatives. [FN12] Contention 3-E alleges that Exelon is not legally entitled to claim an exemption under 10 C.F.R. § 51.53(c)(3)(ii)(L) from the requirement to conduct a SAMA analysis, and that the ER is therefore inadequate for failure to include such an analysis. [FN13] Contention 4-E claims that the ER is deficient for its failure to provide an adequate

analysis of a "no-action" alternative. [FN14]

**6 *546 On December 20, 2011, Exelon filed an answer opposing NRDC's Petition. [FN15] On December 21, 2011, the NRC Staff filed an answer opposing the Petition. [FN16] Although Exelon and the NRC Staff concede that NRDC has standing, both claim that none of NRDC's four proffered contentions is admissible. [FN17] NRDC filed a combined reply to the Exelon and the NRC Staff answers on January 6, 2012. [FN18] On January 17, 2012, Exelon and NRC Staff each filed motions to strike portions of NRDC's combined reply. [FN19] NRDC filed a brief in opposition of these motions on January 27, 2012. [FN20]

This Board heard oral argument on the petition to intervene and the motions to strike in Norristown, Pennsylvania, on February 21, 2012. [FN21]

II. STANDING

A. Standards Governing Standing

As noted above, neither Exelon nor NRC Staff has challenged NRDC's assertion that it has standing to intervene in this proceeding. [FN22] However, NRC regulations state that "the Atomic Safety and Licensing Board designated to rule on the request for hearing and/or petition for leave to intervene, will grant the request/petition if it determines that the requestor/petitioner has standing . . . and has proposed at least one admissible contention."[FN23] As such, we proceed with an independent analysis of standing despite the lack of disagreement on the subject. It is well established that the NRC applies ""contemporaneous judicial concepts of standing." [FN24] In other words, "a petitioner must demonstrate that (1) it has suffered a distinct and palpable harm that constitutes injury-in-fact within the zone of interests arguably protected by the governing statute; (2) that the injury *547 can fairly be traced to the challenged action; and (3) that the injury is likely to be redressed by a favorable decision."[FN25] The Commission has found that geographic proximity to a facility (i.e., living or working within 50 miles) is presumptively sufficient to meet these traditional standing requirements in certain types of proceedings, including operating license renewal proceedings. [FN26] This is because a license renewal allows operation of a reactor over an additional period of time during which the reactor could be subject to the same equipment failures and personnel errors as during operations over the original period of the license. [FN27]

When the petitioner is an organization rather than an individual (as is the case here), it must demonstrate organizational or representational standing.

> An organization may base its standing on either immediate or threatened injury to its organizational interests, or to the interests of identified members. To derive standing from a member, the organization must demonstrate that the individual member has standing to participate, and has authorized the organization to represent his or her interests.[FN28]

B. Ruling on Standing

**7 In its Petition, NRDC claims that it has the right to intervene "on behalf of [its] members"; [FN29] in other words, NRDC asserts representational standing. NRDC states it represents the interests of three of its members in this proceeding -- Suzanne Day, Charles W. Elliott, and William P. White. [FN30] For NRDC to be granted representational standing, one or more of its members must individually have standing, and must have authorized NRDC to represent them. [FN31]

Ms. Day, Mr. Elliott, and Mr. White have each submitted declarations indicating that they are members of NRDC, and that they live within 50 miles of *548 Limerick. [FN32] As such, each would be able to claim individual standing to intervene in this

proceeding based on the proximity presumption. In addition, each authorized NRDC to act on their behalf in this proceeding. [FN33] We therefore find that NRDC has met the elements required for representational standing.

III. CONTENTION ADMISSIBILITY

A. Standards Governing Contention Admissibility

To intervene in a proceeding, a petitioner must not only demonstrate that it has standing, but it must also put forward at least one admissible contention. Section 2.309(f)(1) of 10 C.F.R. requires that each proffered contention must meet all of the following requirements: (i) provide a specific statement of the issue of law or fact to be raised; (ii) provide a brief explanation of the basis for the contention; (iii) demonstrate that the issue raised is within the scope of the proceeding; (iv) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (v) provide a concise statement of the alleged facts or expert opinions that support the petitioner's position and upon which the petitioner intends to rely at hearing; and (vi) show that a genuine dispute exists on a material issue of law or fact. [FN34]

Although "[m]ere 'notice pleading' is insufficient" in NRC proceedings, [FN35] a petitioner need not prove its contentions at the admissibility stage, [FN36] and we do not adjudicate disputed facts at this juncture. [FN37] The Commission has recently reiterated that "contentions shall not be admitted if at the outset they are not described with reasonable specificity or are not supported by some alleged fact or facts demonstrating a genuine material dispute" with the applicant. [FN38] The factual support required to render a proposed contention admissible is "a minimal showing that material facts are in dispute."[FN39]

*549 B. Relevant Regulatory Standards

**8 The National Environmental Policy Act (NEPA) requires all federal agencies, including the NRC, to prepare an Environmental Impact Statement (EIS) for every major federal action that may significantly affect the quality of the human environment. [FN40] The issuance of a renewed operating license for a nuclear power reactor is a major federal action under NEPA. [FN41] NEPA requires the NRC to take a "hard look" at alternatives, including SAMAs, and to provide a rational basis for rejecting alternatives that are cost-effective. [FN42]

NRC regulations in 10 C.F.R. § 51.53 require a license renewal application to include an Environmental Report (ER) to assist the NRC Staff in preparing its EIS. [FN43] The ER must address both the impacts of the proposed renewal and alternatives to those impacts. [FN44] Applicants are further subject to the requirements of 10 C.F.R. § 51.53(c)(3), which lists the issues that an applicant must address in the ER, as well as those that it need not address.

In 1996, the NRC issued NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS).[FN45] The NRC also amended its environmental regulations in 10 C.F.R. Part 51 to reflect certain findings in the GEIS. [FN46] Part 51 divides the environmental requirements for license renewal into Category 1 and Category 2 issues. [FN47] Category 1 issues are those resolved generically by the GEIS and need not be addressed as part of license renewal. Category 2 issues require plant-specific review. [FN48] For each license renewal application, Part 51 requires that the NRC Staff prepare a plant-specific supplement to the GEIS that adopts applicable generic impact findings from the GEIS and analyzes site-specific impacts. [FN49]

A license renewal applicant's ER is further required to consider any "new and significant" information that might alter previous environmental conclusions. [FN50] NEPA requires the agency to reevaluate any prior analysis if it is presented any ***550** new

and significant information which would cast doubt on a previous environmental analysis. [FN51] With this background in mind, we consider the admissibility of each of NRDC's four contentions.

C. Contention 1-E

NRDC's proposed Contention 1-E reads as follows:

> Applicant's Environmental Report (§5.3) erroneously concludes that new information related to its severe accident mitigation design alternatives ("SAMDA") analysis is not significant, in violation of 10 C.F.R. § 51.53(c)(3)(iv), and thus the ER fails to present a legally sufficient analysis of severe accident mitigation alternatives. [FN52]

**9 NRDC presents two distinct but related claims in this contention. First, NRDC asserts that Exelon has considered certain new information for its significance, but that it has done so inadequately. Second, NRDC contends that Exelon has omitted other new information that NRDC believes is significant. [FN53] NRDC's argument is predicated on 10 C.F.R. § 51.53(c)(3)(iv), which requires Exelon to consider any "new and significant" information that might alter a previously conducted SAMA analysis. [FN54] While Exelon and the NRC Staff seem to concede that Exelon is required to consider new information for its significance, [FN55] both argue that NRDC may not challenge that consideration. [FN56] We consider, and ultimately reject, this argument below.

1. Litigability of New and Significant Information

Exelon makes the blanket assertion that its consideration of new and significant information is "not challengeable in [this] license renewal proceeding."[FN57] The NRC Staff agrees with this position, with the caveat that NRDC could challenge Exelon's analysis if NRDC sought a waiver from the Commission. [FN58] We first analyze this argument challenging the ""litigability" of new and significant information**551** before turning to the contention admissibility requirements of 10 C.F.R. § 2.309(f)(1).

Exelon and the NRC Staff contend that SAMAs are a "Category 1 issue," or should be treated as such, for Limerick, and as such they may not be challenged absent a waiver from the Commission. [FN59] Exelon and the NRC Staff base their position on the Commission's holding that "[a]bjudicating Category 1 issues site by site based merely on a claim of 'new and significant information,' would defeat the purpose of resolving generic issues in a GEIS."[FN60] In other words, a petitioner may not challenge in an adjudicatory proceeding an applicant's alleged failure to consider new and significant information relevant to a Category 1 issue, without seeking a waiver. The question before the Board is whether, as Exelon and the NRC Staff claim, SAMAs are a Category 1 issue for Limerick.

As an initial matter, the regulations clearly specify that the SAMA analysis is a Category 2 issue. Table B-1 of 10 C.F.R. Part 51"summarizes the Commission's findings on the scope and magnitude of environmental impacts of renewing the operating license for a nuclear power plant."[FN61] Acknowledging that the risks posed by severe accidents are small for all plants, Table B-1 declares that "severe accidents" are a Category 2 issue, and provides that SAMAs "must be considered for all plants that have not considered such alternatives." [FN62] Exelon and NRC Staff would have it that these last six words ("that have not considered such alternatives"), which repeat the admonition in 10 C.F.R. § 51.53(c)(3)(ii)(L), transform SAMAs into a Category 1 issue for Limerick. [FN63]

**10 In support of this argument, Exelon cites to rulings by two Licensing Boards in the *Vermont Yankee* and *Pilgrim* license renewal proceedings (and the affirmance of those decisions by the Commission).[FN64] In both of these proceedings, the

Attorney General of Massachusetts challenged the applicant's failure to consider new and significant information about a possible severe spent fuel pool fire. [FN65]***552** Exelon also relies on the Commission's decision in the *Turkey Point* license renewal proceeding. [FN66] There, the Commission ruled on an appeal of a Licensing Board order denying a petition to intervene that presented contentions concerning release of radiological, chemical, and herbicidal materials and storage of spent fuel. [FN67]

It is readily apparent that the *Pilgrim, Vermont Yankee*, and *Turkey Point* decisions are inapplicable to the instant proceeding. All three of these cases involved petitioners submitting contentions regarding issues -- spent fuel storage and the release of radiological, chemical, and herbicidal materials -- that Part 51 explicitly declares Category 1. [FN68] In contrast, the contention in this proceeding, challenging an analysis of new and significant information regarding SAMAs, raises a Category 2 issue. For this Board to be bound by these decisions, Exelon or the NRC Staff would need to establish that SAMAs are, indeed, Category 1 issues for Limerick. In an attempt to do just that, Exelon analogizes SAMAs for Limerick to the treatment afforded groundwater quality in license renewal proceeding environmental analyses:

> [C]onsider Section 51.53(c)(3)(ii)(D), which provides that a license renewal ER must include, "[i]f the applicant's plant is located at an inland site and utilizes cooling ponds, an assessment of the impact of the proposed action on groundwater quality."Because the South Texas and Turkey Point plants have cooling ponds in salt marshes, they are not subject to the requirements of Section 51.53(c)(3)(ii)(D). The GEIS is explicit that for these plants, "this is a Category 1 issue."[FN69]

And indeed, Table B-1 bears this out -- groundwater quality degradation for cooling ponds in salt marshes is a Category 1 issue. [FN70] But Exelon's argument merely serves to highlight the failure of its reasoning. The Commission was *explicit* in both the GEIS and Table B-1 that groundwater quality degradation for plants with cooling ponds in salt marshes was to be considered a Category 1 issue. In this case, however, Exelon requests that we find that the Commission *implicitly* intended SAMAs to be a Category 1 issue for those sites that had already performed an analysis. [FN71] We reject the proposition that 10 C.F.R. § 51.53(c)(3)(ii)(L) converts this Category 2 (site-specific) issue into a Category 1 ***553** issue. If the Commission intended SAMAs to be a Category 1 issue for Limerick and other plants that had previously considered SAMAs or SAMDAs, it would have said so *explicitly*, as it did when it found groundwater degradation to be a Category 1 issue for the South Texas and Turkey Point facilities. In addition, in *Turkey Point*, the Commission recognized that site-specific environmental issues are Category 2 issues, and made no suggestion that this was not the case for any specific plants. [FN72]

****11** It is, of course, within the Commission's authority to declare an issue to be Category 1 for all plants or a subset of plants. However, this Board is unaware of any provision in our governing regulations that would transform an issue listed as a Category 2 issue into a Category 1 issue absent an *explicit* statement from the Commission.

Exelon has expressed concern that allowing a petitioner to challenge the analysis of new and significant information relevant to the 1989 SAMDA would ""eviscerate" 10 C.F.R. § 51.53(c)(3)(ii)(L).[FN73] However, Exelon and NRC Staff concede that Exelon is required by regulation to consider new information relevant to the 1989 SAMDA for its significance. [FN74] This analysis of new and significant information is intended to help the NRC Staff in its preparation of an EIS. [FN75] Yet, at this stage of a proceeding, a petitioner must challenge the ER, which "acts as a surrogate for the EIS during the early stages of a relicensing proceeding."[FN76] Challenging the ER preserves the petitioner's right to challenge the EIS at a later stage of the proceedings. [FN77]

The Board's ruling recognizes the premise that when a petitioner identifies an omission in or a portion of an applicant's application with which it disagrees and meets the requirements of 10 C.F.R. § 2.309(f)(1), that petitioner shall be allowed to

litigate its disagreement. Accordingly, we reject that claim of Exelon and the NRC Staff that SAMAs are a Category 1 issue and hence that NRDC's challenge to Exelon's consideration of new and significant information is not litigable. There is nothing in the NRC regulations or case precedent that leads us to any other conclusion. Indeed, beyond the Commission regulations is the obligation imposed by NEPA. Regulations cannot trump statutory mandates. [FN78]**554** "NEPA requires that [the Commission] conduct [its] environmental review with the best information available today."[FN79]

Therefore, relying upon Part 51, Subpart A, Appendix B, we find that SAMAs are a Category 2 issue and are not transformed into a Category 1 issue for sites such as Limerick for which a SAMA analysis has been previously performed. Exelon has argued, though, that even if we conclude SAMAs are not a Category 1 issue for Limerick, we should still find that its analysis of new and significant information relevant to SAMAs is not litigable in this proceeding. [FN80] Exelon argues that 10 C.F.R. § 51.53(c)(2)(iii)(L) exempts Limerick from performing a SAMA, and that this regulatory exception requires that SAMAs be treated as a Category 1 issue, even if they are categorized as a Category 2 issue. [FN81] We find no regulatory basis for such a wide-ranging argument. SAMAs are listed as Category 2 issues, [FN82] and we must treat them as such.

2. Admissibility Under 10 C.F.R. § 2.309(f)(1)

**12 Our ruling that SAMAs are not a Category 1 issue for Limerick does not settle the admissibility of Contention 1-E. In order to be admitted, contentions must meet the requirements of 10 C.F.R. § 2.309(f)(1)(i)-(vi). NRDC has alleged facts and provided declarations to support the admissibility of Contention 1-E. We find that most of Contention 1-E fails to satisfy one or more of the requirements of section 2.309(f)(1), for the reasons stated below.

a. New Population Data

NRDC argues that Exelon's ER "misinterprets and/or misuses new information regarding increased population in the area within 10 miles of the plant and thus fails to account for the significant increase in total person-rems of exposure that could occur in the event of a severe accident."[FN83] NRDC continues, "This population was substantially underestimated in the 1989 SAMDA analysis upon which the Applicant continues to rely."[FN84] Moreover, NRDC makes essentially the same claims regarding Exelon's treatment of population within 50 miles of the plant. [FN85]

**555 Exelon contends first that the 1989 SAMDA is "simply not at issue in this proceeding," and therefore Contention 1-E is inadmissible as outside the scope of the proceeding insofar as it challenges that analysis. [FN86] We agree. While Exelon has pointed to the existence of the 1989 SAMDA to show that it meets a regulation exempting it from filing a new SAMA in its license renewal ER, the 1989 SAMDA is not part of the ER, nor is it incorporated by reference. [FN87] Therefore, any challenge to the 1989 SAMDA necessarily does not frame an appropriate challenge to Exelon's license renewal application because any challenge to the particulars of the 1989 SAMDA is outside the scope of this proceeding, thereby contravening 10 C.F.R. § 2.309(f)(1)(iii).[FN88]

NRDC also challenges Exelon's consideration of new post-1989 information regarding population data. NRDC argues that Exelon should have considered population estimates up to the year 2049 -- when the license for Unit 2 would expire if Exelon succeeds in renewing its operating licenses -- rather than 2030, as Exelon did in its ER. [FN89] While NRDC demonstrates that other plants have included population estimates in SAMAs up to the license expiration date, [FN90] Exelon notes that NRDC has not provided "any legal or technical support for its suggestion that population projections to the end of the license term are required."[FN91]

**13 In this, Exelon is correct, as we find no legal requirement that an applicant consider such data. However, a petitioner could succeed in raising such a contention if it demonstrated that considering such data would be material to the proceeding. [FN92] NRDC has not demonstrated how consideration of population data through 2049 would change Exelon's analysis of new and significant information. As such, this aspect of Contention 1-E lacks the support required by 10 C.F.R. § 2.309(f)(1)(v)[FN93] and seeks to raise questions that have not been shown to be material to the findings the NRC must make. [FN94] It is therefore inadmissible.

b. Other Mitigation Alternatives

Next, NRDC argues that Exelon "ignores new and significant information regarding potential mitigation alternatives that have been considered for other BWR Mark II containment reactors that were not considered in the original *556 SAMDA analysis and ignores new and significant information regarding additional plausible severe accident scenarios."[FN95]

Exelon responds that it need not consider "new" severe accident mitigation alternatives because 10 C.F.R. § 51.53(c)(3)(ii)(L) grants it an exemption from submitting a SAMA analysis in its ER. [FN96] Essentially, Exelon argues that considering new mitigation alternatives in the context of a new and significant information analysis is fundamentally the same as performing an entirely new SAMA analysis, which it argues it is not required by law to perform. [FN97]

We do not agree. Determining whether information regarding SAMAs is "new" and ""significant" does not involve the same analysis as performing an entirely new SAMA analysis, as Exelon suggests. Using a screening technique similar to the one performed in the 1989 Supplement to the Final Environmental Statement, [FN98] Exelon can determine the "significance" of new mitigation alternatives without performing a "new SAMA analysis." The NRC Staff performed such a screening in the preparation of the 1989 Supplement to the Final Environmental Statement, [FN99] and Exelon did so with regard to other new information in section 5.3 of the ER (Significance of New Information).[FN100] To the extent that this aspect of Contention 1-E is a direct challenge to the 1989 SAMDA, [FN101] it is inadmissible. But, insofar as this contention challenges the ER's lack of consideration of new and significant information regarding potentially new, previously unanalyzed SAMAs, it is admissible.

NRDC states that the Limerick ER "fails to consider more than a very narrow group of mitigation measures identified in the 1989 SAMDA analysis."[FN102] NRDC continues that the ER "ignores new and significant information regarding potential mitigation alternatives that have been considered for other BWR Mark II containment reactors that were not considered in the original SAMDA analysis."[FN103]

**14 NRDC has provided a specific statement, as well as an adequate basis, for the proffered contention. [FN104] Given that NRDC is challenging an omission in Exelon's ER of material that NRDC alleges is required to be there under *557 10 C.F.R. § 51.53(c)(3)(iv), this issue is within the scope of the proceeding. [FN105] Further, NRDC's Joint Declaration adequately demonstrates that this issue is material to the NRC's licensing decision, supported by alleged facts and expert opinion, and has raised a genuine dispute with Exelon. [FN106] NRDC's Declarant, Dr. Matthew G. McKinzie, [FN107] points out that the 1989 SAMDA considered a cost-benefit analysis for only seven mitigation alternatives. [FN108] In comparison, "the cohort of 27 U.S. BWR units at 18 sites that are undergoing license renewal reviews, or that have recently been granted license renewal, have on average considered 175 Phase I SAMA candidates and 35 Phase II SAMA candidates."[FN109] Given this information, we find that NRDC has provided adequate support under 10 C.F.R. § 2.309(f)(1)(v) for its claim that there exists new information that Exelon has not considered. NRDC has shown there are numerous new SAMA candidates which should be

evaluated for their significance.

In advancing this contention, NRDC has alleged facts and provided expert testimony that other plants seeking license renewal have considered these "new" SAMA candidates and have found certain candidates to be cost-beneficial. [FN110] NRDC has demonstrated that among recent BWR applications for license renewal, applicants have found between two and eleven SAMA candidates to be cost-beneficial or potentially cost-beneficial. [FN111] NRDC has meticulously listed which SAMA candidates these plants found to be cost-beneficial. [FN112] This suggests to us that this contention is material, as consideration of new information regarding SAMA candidates could very well lead to a conclusion that this information is significant. [FN113] Further, we find that NRDC's analysis of recently performed SAMAs at other plants provides support for its argument that the information that Exelon has failed to consider is not only new, but also significant. [FN114]

NRDC argues also that Exelon must consider "additional plausible severe accident scenarios." [FN115] Looking to NRDC's Joint Declaration, however, it is clear that NRDC is alleging that Exelon must consider information related to the ***558** March 11, 2011 events at Fukushima, Japan. [FN116] The Commission has stated, "we do not know today the full implications of the Japan events for U.S. facilities. Therefore, any generic NEPA duty -- if one were appropriate at all -- does not accrue now."[FN117] The Commission has also affirmed a Licensing Board's rejection of a contention in a license renewal proceeding based on an applicant's failure to consider alleged "new and significant information" arising from NRC's Fukushima Task Force Report. [FN118] Therefore, in the context of this proceeding, the events at Fukushima, and the ensuing NRC response, are not, at this point, to be considered "new and significant information" under NEPA. [FN119] Accordingly, we conclude that this aspect of Contention 1-E is inadmissible as beyond the scope of this proceeding. [FN120]

c. Core Damage Frequency

****15** NRDC alleges that Exelon's analysis of new and significant information is based on a flawed core damage frequency (CDF).[FN121] NRDC argues that using "historical data" to calculate CDF lead to a higher value than the "theoretical value calculated by the applicant."[FN122] Essentially, NRDC calculates core damage frequency by looking at actual core damage events that have occurred at Three Mile Island Unit 2, Greifswald Unit 5, and Fukushima Units 1, 2, and 3. [FN123] However, NRDC goes on to note that "we do not argue that any of [these] CDF estimates based on the historical evidence represent the most accurate CDFs for Limerick Units 1 and 2."[FN124]

This aspect of Contention 1-E is inadmissible. NRDC has not provided any alleged facts or expert opinion to support its position that the use of historical data is more appropriate than the plant-specific CDF calculated for Limerick. [FN125] Therefore, this aspect of Contention 1-E does not meet 10 C.F.R. § 2.309(f)(1)(v).

***559** *d. Economic Consequences*

NRDC argues that in its analysis of new and significant SAMA-related information the ER "fails to evaluate the impact of a properly conducted economic analysis on the assessment of the environmental consequences of a severe accident at Limerick" by relying on data from an analysis conducted at Three Mile Island (TMI), "a site that involves a markedly different and less economically developed area than the area within 50 miles of Limerick."[FN126] NRDC also argues that Exelon's economic analysis is inadequate because it "ignores new and significant information regarding the likely cost of cleanup from a severe accident in a metropolitan area like Philadelphia."[FN127]

Exelon responds that what NRDC has put forth is a contention of omission that is inadmissible because in its ER, Exelon "did

evaluate whether off-site economic cost risks qualified as new and significant information," by looking at data from TMI. [FN128] While NRDC argues in part that Exelon's ER "does not remedy the lack of economic risk assessment in the 1989 SAMDA,"[FN129] this aspect of Contention 1-E challenges the adequacy of Exelon's consideration of new and significant information. NRDC states, "[Exelon] commits errors in the 2011 [ER] in an effort to claim that economic risk is not significant new information."[FN130] NRDC alleges further that Exelon's use of data from TMI is inappropriate because "the ratio of economic cost risk to exposure cost risk exhibits a wide variation," and because "TMI is a Pressurized Water Reactor (PWR) rather than a BWR, with correspondingly different accident scenario source terms, and Harrisburg near TMI is [a] smaller and less urban economic center than Philadelphia near Limerick."[FN131] NRDC has also provided a table showing the ratio of economic cost risk to exposure cost for nine recently renewed BWRs. [FN132]

16 These arguments and the alleged facts discussed above support NRDC's claim that Exelon's reliance on data from TMI was inappropriate in an analysis of economic cost risk for Limerick. NRC regulations require a petitioner to provide "a concise statement of the alleged facts or expert opinions which support" its position. [FN133] NRDC has done this, as its Joint Declaration provides a set of alleged facts regarding the ratio of economic cost risk to exposure cost risk at other BWR facilities. Dr. McKinzie submitted a declaration in which he challenges ***560 the appropriateness of using TMI data to analyze economic consequences for Limerick. [FN134] NRC regulations also require a petitioner to make reference to "specific sources and documents" on which it intends to rely. [FN135] NRDC has done this, as well, as it has drawn its analysis from and cited to SAMAs performed for other BWRs seeking license renewal. [FN136] NRDC has met its burden and provided the alleged facts and expert opinion required by 10 C.F.R. § 2.309(f)(1)(v).

We find also that the other requirements of section 2.309(f)(1) are satisfied. NRDC raises a specific challenge to Exelon's use of TMI data. It provides a brief description of its basis by explaining the reasons why use of those data was inappropriate. [FN137] This constitutes a genuine dispute on a material issue because Exelon claims that its use of TMI data is appropriate [FN138] and NRDC has provided arguments to the contrary. [FN139] Lastly, we find that this aspect of Contention 1-E is within the scope of this proceeding because it challenges the adequacy of the ER. Thus, it satisfies section 2.309(f)(1)(iii).

To the extent that Contention 1-E challenges Exelon's reliance on data from TMI to evaluate the significance of economic cost risks, it is admissible. In other words, we admit the following issue for hearing: whether Exelon's use of data from TMI in its analysis provides an adequate consideration of new and significant information regarding economic cost risk. However, to the extent the contention directly challenges the contents of the 1989 SAMDA, this portion of Contention 1-E is inadmissible.

Further, in the context of this contention we find that NRDC's assertion that Exelon must consider new information regarding cleanup costs does not meet the standards in 10 C.F.R. § 2.309(f)(1). NRDC simply notes that cleanup costs in Philadelphia "could be significantly larger on a per capita basis than previously estimated."[FN140] This claim is not adequately supported, as required by 10 C.F.R. § 2.309(f)(1)(v), to warrant admission. [FN141] It contains no alleged facts or expert opinion that supports the petitioner's position. As such, Contention 1-E is denied insofar as it challenges Exelon's consideration of new and significant information regarding cleanup costs.

***561** *e. Human Environment*

**17 NRDC asserts that "[t]he ER fails to include an analysis of the impacts to the quality of the human environment."[FN142] NRDC provides as examples of such impacts, "loss of family homestead, possessions, abandonment of livestock and domestic animals, pain and suffering, including that associated with loss of one's job or possessions, and uncertainties associated with the

safety of the food supply."[FN143]

As Exelon points out, "[t]he Declarations attached to the Petition are silent on these issues."[FN144] As the Commission has directed in *Oconee*, "contentions shall not be admitted if at the outset they ... are not supported by 'some alleged fact or facts' demonstrating a genuine material dispute."[FN145] Because NRDC and its Declarations do not include any legal or technical support for this statement, we find that this aspect of Contention 1-E is inadmissible for failure to satisfy 10 C.F.R. § 2.309(f)(1)(v).[FN146]

3. Conclusion Regarding Contention 1-E

For the foregoing reasons, we admit that portion of Contention 1-E that challenges Exelon's failure to consider as part of its new and significant information analysis new severe accident mitigation alternatives not previously analyzed in the 1989 SAMDA for the facility. We also admit that portion of Contention 1-E that challenges Exelon's use of data from TMI in evaluating the significance of information regarding economic cost impacts. Contention 1-E thus is admitted, but is limited as follows:

> Applicant's Environmental Report (§ 5.3) erroneously concludes that new information related to its severe accident mitigation design alternatives ("SAMDA") analysis is not significant, in violation of 10 C.F.R. § 51.53(c)(3)(iv), and thus the ER fails to present a legally sufficient analysis in that:
>
> 1. Exelon has omitted from its ER a required analysis of new and significant information regarding potential new severe accident mitigation alternatives previously considered for other BWR Mark II Containment reactors.
> 2. Exelon's reliance on data from TMI in its analysis of the significance of new ***562** information regarding economic cost risk constitutes an inadequate analysis of new and significant information.

In all other respects, we find that Contention 1-E is inadmissible.

D. Contention 2-E

NRDC's proposed Contention 2-E reads as follows:

> Applicant's Environmental Report (§ 5.3) in relying on a SAMDA analysis from 1989 fails to comply with 10 C.F.R. §§ 51.45, 51.53(c)(2) and 51.53(c)(3)(iii) because it does not include an accurate or complete analysis of "alternatives available for reducing or avoiding adverse environmental effects," does not "contain sufficient data to aid the commission in its development of an independent analysis" of alternatives and does not contain an adequate "consideration of alternatives for reducing adverse impacts ... for all Category 2 license renewal issues."[FN147]

****18** This contention alleges that the 1989 SAMDA analysis relies on inadequate and outdated data and methodologies, and as a result, the Limerick ER "fails to provide a reliable basis for the conclusion that there are no cost-beneficial SAMAs."[FN148] NRDC alleges that the Limerick ER does not comply with 10 C.F.R. §§ 51.45, 51.53(c)(2), and 51.53(c)(3)(iii).[FN149] These sections require an applicant to provide in its ER an analysis of "alternatives to the proposed action" that is "sufficiently complete to aid the Commission in developing and exploring" its own set of alternatives [FN150] and "an analysis that considers and balances the environmental effects of the proposed action, the environmental impacts of alternatives to the proposed action, and alternatives available for reducing or avoiding adverse environmental effects."[FN151] NRDC maintains that this contention is within the scope of this proceeding because Exelon has "incorporate[d] and adopt[ed the 1989 SAMDA] as [its] analysis of alternatives to mitigate impacts of severe accidents at Limerick."[FN152]

Exelon and NRC Staff argue that this contention is not admissible. [FN153] NRC Staff asserts that "the 1989 Limerick

SAMDA Analysis, and any claimed deficiencies in that analysis, is outside the scope of this proceeding... [because] the Applicant's ***563** ER does not incorporate and adopt the 1989 Limerick SAMDA Analyses as its analysis of severe accident mitigation alternatives."[FN154] Exelon concurs that Contention 2-E is outside the scope of this proceeding, [FN155] and argues further that 10 C.F.R. § 51.53(c)(3)(ii)(L) trumps the regulations cited by NRDC in this contention. [FN156]

NRDC responds by arguing that Exelon has adopted and incorporated the 1989 SAMDA as part of its license renewal ER, [FN157] and that section 51.53(c)(3)(ii)(L) does not trump the regulations cited by NRDC. [FN158] NRDC claims that Exelon effectively adopted the 1989 SAMDA in its consideration of new information for significance in section 5.3 of its ER. [FN159]

It is not necessary to interpret section 51.53(c)(3)(ii)(L) in order to determine the admissibility of this contention. [FN160] Indeed, we find that this contention can be disposed of by looking solely to the ER.

****19** Section 4.20 of the ER, entitled "Severe Accident Mitigation Alternatives (SAMA)," states that "no analysis of SAMAs for [Limerick] is provided in this License Renewal Environmental Report as none is required as a matter of law."[FN161] Exelon relies upon the exemption provided by 10 C.F.R. § 51.53(c)(3)(ii)(L).[FN162] Section 5.3 of the ER addresses new and significant information relating to severe accident mitigation. [FN163] Throughout section 5.3 of the ER, Exelon makes reference to the 1989 SAMDA. [FN164] Because of these references, NRDC argues that Exelon has incorporated the 1989 SAMDA by reference. [FN165] This Board does not find this argument persuasive. As Exelon states in section 5.1 of the ER, it has identified new information relating to severe accident mitigation because it is required to do so by 10 C.F.R. § 51.53(c)(3)(iv), and because doing so "alert[s] NRC staff to such information, so the staff can determine whether to seek the Commission's approval to waive or suspend application of the rule with respect to the affected generic analysis."[FN166] By complying with 10 C.F.R. § 51.53(c)(3)(iv), Exelon has ***564** not submitted or resubmitted the 1989 SAMDA to the NRC Staff nor has it sought a determination by the NRC Staff that it satisfies the subsection (L) exemption. Exelon has stated that it has operated under the assumption that it need not provide a SAMA analysis with its ER -- either a new SAMA or the 1989 SAMDA.

Unlike most portions of Contention 1-E, which challenges Exelon's analysis of new and significant information, this contention is a direct attack on the 1989 SAMDA. The 1989 SAMDA is not a part of the Limerick license renewal ER. Therefore, Contention 2-E is inadmissible because NRDC has not raised a dispute with Exelon's application, contravening 10 C.F.R. § 2.309(f)(l)(vi), and because it is outside the scope of this proceeding. [FN167]

E. Contention 3-E

NRDC's proposed Contention 3-E reads as follows:

> Applicant's Environmental Report erroneously concludes that the SAMDA analysis conducted in 1989 is a SAMA analysis within the meaning of 10 C.F.R. § 51.53(c)(3)(ii)(L) and thus the ER is deficient for its failure to include a SAMA analysis. [FN168]

Section 51.53(c) sets forth requirements for environmental reports as part of license renewal. Applicants must submit "a consideration of alternatives to mitigate severe accidents."[FN169] However, this regulation provides that such consideration need only be provided "[i]f the staff has not previously considered severe accident mitigation alternatives for the applicant's plant in an environmental impact statement or related supplement or in an environmental assessment."[FN170] In other words, a license renewal applicant need not provide an analysis of SAMAs in its ER if the Staff has already considered a SAMA analysis for that

applicant's plant. NRDC argues that, while NRC Staff considered a 1989 document that it called a "SAMDA," this document was not a SAMA within the meaning of 10 C.F.R. § 51.53(c)(3)(ii)(L), and thus this exception would not apply to Exelon. [FN171]

**20 Exelon and the NRC Staff oppose admission of this contention. Exelon maintains that the Commission clearly had Limerick in mind during the *565 10 C.F.R. § 51.53(c)(3)(ii)(L) rulemaking, [FN172] and that NRDC's contention amounts to a direct challenge to this regulation. [FN173] The NRC Staff concurs in these arguments. [FN174]

A brief history of 10 C.F.R. § 51.53(c)(3)(ii)(L) would be useful at this juncture. In 1974, Philadelphia Electric Company (PECO) was granted a license to construct Limerick Units 1 and 2. [FN175] In 1981, PECO applied to the NRC for a license under 10 C.F.R. Part 50 to begin operating Unit 1. A group called Limerick Ecology Action, Inc. (LEA) intervened in that proceeding and put forward a number of contentions regarding, among other topics not relevant here, severe accident risks. [FN176] Ultimately, PECO received its operating license, and LEA appealed the licensing decision to the United States Court of Appeals for the Third Circuit. [FN177] Part of LEA's appeal was a challenge to NRC's failure to consider SAMDAs in the Limerick operating license proceeding. Among other findings, the court ruled that careful consideration of SAMDAs is required under NEPA, and that the NRC's failure to consider SAMDAs was a violation of that Act. [FN178] Thus, in August 1989, the NRC Staff issued a Supplement to the Final Environmental Statement for Limerick containing a SAMDA analysis. [FN179]

In 1996, the Commission issued a final rule amending its regulations regarding license renewal. [FN180] These amendments were intended to streamline the license renewal process by setting forth a number of generic findings that would apply to all plants. [FN181] Among these was a finding that the risk of severe accidents is small for all plants. [FN182] The amendments also included the requirement that applicants perform a SAMA analysis, unless the NRC Staff had already considered one for that plant. [FN183]

In the Statement of Consideration accompanying this rulemaking, the Commission provided further explanation of this requirement. It noted:

> [i]n response to the [Third Circuit's] decision, an NRC staff consideration of SAMDAs was specifically included in the Final Environmental Impact Statement *566 for the Limerick 1 and 2 and Comanche Peak 1 and 2 operating license reviews, and in the Watts Bar Supplemental Final Environmental Statement for an operating license. [FN184]

**21 The Commission continued:

> a site-specific consideration of severe accident mitigation alternatives is required at license renewal for those plants for which this consideration has not been performed .... NRC staff considerations of severe accident mitigation alternatives have already been completed and included in an EIS or supplemental EIS for Limerick, Comanche Peak, and Watts Bar. Therefore, severe accident mitigation alternatives need not be reconsidered for these plants for license renewal. [FN185]

Despite this language, NRDC argues that the 1989 SAMDA does not qualify for the exception referenced in the quotation above and codified in 10 C.F.R. § 51.53(c)(3)(ii)(L).[FN186]This Board finds, however, that the intent of the Commission in promulgating 10 C.F.R. § 51.53(c)(3)(ii)(L) is clear--to exempt applicants from being required to submit SAMA analyses in the license renewal proceedings for Limerick, Watts Bar, and Comanche Peak. Because subsection (L) cannot reasonably be construed any other way, Contention 3-E is not admissible for two reasons.

First, insofar as it asserts that Exelon must provide a SAMA analysis as part of its ER, Contention 3-E amounts to a direct challenge to subsection (L), and is thus outside the scope of this proceeding. Section 2.335(a) states that "no rule or regulation of the Commission ... is subject to attack ... in any adjudicatory proceeding subject to this part."[FN187] Second, while a disagreement over the proper interpretation of NRC regulations may give rise to an admissible contention, NRDC's proposed interpretation of 10 C.F.R. § 51.53(c)(3)(ii)(L) is in direct conflict with the plain meaning of the regulation and its Statement of Consideration. We therefore find that NRDC has failed to present a genuine dispute of fact or law with Exelon, as required by NRC regulations. [FN188]

For these reasons, we find that Contention 3-E is not admissible.

F. Contention 4-E

NRDC's proposed Contention 4-E reads as follows:

> ***567** Applicant's Environmental Report (§ 7.2) fails to adequately consider the no action alternative in violation of 10 C.F.R. §§ 51.45(c), 51.53(c)(2) and 51.53(c)(iii).[FN189]

NRDC alleges that "[t]he ER violates 10 C.F.R. § 51.45(c) because it omits an analysis that 'considers and balances the environmental effects of the proposed action' and the alternative of No Action."[FN190] While this sounds like it is raising a contention of omission, NRDC goes on to argue that Exelon's discussion of the no-action alternative is inadequate because it "unreasonably and arbitrarily limits its analysis of the No Action alternative in a manner that fails, 'to the fullest extent practicable, [to] quantify the various factors considered' and neglects discussion of 'important qualitative considerations or factors that cannot be quantified.'" [FN191] NRDC further argues that Exelon's ER is inadequate because it limits its discussion of the no-action alternative to "decommissioning impacts" and single-source power generation alternatives, and because it fails to consider "growth in demand side management and renewable energy sources."[FN192]

****22** Exelon and the NRC Staff argue that this contention is inadmissible. [FN193] Exelon contends first that Contention 4-E is too vague and unsupported to pass muster under the NRC's contention admissibility rules. [FN194] Moreover, Exelon states that its ER does contain the exact information that NRDC claims is missing. [FN195] The NRC Staff agrees that Contention 4-E is fatally unsupported [FN196] and that Exelon's ER sufficiently addresses the no-action alternative. [FN197]

Before proceeding, we think it appropriate to outline exactly what the no-action alternative is. As a general matter, NRC regulations require that a license renewal applicant in its ER "shall discuss... the environmental impacts of alternatives."[FN198] An ER's "discussion of alternatives shall be sufficiently complete to aid the Commission in developing and exploring" its own set of alternatives in its EIS, [FN199] and NRC regulations require an EIS to consider the "alternative of no action." [FN200] Therefore, to satisfy the requirements of 10 C.F.R. § 51.45(b)(3), an applicant must provide a discussion of the no-action alternative in its ER.

***568** But, the question remains, what is the no-action alternative? The agency's regulations appear to be silent on this matter, but NRC's GEIS discusses the issue. The GEIS states that the purpose of the no-action alternative is to enable the agency to consider "the environmental consequences of taking no action at all."[FN201] It goes on to state:

> The no-action alternative is the denial of a renewed license. In general, if a renewed license were denied, a plant would be decommissioned and other electric generating sources would be pursued if power were still needed. It is important to note

that NRC's consideration of the no-action alternative does not involve the determination of whether any power is needed or should be generated. The decision to generate power and the determination of how much power is needed are at the discretion of state and utility officials. [FN202]

In essence, the no-action alternative is an analysis of what would be reasonably likely to happen were the Commission to deny the requested license renewal.

We note that Exelon's ER contains a section entitled "No-Action Alternative." [FN203] NRDC contends that this analysis is inadequate because it does not adequately consider "expected growth in demand side management and renewable energy sources,"[FN204] fails to "quantify the various factors considered," [FN205] and omits a discussion of "important qualitative considerations or factors that cannot be quantified."[FN206] NRDC further argues that Exelon:

> ****23** improperly and illogically narrow [ed its] discussion of the No Action alternative to consideration of (1) decommissioning impacts and (2) power generation alternatives that would 'equivalently satisfy the purpose and need for the proposed action' by 'replacing the generating capacity of [Limerick]' with 'single discrete generation sources.' [FN207]

NRDC's support for this contention is the Paine Declaration. [FN208] It cites no regulations or case law that require Exelon to explore the no-action alternative in the way Contention 4-E would require. [FN209] Exelon, citing the Commission's decisions in *Hydro Resources* and *Louisiana Energy Services*, has shown that ***569** the Commission requires only a brief discussion of the no-action alternative. [FN210] The Commission has stated, "[f]or the 'no action' alternative, there need not be much discussion. It is most simply viewed as maintaining the status quo."[FN211] The Commission has also held that "[t]he extent of the 'no-action' discussion is governed by a 'rule of reason.' It is clear that the discussion 'need not be exhaustive or inordinately detailed.'" [FN212]

As noted above, Exelon discusses the no-action alternative in section 7.1 of its ER. [FN213] In this section, Exelon discusses the impacts of decommissioning and cross-references a discussion of alternative means of providing energy along with their environmental impacts. [FN214] Exelon then discusses the environmental impacts of energy sources that could replace Limerick in the event that license renewal is denied, including gas-fired generation, [FN215] coal-fired generation, [FN216] purchased power, [FN217] new nuclear generation, [FN218] wind energy, [FN219] solar energy, [FN220] a combination of wind energy, solar energy, and gas-fired combined-cycle generation, [FN221] and a combination of wind energy and compressed air energy storage. [FN222] While NRDC would like to have seen a discussion of "Demand Side Management (DSM), [FN223] waste heat cogeneration, combined heat and power, and distributed renewable energy resources,"[FN224] given the Commission's holdings that the no-action alternative discussion "need not be exhaustive," [FN225] and need only include "feasible, non-speculative alternatives," [FN226] we conclude that NRDC has provided ***570** us with no support for the notion that Exelon's analysis of the no-action alternative is unreasonable under NEPA. Contention 4-E is inadmissible because it fails to provide "a concise statement of the alleged facts or expert opinions which support the petitioner's position on the issue."[FN227]

IV. MOTIONS TO STRIKE

****24** Exelon and the NRC Staff filed motions to strike portions of NRDC's reply brief for allegedly proffering arguments beyond the scope of NRDC's initial petition and the answers. The Commission has stated, "[w]e have long held that a reply may not contain new information that was not raised in either the petition or answers, but we have not precluded arguments that respond to the petition or answers, whether they are offered in rebuttal or in support."[FN228] Exelon and the NRC Staff assert

that NRDC has raised new arguments or provided new factual support for its contentions in its reply, [FN229] while NRDC claims that it has merely responded to arguments made by either Exelon or the NRC Staff. [FN230]

Our review of the table attached to Exelon's motion to strike and NRC Staff's "List of Statements to Be Stricken or Not Considered" reveals no "entirely new arguments, references or factual claims."It appears that NRDC's reply responds to arguments raised by the NRC Staff and Exelon in their answers. This approach is permissible and consistent with the Commission's decision in *Indian Point*. [FN231]

Because we have based our decision primarily on information presented in NRDC's petition to intervene, Exelon's answer, and the NRC Staff's answer, and because we find little overreaching in NRDC's reply brief, we deny the motions to strike.

V. CONCLUSION

For the foregoing reasons, it is determined:

A. NRDC has demonstrated standing and submitted at least one admissible contention. NRDC is admitted as a party to this proceeding.

B. NRDC's Contention 1-E is admitted in part, as limited and reworded by the Board as follows:

***571** Applicant's Environmental Report (§ 5.3) erroneously concludes that new information related to its severe accident mitigation design alternatives ("SAMDA") analysis is not significant, in violation of 10 C.F.R. § 51.53(c)(3)(iv), and thus the ER fails to present a legally sufficient analysis in that:

1. Exelon has omitted from its ER a required analysis of new and significant information regarding potential new severe accident mitigation alternatives previously considered for other BWR Mark II Containment reactors.

2. Exelon's reliance on data from TMI in its analysis of the significance of new information regarding economic cost risk constitutes an inadequate analysis of new and significant information.

C. In all other respects, we find Contention 1-E is inadmissible.

D. Contentions 2-E, 3-E and 4-E are not admitted.

E. Exelon's and the NRC Staff's motions to strike are denied.

F. A Subpart L hearing is granted with respect to the above-admitted Contention 1-E.

****25** G. The Licensing Board will hold a telephone conference with the parties in which we will discuss a schedule of further proceedings in this matter.

H. This Order is subject to appeal to the Commission in accordance with the provisions of 10 C.F.R. § 2.311. Any petitions for review meeting applicable requirements set forth in that section must be filed within ten (10) days of service of this Memorandum and Order.

***572** It is so ORDERED.

THE ATOMIC SAFETY AND LICENSING BOARD

William J. Froehlich
Chairman
Administrative Judge

Dr. Michael F. Kennedy
Administrative Judge

Dr. William E. Kastenberg
Administrative Judge

Rockville, Maryland April 4, 2012

FN1. Natural Resources Defense Council Petition to Intervene and Notice of Intention to Participate (Nov. 22, 2011) [hereinafter Petition].

FN2. *See* Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing Regarding Renewal of Facility Operating License Nos. NPF-39 and NPF-85 for an Additional 20-Year Period; Exelon Generation Co., LLC, Limerick Generating Station, 76 Fed. Reg. 52,992, 52,992 (Aug. 24, 2011) [hereinafter Application Notice].

FN3. Applicant's Environmental Report -- Operating License Renewal Stage, Limerick Generating Station, Units 1 and 2, at 2-3 (June 2011) (ADAMS Accession No. ML11179A104) [hereinafter ER].

FN4. *See*Application Notice.

FN5. *Id.* at 52,993.

FN6. NRDC Request for Extension of Time for Opportunity to Request a Hearing and Petition for Leave to Intervene in the NRC's Notice of Opportunity for Hearing Regarding Renewal of Facility Operating License Nos. NPF-39 and NPF-85 for an Additional 20-Year Period (Sept. 22, 2011).

FN7. Commission Order (Granting Extension of Time) (Oct. 17, 2011) (unpublished).

FN8. *See* Petition at 16-24.

FN9. *See* Declaration of Thomas B. Cochran, Ph.D., Matthew G. McKinzie, Ph.D., and Christopher J. Weaver, Ph.D., on Behalf of the Natural Resources Defense Council (Nov. 22, 2011) [hereinafter Joint Declaration].

FN10. *See* Declaration of Christopher E. Paine of the Natural Resources Defense Council (Nov. 22, 2011) [hereinafter Paine Declaration].

FN11. Petition at 16. We use the term SAMA to refer to an additional feature or action that could prevent or mitigate the consequences of serious accidents. SAMA analysis includes consideration of (i) hardware modifications, procedure changes, and training program improvements; (ii) SAMAs that could prevent core damage as well as SAMAs that could mitigate severe accident consequences; and (iii) the full scope of potential accidents (meaning both internal and external events). In 1989, the NRC Staff performed a severe accident mitigation alternatives analysis in a Supplement to the Final Environmental Statement

which it referred to as a SAMDA analysis. *See* Final Environmental Statement Related to the Operation of Limerick Generating Station, Units 1 and 2, NUREG-0974 Supplement (Aug. 1989) (ADAMS Accession No. ML11221A204) [hereinafter 1989 SAMDA Analysis].

FN12. Petition at 19.

FN13. *Id.* at 21.

FN14. *Id.* at 23.

FN15. Exelon Answer Opposing NRDC's Petition to Intervene (Dec. 20, 2011) [hereinafter Exelon Answer].

FN16. NRC Staff's Answer to Natural Resources Defense Council's Petition to Intervene and Notice of Intention to Participate (Dec. 21, 2011) [hereinafter NRC Answer].

FN17. Exelon Answer at 1; NRC Answer at 1.

FN18. Natural Resources Defense Council ("NRDC") Combined Reply to Exelon and NRC Staff Answers to Petition to Intervene (Jan. 6, 2012) [hereinafter NRDC Reply].

FN19. Exelon's Motion to Strike Portions of NRDC's Reply (Jan. 17, 2012) [hereinafter Exelon Motion to Strike]; NRC Staff's Motion to Strike Impermissible New Claims in Natural Resources Defense Council's Reply Brief (Jan. 17, 2012) [hereinafter NRC Motion to Strike].

FN20. [NRDC] Combined Opposition to Motions to Strike (Jan. 27, 2012).

FN21. *See* Tr. at 1-269.

FN22. Exelon Answer at 1; NRC Answer at 1.

FN23. 10 C.F.R. § 2.309(a).

FN24. *See, e.g., Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915 (2009) (quotation marks omitted).

FN25. *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996).

FN26. *See Calvert Cliffs 3*, CLI-09-20, 70 NRC at 915 n. 15 (citing with approval *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 150 (2001), *aff'd on other grounds*, CLI-01-17, 54 NRC 3 (2001) (applying proximity presumption in reactor operating license renewal proceeding)).

FN27. *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), LBP-98-33, 48 NRC 381, 385 n.1 (1998).

FN28. *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995) (citations omitted).

FN29. Petition at 5.

FN30. Petition at 6; *see also* Declaration of Suzanne Day (Nov. 18, 2011) [hereinafter Day Declaration]; Declaration of Charles W. Elliott (Nov. 17, 2011) [hereinafter Elliott Declaration]; Declaration of William P. White (Nov. 16, 2011) [hereinafter White Declaration].

FN31. *Ga. Tech Research Reactor*, CLI-95-12, 42 NRC at 115.

FN32. Day Declaration at 1, 2 (stating she lives 35 miles from Limerick); Elliott Declaration at 1 (stating he lives 30 miles from Limerick); White Declaration at 1 (stating he lives 38 miles from Limerick).

FN33. Day Declaration at 4; Elliott Declaration at 5; White Declaration at 4.

FN34. 10 C.F.R. § 2.309(f)(l)(i)-(vi).

FN35. *Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003).

FN36. *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 139 (2004).

FN37. *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 426 (1973).

FN38. *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 396 (2012) (citing *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 335 (1995)).

FN39. *Gulf States Utilities Co.* (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 51 (1994) (quotation marks omitted).

FN40. *See*42 U.S.C. § 4332(2)(C).

FN41. *See New York v. NRC*, 589 F.3d 551, 553 (2d Cir. 2009).

FN42. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989)*accord Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 737 (3d Cir. 1989).

FN43. *See*10 C.F.R. § 51.53(c)(1).

FN44. *See id.* § 51.53(c)(2).

FN45. Generic Environmental Impact Statement for License Renewal of Nuclear Plants, NUREG-1437, Vol. 1 (May 1996) (ADAMS Accession No. ML040690705) [hereinafter GEIS].

FN46. *See*Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467 (June 5, 1996).

FN47. *See*10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1.

FN48. *See*61 Fed. Reg. at 28,467; *see also*10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1 n.2.

FN49. *See*10 C.F.R. §§ 51.95(c), 51.71(d).

FN50. *Id.*§ 51.53(c)(3)(iv).

FN51. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989).

FN52. Petition at 16.

FN53. *See id.* at 16-17.

FN54. *Id.* at 3; 10 C.F.R. § 51.53(c)(3)(iv).

FN55. *See* Exelon Answer at 26; NRC Staff Answer at 16.

FN56. *See* Exelon Answer at 26-27; NRC Staff Answer at 16-17.

FN57. Tr. at 43-44.

FN58. *Id.* at 52.

FN59. *See* Exelon Answer at 27; NRC Staff Answer at 16-17.

FN60. *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 21 (2007).

FN61. 10 C.F.R. Part 51, Subpart A, App. B.

FN62. *Id.*Part 51, Subpart A, App. B, tbl. B-1 (Postulated Accidents).

FN63. Exelon Answer at 28; NRC Answer at 16.

FN64. *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257 (2006); *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131 (2006); *Vt. Yankee*, CLI-07-3, 65 NRC 13. We note also that Exelon relies on a decision of the United States Court of Appeals for the First Circuit upholding the Commission's decision in these proceedings. *See Massachusetts v. United States*, 522 F.3d 115 (1st Cir. 2008). While we ultimately find this line of decisions inapplicable to the proceedings now before the Board for reasons explained below, it is also worth noting that Limerick is located within the Third Circuit, and as such, decisions of the First Circuit Court of Appeals have no binding authority in this proceeding.

FN65. *Pilgrim*, LBP-06-23, 64 NRC at 280; *Vt. Yankee*, LBP-06-20, 64 NRC at 152.

FN66. *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3 (2001).

FN67. *Id.* at 5-6.

FN68. *See*10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1.

FN69. Exelon Answer at 28 (citations omitted).

FN70. 10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1 (Ground-water Use and Quality); *see* GEIS at 4-122.

FN71. *See* Exelon Answer at 33.

FN72. *Turkey Point*, CLI-01-17, 54 NRC at 11.

FN73. Exelon Answer at 26; Tr. at 48, 106.

FN74. *See* Tr. at 46, 50-51; ER at 5-4; NRC Staff Answer at 16.

FN75. *See* ER at 5-2; Tr. at 51.

FN76. *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), LBP-08-26, 68 NRC 905, 931 (2008).

FN77. *See Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), LBP-09-10, 70 NRC 51, 88 (2009), *aff'd in part and rev'd in part on other grounds*, CLI-10-2, 71 NRC 27 (2010).

FN78. *See Ramadan v. Chase Manhattan Corp.*, 229 F.3d 194, 201 (3d Cir. 2000).

FN79. *Luminant Energy Co. LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4), CLI-12-7, 75 NRC 379, 391-92 (2012).

FN80. *See* Exelon Answer at 33; Tr. at 48.

FN81. *See* Tr. at 48.

FN82. 10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1 (Postulated Accidents).

FN83. Petition at 16.

FN84. *Id.*

FN85. *See id.* at 17.

FN86. Exelon Answer at 36.

FN87. *Id.*

FN88. 10 C.F.R. § 2.309(f)(1)(iii).

FN89. Joint Declaration ¶27.

FN90. *Id.*

FN91. Exelon Answer at 37.

FN92. *See*10 C.F.R. § 2.309(f)(1)(iv).

FN93. *Id.* § 2.309(f)(1)(v).

FN94. *Id.* § 2.309(f)(1)(iv).

FN95. Petition at 17.

FN96. We consider Exelon's arguments regarding subsection (L) in depth in our analysis of Contention 3-E, below. *See infra* pp. 564-66.

FN97. *See* Tr. at 106.

FN98. *See* 1989 SAMDA Analysis at v.

FN99. *Id.*

FN100. *See* ER at 5-7 to 5-9.

FN101. *See, e.g.*, Joint Declaration ¶¶ 7, 8.

FN102. Petition at 17.

FN103. *Id.*

FN104. 10 C.F.R § 2.309(f)(1)(i)-(ii).

FN105. *Id.* § 2.309(f)(1)(iii).

FN106. *Id.* § 2.309(f)(1)(iv)-(vi).

FN107. Exelon and the NRC Staff have not challenged the bona fides of Dr. McKinzie, who received a Ph.D. in Physics from the University of Pennsylvania and a B.A. in Physics from Bard College. Joint Declaration, Attachment B, Curriculum Vitae for Matthew G. McKinzie.

FN108. Joint Declaration ¶ 7.

FN109. *Id.* ¶9.

FN110. *See id.* ¶ 13.

FN111. *Id.*

FN112. *Id.*

FN113. 10 C.F.R. § 2.309(f)(1)(iv).

FN114. *Id.* §2.309(f)(1)(v).

FN115. Petition at 17.

FN116. *See* Joint Declaration ¶¶ 16-17.

FN117. *Union Electric Co.* (Callaway Plant, Unit 2), CLM 1-5, 74 NRC 141, 167 (2011).

FN118. *Comanche Peak*, CLI-12-7, 75 NRC at 392.

FN119. *Callaway*, CLM 1-5, 74 NRC at 167.

FN120. 10 C.F.R. § 2.309(f)(1)(iii).

FN121. Petition at 18.

FN122. Joint Declaration ¶¶ 19-20.

FN123. *Id.* ¶ 19.

FN124. *Id.* ¶ 21.

FN125. Indeed, NRDC has admitted that a CDF calculated with these historical data is likely inaccurate. Joint Declaration ¶ 21.

FN126. Petition at 18.

FN127. *Id.*

FN128. Exelon Answer at 48; *see* ER at 5-8.

FN129. Joint Declaration ¶ 32.

FN130. *Id.*

FN131. *Id.* ¶ 33.

FN132. *Id.* ¶ 34.

FN133. 10 C.F.R. § 2.309(f)(1)(v).

FN134. Joint Declaration ¶¶ 32-34.

FN135. 10 C.F.R. § 2.309(f)(1)(v).

FN136. Joint Declaration ¶ 34.

FN137. 10 C.F.R. § 2.309(f)(1)(i)-(ii); Joint Declaration ¶ 33.

FN138. Exelon Answer at 48.

FN139. 10 C.F.R. § 2.309(f)(1)(iv), (vi); Joint Declaration ¶ 33.

FN140. Joint Declaration ¶ 39.

FN141. *See*10 C.F.R. § 2.309(f)(1)(v).

FN142. Petition at 19.

FN143. *Id.*

FN144. Exelon Answer at 50.

FN145. *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334 (1999); *see also NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 307 (2012).

FN146. 10 C.F.R. § 2.309(f)(1)(v).

FN147. Petition at 19.

FN148. *Id.* at 21.

FN149. *Id.* at 19-21.

FN150. 10 C.F.R. § 51.45(b)(3).

FN151. *Id.* § 51.45(c).

FN152. Petition at 19 n.6.

FN153. *See* Exelon Answer at 50-56; NRC Staff Answer at 19-20.

FN154. NRC Staff Answer at 19.

FN155. Exelon Answer at 52.

FN156. *Id.* at 51.

FN157. Petition at 19 n.6.

FN158. *See* Tr. at 139.

FN159. Petition at 19 n.6; *see also* ER at 5-4 to 5-9.

FN160. Contention 3-E presents this issue more clearly, so we withhold judgment at this juncture on the proper interpretation of subsection (L).

FN161. ER at 4-49.

FN162. *Id.*

FN163. *Id.* at 5-4 to 5-9.

FN164. *Id.*

FN165. Petition at 19 n.6.

FN166. ER at 5-2.

FN167. 10 C.F.R. § 2.309(f)(1)(iii), (vi).

FN168. Petition at 21.

FN169. 10 C.F.R. § 51.53(c)(3)(ii)(L).

FN170. *Id.*

FN171. *See* Petition at 21-22; *see also* Tr. at 19, 126.

FN172. Exelon Answer at 18-19.

FN173. *Id.* at 19-20.

FN174. NRC Staff Answer at 32, 34.

FN175. PECO became a part of Exelon Corporation in 2000.

FN176. *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), LBP-84-31, 20 NRC 446, 550-72 (1984).

FN177. *See Limerick Ecology Action*, 869 F.2d 719.

FN178. *Id.* at 741.

FN179. *See* 1989 SAMDA Analysis.

FN180. *See*Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467 (June 5, 1996).

FN181. *Id.* at 28, 467-68.

FN182. *See*10 C.F.R. Part 51, Subpart A, App. B, Tbl. B-1 (Postulated Accidents).

FN183. *Id.*

FN184. 61 Fed. Reg. at 28,481.

FN185. *Id.*

FN186. Petition at 21-22.

FN187. 10 C.F.R. § 2.335(a).

FN188. *See id.*§ 2.309(f)(1)(vi).

FN189. Petition at 23.

FN190. *Id.*

FN191. *Id.*

FN192. *Id.* at 23-24.

FN193. Exelon Answer at 57-70; NRC Staff Answer at 40-53.

FN194. Exelon Answer at 61.

FN195. *Id.* at 62.

FN196. NRC Staff Answer at 45-51.

FN197. *Id.* at 46.

FN198. 10 C.F.R. § 51.53(c)(2).

FN199. *Id.*§ 51.45(b)(3).

FN200. *Id.*Part 51, Subpart A, App. A.

FN201. GEIS at 8-1.

FN202. *Id.*

FN203. ER at 7-3.

FN204. Petition at 24.

FN205. *Id.* at 23.

FN206. *Id.*

FN207. *Id.* at 23-24, *quoting* Paine Declaration ¶¶ 5-7.

FN208. *See generally* Paine Declaration.

FN209. *See* Exelon Answer at 60; NRC Staff Answer at 46.

FN210. *See* Exelon Answer at 59 n.298.

FN211. *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 54 (2001) (citations omit-

ted).

FN212. *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 97 (1998) (citations omitted).

FN213. *See* ER at 7-3.

FN214. *Id.*; *see also* ER § 7.2.2.

FN215. *Id.* § 7.2.2.1.

FN216. *Id.* § 7.2.2.2.

FN217. *Id.* § 7.2.2.3.

FN218. *Id.* § 7.2.2.4.

FN219. *Id.* § 7.2.2.5.

FN220. *Id.* § 7.2.2.6.

FN221. *Id.* § 7.2.2.7.

FN222. *Id.* § 7.2.2.8.

FN223. We note that the ER does discuss DSM and determines that it is not a reasonable alternative. *See* ER at 7-16. Exelon noted at oral argument that it cross-referenced the impacts of DSM into its analysis of the no-action alternative. *See* Tr. at 180.

FN224. Paine Declaration ¶ 7.

FN225. *Claiborne*, CLI-98-3, 47 NRC at 97.

FN226. *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-91-2, 33 NRC 61, 71 (1991) (quoting *Piedmont Heights Social Club, Inc. v. Moreland*, 637 F.2d 430, 436 (5th Cir. 1981)).

FN227. 10 C.F.R. § 2.309(f)(1)(v).

FN228. *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-11-14, 74 NRC 801, 809 (2011).

FN229. Exelon Motion to Strike at 2; NRC Motion to Strike at 1-2.

FN230. [NRDC] Combined Opposition to Motions to Strike at 2.

FN231. *Indian Point*, CLI-11-14, 74 NRC at 809.

75 N.R.C. 539, 2012 WL 8453645 (N.R.C.)

END OF DOCUMENT

No. 13-1311
Federal Respondents' Motion to Dismiss
For Lack of Jurisdiction

Exhibit 3

76 N.R.C. 377, 2012 WL 8747056 (N.R.C.)

**1 IN THE MATTER OF EXELON GENERATION COMPANY, LLC
(Limerick Generating Station, Units 1 and 2)

Nuclear Regulatory Commission (N.R.C.)

CLI-12-19

Docket Nos. 50-352-LR, 50-353-LR

October 23, 2012

*377 COMMISSIONERS: Allison M. Macfarlane, Chairman; Kristine L. Svinicki; George Apostolakis; William D. Magwood, IV; William C. Ostendorff

RULES OF PRACTICE: APPEALS

The Commission's rules of practice provide an appeal as of right on the question whether a hearing request should have been wholly denied.

STANDARD OF REVIEW: ADMISSIBILITY OF CONTENTIONS

The Commission generally defers to board contention admissibility rulings in the absence of an error of law or abuse of discretion.

HEARING REQUESTS

In order to grant a hearing request, a board must find that the petitioner has standing and has proposed at least one admissible contention.

WAIVER OF RULE

Section 2.335(a) provides that a contention may not challenge an agency rule or regulation in any adjudicatory pro-

ceeding absent a waiver from the Commission; subsections (b) through (d) set forth the procedure for obtaining a waiver.

LICENSE RENEWAL APPLICATIONS: SEVERE ACCIDENT MITIGATION ALTERNATIVES ANALYSIS

Section 51.53(c)(3)(ii)(L) requires a license renewal applicant's environmental report to include a consideration of alternatives to mitigate severe accidents if the Staff has not previously considered them for the applicant's plant in an environmental impact statement or related supplement or in an environmental assessment.

WAIVER OF RULE

As in any case where the viability of an existing rule is questioned in an adjudication, the Commission's waiver provision in section 2.335(b) provides an avenue for a petitioner who seeks to litigate a contention in an adjudicatory proceeding that otherwise would be outside the permissible scope of the proceeding. Section 2.335(b) requires a showing of "special circumstances" demonstrating that application of the rule would not serve the purpose for which it was adopted.

MEMORANDUM AND ORDER

Exelon Generation Company, LLC (Exelon) and the NRC Staff have appealed the Atomic Safety and Licensing Board's decision in LBP-12-8, [FN1] which granted the Natural Resources Defense Council's (NRDC) request for hearing. [FN2] For the reasons set forth below, we reverse the Board's decision. However, we remand the proceeding to the Board for the limited purpose of considering a waiver petition in accordance with 10 C.F.R. § 2.335(b) through (d), which NRDC may submit by Tuesday, November 27, 2012.

***379 I. BACKGROUND**

In response to a notice of opportunity for hearing, [FN3] NRDC filed a request for hearing and petition to intervene in this license renewal proceeding, submitting four proposed contentions. [FN4] Although Exelon and the Staff did not challenge NRDC's standing, they argued that NRDC had not submitted an admissible contention, and therefore opposed the hearing request. [FN5] In LBP-12-8, the Board admitted a narrowed version of Contention 1-E, which asserts that Exelon's Environmental Report both fails to consider, and inappropriately rejects as in-significant, new and significant information that calls into question the adequacy of the 1989 severe accident mitigation design alternatives (SAMDA) analysis that the Staff completed in support of its approval of Limerick's initial operating licenses. [FN6] The Board dismissed the remaining portions of Contention 1-E, as well as Contentions 2-E and 3-E, which raise similar challenges to the 1989 SAMDA analysis. [FN7]

****2** On appeal, Exelon and the Staff ask us to reverse the Board's admission of Contention 1-E, which would result in the denial of NRDC's hearing request. NRDC opposes the appeals. [FN8]

II. DISCUSSION

Our rules of practice provide an appeal as of right on the question whether -- as relevant here -- a hearing request should have been "wholly denied." [FN9] We generally defer to board contention admissibility rulings in the absence of an error ***380** of law or abuse of discretion. [FN10] We apply this standard of review today in ruling on Exelon's and the Staff's appeals.

In order to grant a hearing request, a board must find that the petitioner has standing and has proposed at least one admissible contention. [FN11] NRDC's standing is not before us on appeal, and we do not address it. However, as discussed below, this case presents a difficult question on the issue of contention admissibility, whose resolution depends on the interplay between two provisions of our license renewal regulations. We ultimately find that the Board erred in admitting Contention 1-E.

Our Part 2 rules of practice govern the admissibility of contentions. Relevant here, section 2.335(a) provides that a contention may not challenge an agency rule or regulation in any adjudicatory proceeding absent a waiver from the Commission; subsections (b) through (d) set forth the procedure for obtaining a waiver. [FN12] At bottom, the parties disagree over whether Contention 1-E impermissibly challenges 10 C.F.R. § 51.53(c)(3)(ii)(L), which requires a license renewal applicant's environmental report to include a consideration of alternatives to mitigate severe accidents "[i]f the staff has not previously considered [them] for the applicant's plant in an environmental impact statement or related supplement or in an environmental assessment."[FN13]

A. Relevant History

In 1989, the Staff conducted a SAMDA analysis as part of its review of Limerick's operating license application, in response to a remand from a decision by the U.S. Court of Appeals for the Third Circuit the same year. [FN14] The court had invalidated a Commission policy statement that would have precluded the consideration of SAMDAs at the operating license stage. It found that the policy statement was not a sufficient vehicle to preclude the consideration of SAMDAs, and held that the Commission must take the requisite ""hard look" at SAMDAs, ***381** giving them "'the careful consideration and disclosure required by [the National Environmental Policy Act (NEPA)].'" [FN15]

****3** Later, as part of our 1996 rulemaking to amend Part 51, we decided to address severe accident mitigation on a site-specific basis. [FN16] With the goal of increasing efficiency in our review of license renewal applications, the Part 51 amendments codified impact findings for certain "Category 1" environmental issues that generically apply to all plants or a subset of plants. [FN17] The environmental analysis of Category 1 issues is contained in our Generic Environmental Impact Statement for License Renewal (GEIS).[FN18] For other environmental issues, or "Category 2" issues, we require individual applicants to include a site-specific environmental analysis in their license renewal applications. [FN19] We designated severe accident mitigation alternatives (SAMA) analysis as a "Category 2" issue. [FN20] However, we provided an exception in section 51.53(c)(ii)(3)(L) for plants for which the Staff already had conducted a severe accident mitigation analysis (which at that time included Limerick Units 1 and 2, Comanche Peak Units 1 and 2, and Watts Bar Unit 1), stating that "severe accident mitigation alternatives need not be reconsidered for these plants for license renewal."[FN21] At the same time, we recognized in promulgating the Part 51 amendments that, consistent with our obligations under NEPA, we must "review and consider any new and ***382** significant information presented during the review of individual license renewal applications."[FN22] To aid us in this endeavor,

we added a requirement that license renewal applicants include in their environmental reports any new and significant information of which they are aware. [FN23]

Because the Staff already considered SAMAs (albeit SAMDAs, or mitigation alternatives relating to the plant's design) as part of its review of the Limerick operating licenses, Exelon and the Staff both argue that NRDC's attempt to litigate SAMA-related issues now presents an improper challenge to section 51.53(c)(3)(ii)(L).[FN24] NRDC, on the other hand, argues that these issues may be challenged in this license renewal proceeding despite the exception in section 51.53(c)(3)(ii)(L), because 10 C.F.R. § 51.53(c)(3)(iv), a subsection of the same regulation, requires Exelon to include in its environmental report any new and significant information. [FN25] NRDC asserts that Contention 1-E permissibly challenges the adequacy of the new information relating to severe accident mitigation that Exelon identified in its Environmental Report. [FN26]

B. Analysis of the Board's Ruling

****4** Contention 1-E, as originally proposed, described several areas of purportedly new and significant information that, according to NRDC, Exelon either failed to consider or improperly dismissed as insignificant. [FN27] The Board rejected all but ***383** two. [FN28] As admitted, Contention 1-E asserts that Exelon's Environmental Report is deficient because it: (1) fails to include new and significant information regarding potential mitigation alternatives that have been considered for other boiling water reactors with Mark II containments; and (2) incorrectly dismisses new economic cost risk data as insignificant because Exelon relies on data from Three Mile Island -- a pressurized water reactor. [FN29] Specifically, NRDC concludes that if Exelon were to consider this information, "individually and especially in combination," it "would plausibly cause a materially different result in the SAMA analysis for Limerick and render the [1989] SAMDA analysis upon which Exelon relies incomplete."[FN30]

In ruling on the contention's admissibility, the Board distinguished between challenges to the 1989 SAMDA analysis -- which, the Board reasoned, were impermissible based on section 51.53(c)(3)(ii)(L) -- and challenges to the new and significant information in Exelon's Environmental Report based on section 51.53(c)(3)(iv).[FN31] The Board thus admitted those portions of Contention 1-E that it found to be proper challenges to the new and significant information in Exelon's Environmental Report, but rejected the portions that it found to be improper challenges to the 1989 SAMDA analysis. In doing so, the Board reasoned that the requirement to include new and significant information essentially trumps the codified exception that certain plants, like Limerick, for which the Staff already had considered mitigation alternatives under NEPA, need not include another SAMA analysis in their environmental reports. [FN32] Accordingly, for the admitted portions of Contention 1-E that claim the existence of new and significant information, the Board held that NRDC was not required to submit a petition for waiver or satisfy the waiver criteria in section 2.335(b).[FN33]

On appeal, Exelon and the Staff urge us to apply precedent from the *Vermont Yankee* and *Pilgrim* license renewal proceedings. [FN34] In those cases, we resolved a similar issue concerning the interplay between two subsections of 51.53(c)(3) and, particularly, whether purported new and significant information could be litigated ***384** in an adjudicatory proceeding absent a waiver. [FN35] The contention in *Vermont Yankee* and *Pilgrim*[FN36] involved a challenge to a "Category 1" environmental issue, meaning that the Staff had considered the underlying issue in the GEIS and determined that licensees of all plants, or a subset of plants, need not consider the issue anew in their license renewal applications. [FN37] There, the petitioner argued that new and significant information rendered the GEIS

analysis of the environmental impacts of spent fuel pool storage inadequate, and asserted that the applicants therefore were required to discuss the issue in their environmental reports. [FN38]

**5 We upheld the *Vermont Yankee* and *Pilgrim* Boards' rejection of the contention as an improper challenge to 10 C.F.R. § 51.53(c)(3)(i).[FN39] We found that the new and significant information requirement in 10 C.F.R. §51.53(c)(3)(iv) did not override, for the purposes of litigating the issues in an adjudicatory proceeding, the exclusion of Category 1 issues in 10 C.F.R. §51.53(c)(3)(i) from site-specific review. [FN40] As we explained, "[a]djudicating Category 1 issues site by site based merely on a claim of 'new and significant information,' would defeat the purpose of resolving generic issues in a GEIS."[FN41] Therefore, we determined that a waiver was required to litigate any new and significant information relating to a Category 1 issue. [FN42] Because the petitioner had not requested a waiver, we affirmed the Boards' rejection of the contention. [FN43]

Although the Board in this proceeding took our decision in *Vermont Yankee* and *Pilgrim* into account, the Board distinguished that decision from the circumstances presented here. [FN44] The Board placed particular emphasis on the fact that the *Vermont Yankee/Pilgrim* decision involved litigation of an issue that Part 51 (which codifies the GEIS findings) "explicitly declares [to be] Category 1," thereby excluding it **385 from case-by-case litigation. [FN45] Observing that Contention 1-E raises issues related to mitigation of severe accidents -- a site-specific, Category 2 issue -- the Board determined that the *Vermont Yankee/Pilgrim* decision could not be applied to preclude NRDC's attempt to litigate a SAMA issue unless Exelon or the Staff "establish [ed] that SAMAs are ... Category 1 issues for Limerick."[FN46]

The Board was not persuaded, however, by Exelon's and the Staff's arguments that the provision in section 51.53(c)(3)(ii)(L) that exempts Exelon from preparing a fresh SAMA analysis for Limerick is the functional equivalent of a Category 1 issue. The Board noted that for another Category 2 issue -- the environmental impacts of groundwater quality degradation at plants with cooling ponds at inland sites -- the GEIS and Part 51 expressly label groundwater quality degradation Category 1 for plants with cooling ponds in salt marshes. [FN47] Based on this example, the Board reasoned that the absence of such an express Category 1 designation for plants falling within the 51.53(c)(3)(ii)(L) exception implies that we did not intend the same "Category 1" treatment for Limerick or similarly exempt plants. [FN48] As the Board explained, "[i]f the Commission intended SAMAs to be a Category 1 issue[,] ... it would have said so explicitly."[FN49] Thus the Board concluded that NRDC may litigate its SAMA contention without a waiver, notwithstanding the fact that section 51.53(c)(3)(ii)(L) exempts Exelon from having to include a discussion of SAMAs in its Environmental Report for the Limerick license renewal application. [FN50]

**6 At first blush, the Board's analysis highlights a potential ambiguity in our regulations. On the one hand, Exelon is permitted, by rule, not to prepare a site-specific supplemental SAMA analysis in conjunction with the Limerick license renewal application. On the other hand, our rules also provide that the license renewal application must contain any significant new information relevant to the environmental impacts of license renewal of which the applicant is aware; new information, as a general matter, may be challenged in individual adjudications. [FN51] Confronted with this apparent ambiguity, the Board reconciled the provisions by allowing NRDC to litigate SAMAs in this proceeding without a waiver. But after careful analysis of the regulatory history underlying this question, we find that **386 the rules are better interpreted to require a waiver in the circumstances presented here.

We agree with Exelon and the Staff that our decision in the *Vermont Yankee* and *Pilgrim* proceedings is analogous to the question before us today. As the Board observed, *Vermont Yankee/Pilgrim* arguably is distinguishable because it involved a "Category 1" generic issue, whereas SAMAs are designated as ""Category 2" site-specific issues. However, our decision in *Vermont Yankee/Pilgrim* fundamentally was predicated on the fact that the contention amounted to a challenge to an NRC regulation, contrary to section 2.335(a).[FN52] Similarly, Contention 1-E, reduced to its simplest terms, amounts to a challenge to section 51.53(c)(3)(ii)(L). The assumption underlying Contention 1-E is that Exelon's 1989 SAMDA analysis is out-of-date, which Exelon then must remedy in its Environmental Report, even though this is something that section 51.53(c)(3)(ii)(L) otherwise exempts Exelon from having to do.

For Limerick and similarly situated plants for which SAMAs were already considered in an Environmental Impact Statement or Environmental Assessment, the SAMA issue has been resolved by rule. Indeed, Limerick is specifically named in the Statement of Considerations as a plant for which SAMAs "need not be reconsidered . . . for license renewal."[FN53] Consequently, the exception in section 51.53(c)(3)(ii)(L) operates as the functional equivalent of a Category 1 issue, removing SAMAs from litigation in this, as well as certain other, case-by-case license renewal adjudications.

At the same time, however, Exelon has put forward in its license renewal application new information regarding its SAMDA analysis. Exelon claims that this information -- which it argues reinforces the validity of its existing SAMDA analysis -- may not be challenged in this adjudication, given that no further analysis is permitted by rule. For its part, NRDC finds insufficient the information provided by Exelon, and therefore seeks to challenge the validity of the decades-old SAMDA analysis. To date, we have not been presented with precisely this factual scenario. In our view, NRDC may challenge the adequacy of the new information provided in the Limerick Environmental Report. However, based on the circumstances present here and given that our rules expressly provide that a supplemental SAMA analysis need not be performed in this case, the proper procedural avenue for NRDC to raise its concerns is to seek a waiver of the relevant provision in section 51.53(c)(3)(ii)(L).[FN54]

****7 *387** As in any case where the viability of an existing rule is questioned in an adjudication, our waiver provision in section 2.335(b) provides an avenue for a petitioner who seeks to litigate a contention in an adjudicatory proceeding that otherwise would be outside the permissible scope of the proceeding. Section 2.335(b) requires a showing of "special circumstances" demonstrating that application of the rule -- here, the exception in section 51.53(c)(3)(ii)(L) -- would not serve the purpose for which it was adopted. [FN55] Alternatively, the petitioner may seek rulemaking to rescind the exception in section 51.53(c)(3)(ii)(L), in accordance with 10 C.F.R. § 2.802. [FN56] And of course, a petitioner always has the option to participate outside of the adjudication by submitting comments on the Staff's draft SEIS. [FN57] For the reasons discussed above, we find that, in the absence of a waiver, the Board erred in admitting Contention 1-E.

***388** That said, however, the circumstances presented here lead us to remand the proceeding to the Board for the limited purpose of permitting NRDC an opportunity to petition for waiver of section 51.53(c)(3)(ii)(L) as it applies to the Limerick SAMDA analysis. We include in the remand Contentions 1-E, 2-E, and 3-E, to the extent the Board dismissed them as challenges to the rule. [FN58]

Ordinarily, our review of the Board's dismissal of Contentions 2-E and 3-E would await the end of the case. [FN59]

But the very analysis that we reverse today runs throughout these claims as well. [FN60] We find that it would be inefficient to wait until the Board's final decision in this matter only to reach the same result.

In view of this ruling, we do not consider Exelon's or the Staff's remaining challenges to the Board's application of the general contention admissibility factors in 10 C.F.R. § 2.309(f)(1) -- either Exelon's argument that NRDC's economic cost risk claim does not raise a genuine dispute with the application, [FN61] or the Staff's arguments that NRDC has not raised an issue material to the findings the NRC must make to support its decision on the application. [FN62] Until the waiver question has been decided, we dismiss these portions of Exelon's and the Staff's appeals without prejudice. Exelon and the Staff may renew their arguments following the decision on any waiver petition that may be filed by NRDC.

III. CONCLUSION

****8** Contention 1-E, as admitted by the Board, amounts to an impermissible ***389** collateral attack on our regulations. We therefore find that the Board erred in admitting the contention in the absence of a waiver, and we *reverse* the Board's decision granting NRDC's intervention petition. For the reasons discussed above, we *remand* the proceeding to the Board for the limited purpose of considering a waiver petition in accordance with section 2.335(b) through (d), which NRDC may submit by Tuesday, November 27, 2012.

IT IS SO ORDERED.

For the Commission

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland, this 23d day of October 2012.

[FN1]. Exelon's Notice of Appeal of LBP-12-08 (Apr. 16, 2012) (Exelon Notice of Appeal); Exelon's Brief in Support of the Appeal of LBP-12-08 (Apr. 16, 2012) (Exelon Appeal); NRC Staff's Notice of Appeal of LBP-12-08 (Apr. 16, 2012); NRC Staff's Appeal of LBP-12-08 (Apr. 16, 2012) (NRC Staff Appeal).

[FN2]. LBP-12-8, 75 NRC 539 (2012).

[FN3]. Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing Regarding Renewal of Facility Operating License Nos. NPF-39 and NPF-85 for an Additional 20-Year Period; Exelon Generation Company, LLC, Limerick Generating Station, 76 Fed. Reg. 52,992 (Aug. 24, 2011).

[FN4]. Natural Resources Defense Council Petition to Intervene and Notice of Intention to Participate (Nov. 22, 2011) (Hearing Request). The Secretary of the Commission extended the time for NRDC to submit its hearing request until November 22, 2011. Order (Oct. 17, 2011) at 2 (unpublished).

[FN5]. *See* Exelon's Answer Opposing NRDC's Petition to Intervene (Dec. 20, 2011) at 1 (Exelon Answer to Hearing Request); NRC Staffs Answer to Natural Resource[s] Defense Council Petition to Intervene and Notice of Intention to Participate (Dec. 21, 2011) at 1.

[FN6]. *See generally* NUREG-0974, "Final Environmental Statement Related to the Operation of Limerick Generating Station, Units 1 and 2,"Supplement (Aug. 1989) (ADAMS Accession No. ML 11221A204).

[FN7]. *See* LBP-12-8, 75 NRC at 570-71. The Board also dismissed Contention 4-E, which challenges the Environmental Report's discussion of the ""no-action alternative." *See id.* at 571.

[FN8]. Natural Resources Defense Council's Response to Appeals by Exelon, Inc. and NRC Staff of LBP-12-08 (Apr. 26, 2012) (NRDC Answer).

[FN9]. 10 C.F.R. § 2.311(d)(1).

[FN10]. *See, e.g., NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 307 (2012).

[FN11]. 10 C.F.R. § 2.309(a).

[FN12]. *Id.*§ 2.335(a)-(d). Exelon and the Staff also assert that Contention 1-E fails to meet the general admissibility criteria in 10 C.F.R. § 2.309(f)(1).*See* Exelon Appeal at 22-27 (citing 10 C.F.R. § 2.309(f)(1)(iv)); NRC Staff Appeal at 10-19 (citing 10 C.F.R. §2.309(f)(1)(iv), (vi)). We need not address this issue today. The applicability of section 2.335(a) is dispositive of the appeals, for the reasons discussed below.

[FN13]. 10 C.F.R. § 51.53(c)(3)(ii)(L).

[FN14]. *See Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 741 (3d Cir. 1989).

[FN15]. *Id.* at 736-37, 739 (quoting *Baltimore Gas & Electric Co. v. Natural Resources Defense Council*, 462 U.S. 87, 98 (1983)).

[FN16]. *See* Final Rule: "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses," 61 Fed. Reg. 28,467, 28,480-82 (June 5, 1996) (Part 51 Amendments).

[FN17]. *See id.* at 28,467-68. Category 1 issues are those for which the Staff has determined that: "(1) the environmental impacts associated with the issue . . . apply either to all plants or, for some issues, to plants having a specific type of cooling system or other specified plant or site characteristics; (2) a single significance level (i.e., small, moderate, or large) has been assigned to the impacts . ..; and (3) ... additional plant-specific mitigation measures are likely not to be sufficiently beneficial to warrant implementation."NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants -- Main Report" (Final Report), Vol. 1 (May 1996), at 1-5 (GEIS)

(ADAMS Accession No. ML040690705).

[FN18]. A license renewal applicant need not include analyses of the environmental impacts of Category 1 issues in its environmental report; the Staff incorporates the GEIS analysis of Category 1 issues as part of the overall cost-benefit balance in the supplemental environmental impact statement (SEIS) for license renewal. 10 C.F.R. §§ 51.53(c)(3)(i), 51.95(c)(4); GEIS at 1-5.

[FN19]. 10 C.F.R. § 51.53(c)(3)(ii); GEIS at 1-5 to 1-6.

[FN20]. *See*10 C.F.R. Part 51, Subpart A, App. B (Postulated Accidents); *id.* § 51.53(c)(ii)(3)(L); Part 51 Amendments, 61 Fed. Reg. 28,480. The GEIS addresses severe accident *consequences* for all plants, which we have determined to have a small environmental impact after factoring in their low probability of occurrence. The Category 2 issue, then, focuses on severe accident *mitigation*, to further reduce severe accident risk (probability or consequences).*See*10 C.F.R. Part 51, Subpart A, App. B; GEIS at 1-6. *See generally Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-1, 75 NRC 39, 41-43 (2012).

[FN21]. Part 51 Amendments, 61 Fed. Reg. at 28,481. *See also* GEIS at 5-106 to 5-107.

[FN22]. Part 51 Amendments, 61 Fed. Reg. at 28,468. *See also id.* at 28,470 (explaining that in response to comments on the proposed rule, including those from the Council on Environmental Quality and the Environmental Protection Agency, "the framework for consideration of significant new information has been revised and expanded").

[FN23]. *See id.* at 28,488; 10 C.F.R. § 51.53(c)(3)(iv).

[FN24]. *See* Exelon Appeal at 11-12 ("The threshold legal issue on appeal is whether the adequacy of Exelon's analysis of new and significant information related to SAMAs is litigable in a license renewal proceeding, absent a waiver from the Commission under [s]ection 2.335."); NRC Staff Appeal at 5 ("Contention 1-E as admitted by the Board is outside the scope of this proceeding because it claims that new and significant information impacts a generic determination in the Commission's regulations without seeking a rule waiver pursuant to 10 C.F.R. § 2.335.").

[FN25]. *See* NRDC Answer at 10 ("A recurring, in fact the central, theme of [Exelon's and the Staff's] appeals is that because an NRC rule, 10 C.F.R. § 51.53(c)(3)(ii)(L), purportedly absolves Exelon of the legal obligation to conduct a SAMA [analysis], Exelon cannot be compelled to [do so] absent a waiver of that rule. The fundamental flaw in this argument is that . . . . [what] is sought by NRDC is that Exelon properly analyze new and significant information related to the continuing applicability of the environmental conclusions stemming from the 1989 SAMDA analysis.").

[FN26]. *See id. See generally* License Renewal Application, Limerick Generating Station, Units 1 and 2, Appendix E, Applicant's Environmental Report -- Operating License Renewal Stage (June 22, 2011) at 5-1 to 5-9 (ADAMS Accession No. ML11179A104) (Environmental Report).

[FN27]. *See* Hearing Request at 16-19.

[FN28]. LBP-12-8, 75 NRC at 571.

[FN29]. *Id.* at 556-57, 559-60, 571.

[FN30]. *See* Declaration of Thomas B. Cochran, Ph.D., Matthew G. McKinzie, Ph.D. and Christopher J. Weaver, Ph.D., on Behalf of the Natural Resources Defense Council (Nov. 22, 2011) at 3 (NRDC Declaration) (appended to Hearing Request).

[FN31]. *See* LBP-12-8, 75 NRC at 550-62.

[FN32]. *See, e.g., id.* at 556 (observing that "[d]etermining whether information regarding SAMAs is 'new' and 'significant' does not involve . .. performing an entirely new SAMA analysis").

[FN33]. *See id.* at 561.

[FN34]. *See* Exelon Appeal at 21; NRC Staff Appeal at 9-10.

[FN35]. *See Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 16 (2007) (*Vermont Yankee/Pilgrim*).

[FN36]. The petitioner filed the same contention in both proceedings. *Id.* at 16, 18.

[FN37]. *Id.* at 16-17.

[FN38]. *Id.* at 18-19.

[FN39]. *See id.* at 20 ("Fundamentally, any contention on a 'Category 1' issue amounts to a challenge to our regulation that bars challenges to generic environmental findings.").

[FN40]. *See id.* at 21.

[FN41]. *Id.*The *Vermont Yankee* and *Pilgrim* Boards had based their decision on our ruling in *Turkey Point*, which also involved an attempt to litigate a Category 1 issue in a license renewal proceeding. *See id.* at 19-20 (citing *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3 (2001)). In *Turkey Point*, we affirmed the Board's rejection of the contention, noting that the petitioner had not requested a waiver. *See Turkey Point*, CLI-01-17, 54 NRC at 22-23. In *Vermont Yankee/Pilgrim*, we noted with approval the Boards' reliance on *Turkey Point. See Vermont Yankee/Pilgrim*, CLI-07-3, 65 NRC at 16, 20-21.

[FN42]. *Vermont Yankee/Pilgrim*, CLI-07-3, 65 NRC at 20.

[FN43]. *Id.* at 19-21.

[FN44]. *See* LBP-12-8, 75 NRC at 552.

[FN45]. *Id.*

[FN46]. *Id.*

[FN47]. *See id.*

[FN48]. *Id.* at 552-53.

[FN49]. *Id.* at 553 (emphasis omitted).

[FN50]. *See id.* at 561.

[FN51]. *See, e.g., 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) (characterizing an originally admissible contention as claiming "that there was new, significant information that [the applicant] should have taken into account or acknowledged when performing its SAMA cost-benefit analyses.").

[FN52]. *Vermont Yankee/Pilgrim*, CLI-07-3, 65 NRC at 18 n.15, 20.

[FN53]. Part 51 Amendments, 61 Fed. Reg. at 28,481.

[FN54]. That is not to say that a supplemental SAMA analysis *may never* be performed for Limerick or another facility exempted by virtue of section 51.53(c)(3)(ii)(L). We would expect that, if the Staff had in hand new information that could render invalid the original site-specific analysis, then such information should be identified and evaluated by the Staff for its significance, consistent with our NEPA requirements. *See*10 C.F.R. § 51.95(c)(3). We also note that we have asked "the Staff to review generically an applicant's duty to supplement or correct its environmental report."*Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-12-13, 75 NRC 681, 687 n.32 (2012).

[FN55]. 10 C.F.R. § 2.335(b).*See also Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 559-60 (2005) (outlining a four-factor test based on section 2.335(b)). Before the Board, NRDC explained that it had not submitted a waiver petition because it believed section 2.335(b) applies to admitted parties only. *See* Hearing Request at 25 n.7; Natural Resources Defense Council ("NRDC") Combined Reply to Exelon and NRC Staff Answers to Petition to Intervene (Jan. 6, 2012) at 11 n.6. Our case law demonstrates that petitioners, not just parties, may request a waiver in our adjudicatory proceedings. *See, e.g., Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 444-45 (2011); *Vermont Yan-*

kee/Pilgrim, CLI-07-3, 65 NRC at 20-21; *Turkey Point*, CLI-01-17, 54 NRC at 21-23. As Exelon points out, there are places in our rules where "party" is used not as a term of art, but rather as a substitute for "participant." *See* Exelon Appeal at 16-17 n.72; Exelon Answer to Hearing Request at 20 n.1 13 (citing *Massachusetts v. United States*, 522 F.3d 115, 129 (1st Cir. 2008)). That is the case with section 2.335(b). Indeed, we recently approved corrections and clarifications to 10 C.F.R. Part 2, including a revision to section 2.335(b) that replaces "party" with ""participant." *See* Final Rule: "Amendments to Adjudicatory Process Rules and Related Requirements," 77 Fed. Reg. 46,562, 46,583 (Aug. 3, 2012).

[FN56]. *See*10 C.F.R. § 2.802(a) ("Any interested person may petition the Commission to issue, amend or rescind any regulation.").

[FN57]. *See id.* §§ 51.73, 51.74. *See also* Part 51 Amendments, 61 Fed. Reg. at 28,470 ("[T]he NRC will review comments on the draft SEIS and determine whether such comments introduce new and significant information not considered in the GEIS analysis. All comments on the applicability of the analyses of impacts codified in the rule and the analysis contained in the draft [SEIS] will be addressed by NRC in the final [SEIS] in accordance with 40 CFR 1503.4, regardless of whether the comment is directed to impacts in Category 1 or 2."); GEIS at 1-10 to 1-11. NRDC filed comments on the SAMA analysis during the Staff's environmental scoping process. *See* Fettus, Geoffrey H., Senior Project Attorney, NRDC, et al., Letter to Cindy Bladey, U.S. Nuclear Regulatory Commission (Oct. 28, 2011) (ADAMS Accession No. ML11307A456).

[FN58]. We do not include NRDC's claims relating to population data, core damage frequency, cleanup costs, or the quality of the human environment that the Board dismissed for insufficient support. *See* LBP-12-8, 75 NRC at 555, 558, 560-61. Additionally, we do not include Contention 4-E, because it concerns the no-action alternative, an unrelated issue. *See id.* at 566-70; Hearing Request at 23.

[FN59]. *See generally*10 C.F.R. §§ 2.311, 2.341.

[FN60]. *See, e.g.*, LBP-12-8, 75 NRC at 550-62, 564, 566. The balance of Contention 1-E involves the use of additional population data, the use of historical data to calculate core damage frequency, cleanup cost estimates, and the analysis of impacts to the quality of the human environment. The issues in Contentions 1-E, 2-E, and 3-E overlap to a certain extent, but differ in their ultimate conclusions. In addition to the issues identified in Contention 1-E, Contention 2-E also includes claims involving meteorological data and evacuation time estimates. Contention 2-E argues that because the 1989 SAMDA analysis relies on inadequate and outdated data and methodologies, the Environmental Report does not provide a reliable basis for the conclusion that there are no cost-beneficial mitigation alternatives. Contention 3-E includes the issues identified in Contentions 1-E and 2-E, as well as claims involving severe accident scenarios and probabilistic risk assessment methodology. Contention 3-E argues that because the 1989 SAMDA analysis relies on inadequate and outdated data and methodologies, the Environmental Report incorrectly concludes that the 1989 analysis qualifies for the exception in 10 C.F.R. § 51.53(c)(3)(ii)(L).*See* Hearing Request at 16-23.

[FN61]. *See* Exelon Appeal at 22-27 (citing 10 C.F.R. §2.309(f)(1)(iv)).

[FN62]. See NRC Staff Appeal at 10-19 (citing 10 C.F.R. § 2.309(f)(1)) (iv), (vi))

76 N.R.C. 377, 2012 WL 8747056 (N.R.C.)

END OF DOCUMENT

No. 13-1311
Federal Respondents' Motion to Dismiss
For Lack of Jurisdiction

Exhibit 4

H

77 N.R.C. 57, 2013 WL 5962910 (N.R.C.)

**1 IN THE MATTER OF EXELON GENERATION COMPANY, LLC
(Limerick Generating Station, Units 1 and 2)

Nuclear Regulatory Commission (N.R.C.)
Atomic Safety and Licensing Board

LBP-13-1

Docket Nos. 50-352-LR, 50-353-LR
(ASLBP No. 12-916-04-LR-BD01)

February 6, 2013

*57 Before Administrative Judges: William J. Froehlich, Chairman; Dr. Michael F. Kennedy; Dr. William E. Kastenberg

In this proceeding under 10 C.F.R. Part 54 regarding the application of Exelon Generation Co., LLC, to renew the operating licenses for Limerick Generating Station, Units 1 and 2, the Licensing Board denied petitioner Natural Resources Defense Council's (NRDC's) petition for waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L), but referred the ruling to the Commission pursuant to 10 C.F.R. § 2.323(f)(1), as it related to a novel issue of law.

RULES OF PRACTICE: WAIVER OF RULES OR REGULATIONS

Generally, NRC regulations may not be challenged in any NRC adjudicatory proceeding. However, a petitioner that believes a regulation should not be applied in a particular proceeding may seek a waiver of that regulation pursuant to 10 C.F.R. § 2.335(b).Section 2.335(b) states:

> The sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application *58 of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted.

RULES OF PRACTICE: WAIVER OF RULES OR REGULATIONS

The Commission has elaborated on this standard in its case law, establishing a more arduous four-part test for waiver

petitions. The Commission stated in its *Millstone* decision that for a waiver to be granted, a petitioner must demonstrate the following:

> (i) the rule's strict application would not serve the purposes for which it was adopted;
>
> (ii) the movant has alleged special circumstances that were not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived; (iii) those circumstances are unique to the facility rather than common to a large class of facilities; and (iv) a waiver of the regulation is necessary to reach a significant safety problem.

Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 559-60 (2005). The Commission made clear that "all four factors must be met" for a waiver to be granted.

RULES OF PRACTICE: WAIVER OF RULES OR REGULATIONS (ROLE OF LICENSING BOARDS)

****2** The role of the Board when a request for a waiver is filed is limited to determining whether the petitioner has made a prima facie showing that it has satisfied 10 C.F.R. § 2.335(b). If not, the Board "may not further consider the matter."*Id.* § 2.335(c). However, where the petitioner has successfully made such a prima facie showing, the Board "shall, before ruling on the petition, certify the matter directly to the Commission," and the Commission shall determine whether to grant or deny the waiver request. *Id.* § 2.335(d).

RULES OF PRACTICE: WAIVER OF RULES OR REGULATIONS

It is clear to us that the *Millstone* test establishes an appreciably higher burden for would-be waiver seekers than does 10 C.F.R. § 2.335(b). Indeed, on its face, section 2.335(b) appears to only require a petitioner to satisfy the first two prongs of the *Millstone* test. In other words, section 2.335(b) does not require petitioners to demonstrate that their complaint is ""unique" to the facility in question or that their complaint reflects a ""significant safety issue."

RULES OF PRACTICE: WAIVER OF RULES OR REGULATIONS

To determine whether a petitioner has demonstrated that application of a regulation "would not serve the purposes for which [it] was adopted," a board must first determine the purpose of rule or regulation for which waiver is sought. 10 C.F.R. § 2.335(b).

REGULATIONS: INTERPRETATION (10 C.F.R. § 51.53(c)(3)(ii)(L))

The language of 10 C.F.R. § 51.53(c)(3)(ii)(L) makes its purpose quite clear. It states, "If the staff has not previously considered severe accident mitigation alternatives for the applicant's plant . . ., a consideration of alternatives to mitigate severe accidents must be provided."The clear implication of this language is that, once the Staff has considered severe accident mitigation alternatives for the applicant's plant, no further consideration of alternatives to mitigate severe accidents is needed. Indeed, subsection (L) evidences a Commission determination that, in effect, one SAMA analysis is enough. Once an applicant has performed a SAMA analysis, even if it was performed almost 25 years ago, the applicant does not need to perform another, regardless of whether new SAMA candidates have been discovered in the interim.

**3 This plain-meaning reading of 10 C.F.R. § 51.53(c)(3)(ii)(L) is bolstered by looking to the Statement of Considerations accompanying the Commission's final rule adopting subsection (L). The Commission stated, "NRC staff considerations of severe accident mitigation alternatives have already been completed and included in an EIS or supplemental EIS for Limerick, Comanche Peak, and Watts Bar. Therefore, severe accident mitigation alternatives need not be reconsidered for these plants for license renewal."It is noteworthy that the Commission did not say that those severe accident mitigation alternatives considered in the previous analysis need not be reconsidered. Rather, the Commission made a general statement that mitigation alternatives, as a class of items, need not be reconsidered at license renewal. As such, we find that the purpose of subsection (L) is to exempt those plants that have already performed SAMA analyses from considering severe accident mitigation alternatives at license renewal.

RULES OF PRACTICE: WAIVER OF RULES OR REGULATIONS

REGULATIONS: INTERPRETATION (10 C.F.R. § 51.53(c)(3)(ii)(L))

If the purpose of 10 C.F.R. §51.53(c)(3)(ii)(L) is simply to grant to a set of plants an exemption from the otherwise applicable requirement to consider severe accident mitigation alternatives at license renewal, then that purpose will always be met if no further analysis is required or submitted by the applicant. *60 Accordingly, it is unclear how any petitioner could ever demonstrate that the purpose of subsection (L) is frustrated by the application of subsection (L). Even if a petitioner could demonstrate that there exists a group of cost-effective SAMA candidates that would greatly reduce the impacts of severe accidents and that have not been considered in the previous analysis, that petitioner could not successfully seek a waiver of subsection (L), because the purpose of subsection (L) -- to grant the plant an exemption from considering any SAMA candidates at license renewal -- is not frustrated. Given its clear purpose, subsection (L) becomes, in effect, unwaivable.

RULES OF PRACTICE: WAIVER OF RULES OR REGULATIONS

REGULATIONS: INTERPRETATION (10 C.F.R. § 51.53(c)(3)(ii)(L))

When it enacted 10 C.F.R. § 51.53(c)(3)(ii)(L) the Commission understood that technology would change, and that new SAMA candidates could emerge over time. However, the possibility that new SAMA candidates may become available cannot be the basis for a successful waiver petition, because the Commission knew that SAMA technology would change, but was confident that processes, other than the SAMA analysis process, would adequately address any such developments.

ORDER

(Denying Petition for Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L) and Referring This Decision to the Commission)

**4 Before the Board is a November 21, 2012 petition for waiver of 10 C.F.R. §51.53(c)(3)(ii)(L) filed by the Natural Resources Defense Council (NRDC).[FN1] For the reasons discussed herein, and in accordance with

2.335(b), the Board denies NRDC's petition. However, because the legal issue presented by NRDC's petition is novel and worthy of the Commission's immediate attention, we refer this decision to the Commission pursuant to 10 C.F.R. § 2.323(f)(1).

I. BACKGROUND

On August 8, 1985, the Commission issued a full-power operating license for Limerick Generating Station, Unit 1, to the Philadelphia Electric Company ***61** (PECO), now a subsidiary of Exelon Generation Company, LLC (Exelon).[FN2] A group, Limerick Ecology Action, Inc. (LEA), challenged the granting of this full-power license in part on the ground that the NRC did not consider Severe Accident Mitigation Alternatives (SAMAs) during its review of PECO's operating license application. [FN3] At the time, NRC regulations did not require applicants to consider SAMAs. [FN4] In 1989, the United States Court of Appeals for the Third Circuit ruled on LEA's challenge, holding that the National Environmental Policy Act (NEPA) requires the NRC to consider SAMAs. [FN5] In response to this decision, the NRC Staff considered SAMAs "in the Final Environmental Impact Statement for the Limerick 1 and 2 and Comanche Peak 1 and 2 operating license reviews, and in the Watts Bar Supplemental Final Environmental Statement for an operating license."[FN6]

In 1996, the NRC amended its regulations regarding environmental reviews for operating license renewals. [FN7] One of the regulations derived from this amendment process was 10 C.F.R. § 51.53(c)(3)(ii)(L), which reads as follows:

> If the staff has not previously considered severe accident mitigation alternatives for the applicant's plant in an environmental impact statement or related supplement or in an environmental assessment, a consideration of alternatives to mitigate severe accidents must be provided. [FN8]

In promulgating that regulation the Commission noted that because SAMAs had already been considered for Limerick, Comanche Peak, and Watts Bar, "[SAMAs] need not be reconsidered for these plants for license renewal."[FN9]

On June 22, 2011, Exelon submitted an application for renewal of the operating licenses for the Limerick Generating Station, Units 1 and 2 (Limerick) for an additional 20 years. [FN10] On November 22, 2011, NRDC submitted a petition to ***62** intervene, proffering four contentions. [FN11] One of the central issues presented by NRDC's petition was the interplay between two seemingly contradictory NRC regulations: 10 C.F.R. § 51.53(c)(3)(ii)(L) [subsection (L)] and 10 C.F.R. § 51.53(c)(3)(iv) [subsection (iv)]. Whereas the former states that an applicant for license renewal need not consider SAMAs if the NRC Staff has already considered SAMAs for that plant, the latter states, "The environmental report must contain any new and significant information regarding the environmental impacts of license renewal of which the applicant is aware."The question then facing the Board was what effect, if any, the subsection (L) exemption had on an applicant's duty under subsection (iv) to consider new and significant information related to SAMAs and, concomitantly, a petitioner's ability to challenge that consideration (or lack thereof).

****5** In LBP-12-8, we granted NRDC's petition to intervene, admitting portions of one contention. [FN12] We also noted there that the parties did not dispute that Exelon must consider new and significant information regarding SAMAs pursuant to subsection (iv).[FN13] The dispute between the parties thus centered on whether the exemption provided in subsection (L) converted the issue of SAMAs from a so-called "Category 2" issue to a so-called "Category 1" issue for Limerick. [FN14]

The effect of this categorization would have significant implications for the environmental review of this (and other) license renewal applications in that Category 1 issues are those issues that the Commission has dealt with generically and that may not be challenged during license renewal absent a waiver. [FN15] On the other hand, Category 2 issues are plant-specific and may be challenged during license renewal without a waiver. [FN16] In LBP-12-8 we held that the issue of SAMAs was a Category 2 issue for Limerick, because NRC regulations explicitly list SAMAs as a Category 2 issue, [FN17] and because we could find no regulatory basis for the notion that a Category 2 issue could be converted into a Category 1 issue without evidence of the Commission's express intent to do so. [FN18] As such, we held that NRDC was free to challenge Exelon's consideration of new and significant information regarding SAMAs in this license renewal proceeding. [FN19]

***63** Exelon and the NRC Staff appealed this ruling to the Commission, which reversed our decision, holding that "the exception in [subsection (L)] operates as the functional equivalent of a Category 1 issue, removing SAMAs from litigation in this, as well as certain other, case-by-case license renewal adjudications."[FN20] Therefore, the Commission held that "the proper procedural avenue for NRDC to raise its concerns [regarding Exelon's consideration of new and significant information] is to seek a waiver of the relevant provision in [subsection (L)]."[FN21] The Commission then remanded this proceeding to us, instructing NRDC to submit a waiver petition for Board consideration by November 27, 2012. [FN22]

NRDC submitted the instant waiver petition on November 21, 2012, [FN23] and Exelon and the NRC Staff submitted their responses opposing the waiver petition on December 14, 2012. [FN24] NRDC submitted a reply brief on December 21, 2012. [FN25]

II. LEGAL STANDARDS

Generally, NRC regulations may not be challenged in any NRC adjudicatory proceeding. [FN26] However, a petitioner that believes a regulation should not be applied in a particular proceeding may seek a waiver of that regulation pursuant to 10 C.F.R. § 2.335(b).Section 2.335(b) states:

> ****6** The sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted. [FN27]

The Commission has elaborated on this standard in its case law, establishing a more arduous four-part test for waiver petitions. [FN28] The Commission stated in its ***64** *Millstone* decision that for a waiver to be granted, a petitioner must demonstrate the following:

> (i) the rule's strict application would not serve the purposes for which it was adopted; (ii) the movant has alleged special circumstances that were not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived; (iii) those circumstances are unique to the facility rather than common to a large class of facilities; and (iv) a waiver of the regulation is necessary to reach a significant safety problem. [FN29]

The Commission made clear that "*all four* factors must be met" for a waiver to be granted. [FN30]

The role of the Board when a request for a waiver is filed is limited to determining whether the petitioner has made a

prima facie showing that it has satisfied 10 C.F.R. § 2.335(b). If not, the Board "may not further consider the matter."[FN31] However, where the petitioner has successfully made such a *prima facie* showing, the Board "shall, before ruling on the petition, certify the matter directly to the Commission," and the Commission shall determine whether to grant or deny the waiver request. [FN32]

III. ANALYSIS AND RULING

It is clear to us that the *Millstone* test establishes an appreciably higher burden for would-be waiver seekers than does 10 C.F.R. § 2.335(b). Indeed, on its face, section 2.335(b) appears to only require a petitioner to satisfy the first two prongs of the *Millstone* test. In other words, section 2.335(b) does not require petitioners to demonstrate that their complaint is ""unique" to the facility in question *or* that their complaint reflects a ""significant safety issue." Because, as we will explain, we believe that NRDC has not satisfied the lower threshold of 10 C.F.R. § 2.335(b), we will apply that section of the Commission's regulations, rather than the more stringent *Millstone* test.

A. The Purpose of 10 C.F.R. § 51.53(c)(3)(ii)(L)

****7** To determine whether NRDC has demonstrated that application of ***65**10 C.F.R. § 51.53(c)(3)(ii)(L)"would not serve the purposes for which [it] was adopted,"[FN33] we must first determine the purpose of subsection (L). In its Waiver Petition, NRDC argues that the purpose of subsection (L) "was simply to limit the analysis during relicensing to exclude 'consideration of *such alternatives* regarding plant operation' that were previously considered."[FN34] In other words, NRDC argues, subsection (L) was intended to excuse license renewal applicants that have already performed a SAMA analysis "from being forced to reconsider *specific alternatives previously considered*, from which it necessarily follows that any *new* alternatives that would mitigate severe accidents should be subject to the standard for 'new and significant information.'" [FN35]

Exelon and the NRC Staff, however, contend that the purpose of subsection (L) was to exempt license renewal applicants that have already performed a SAMA analysis from performing another SAMA analysis, even if new mitigation alternatives have emerged since the performance of the original SAMA analysis. [FN36]

This distinction is subtle, but important in license renewal proceedings. A ""mitigation alternative," or a "SAMA candidate," is, as the name suggests, an alternative that may mitigate the impacts of a severe accident. A "SAMA analysis," on the other hand, is an analysis of a class of SAMA candidates using probabilistic risk assessment techniques to determine whether any of the SAMA candidates would be cost-beneficial. [FN37] So, to contrast the parties' positions, NRDC maintains that the purpose of subsection (L) is to excuse applicants from considering specific SAMA candidates that they have already considered, while Exelon and the NRC Staff argue that its purpose is to excuse applicants from performing another SAMA analysis altogether, meaning such applicants need not consider *any* additional SAMA candidates.

We do not find NRDC's argument compelling for several reasons. First, we believe the language of subsection (L) makes its purpose quite clear. It states, "If the staff has not previously considered severe accident mitigation alternatives for the applicant's plant . . ., a consideration of alternatives to mitigate severe accidents must be provided."[FN38] The clear implication of this language is that, once the Staff has considered severe accident mitigation alternatives for the applicant's plant, no further consideration of alternatives to mitigate severe accidents is needed.

NRDC's interpretation seems to be that if the Staff has previously considered certain severe accident mitigation alternatives, a consideration of ***66** those specific alternatives need not be provided, but a consideration of other alternatives must be provided. This is a strained and inappropriate reading of subsection (L). Rather, the purpose of subsection (L) seems quite clear: it evidences a Commission determination that, in effect, one SAMA analysis is enough. Once an applicant has performed a SAMA analysis, even if it was performed almost 25 years ago, the applicant does not need to perform another, regardless of whether new SAMA candidates have been discovered in the interim.

****8** This plain-meaning reading of subsection (L) is bolstered by looking to the Statement of Considerations accompanying the Commission's final rule adopting subsection (L). The Commission stated, "NRC staff considerations of severe accident mitigation alternatives have already been completed and included in an EIS or supplemental EIS for Limerick, Comanche Peak, and Watts Bar. Therefore, severe accident mitigation alternatives need not be reconsidered for these plants for license renewal."[FN39] It is noteworthy that the Commission did *not* say that those severe accident mitigation alternatives considered in the previous analysis need not be reconsidered. Rather, the Commission made a general statement that mitigation alternatives, as a class of items, need not be reconsidered at license renewal. As such, we find that the purpose of subsection (L) is to exempt those plants that have already performed SAMA analyses from considering severe accident mitigation alternatives at license renewal.

As noted above, in order to obtain a waiver of a regulation, a petitioner must demonstrate that application of the regulation "would not serve the purposes for which [it] was adopted."[FN40] Considering this requirement, it becomes abundantly clear why NRDC provided such a strained reading of the purpose of subsection (L). After all, if the purpose of subsection (L) is simply to grant to a set of plants an exemption from the otherwise applicable requirement to consider severe accident mitigation alternatives at license renewal, then that purpose will *always* be met if no further analysis is required or submitted by the applicant. Accordingly, it is unclear how *any* petitioner could ever demonstrate that the purpose of subsection (L) is frustrated by the application of subsection (L). Even if a petitioner could demonstrate that there exists a group of cost-effective SAMA candidates that would greatly reduce the impacts of severe accidents and that have not been considered in the previous analysis, that petitioner could not successfully seek a waiver of subsection (L), because the purpose of subsection (L) -- to grant the plant an exemption from considering any SAMA candidates at license renewal -- is not frustrated. Given its clear purpose, subsection (L) becomes, in effect, unwaivable.

***67 B. The Application of 10 C.F.R. § 51.53(c)(3)(ii)(L)**

The Commission stated in CLI-12-19 that subsection (L) "operates as the functional equivalent of a Category 1 issue, removing SAMAs from litigation in this, as well as certain other, case-by-case license renewal adjudications."[FN41] This is certainly true as to the preclusive effect of subsection (L), but is not necessarily the case relative to the "waivability" of subsection (L). Indeed, in this regard subsection (L) seemingly functions very differently than Table B-1 of 10 C.F.R. Part 51, Subpart A, Appendix B, which lists certain issues and then categorizes them as Category 1 or Category 2.

****9** To illustrate the difference, let us consider, as an example, bird collisions with cooling towers. Table B-1 lists this issue as Category 1, stating that "[t]hese collisions have not been found to be a problem at operating nuclear power plants and are not expected to be a problem during the license renewal term."[FN42] The finding that an issue like this is a Category 1 issue seems to be based on then-current factual information, as subjected to appropriate scientific

analysis. But there is nothing in this designation that precludes a later finding associated with a waiver petition that bird collisions with cooling towers *would* have to be considered at license renewal for a certain plant should matters change. And indeed, one can readily imagine a set of circumstances where a petitioner could successfully seek a waiver of this Category 1 finding. For instance, if changes in the migratory habits of a certain bird during the initial operating term led to a large number of collisions with the cooling towers at a specific plant, a petitioner might well be able to satisfy 10 C.F.R. § 2.335(b) and the *Millstone* test and, therefore, challenge the applicant's lack of consideration of bird collisions with cooling towers in an adjudicatory license renewal proceeding. This possibility is based on the understanding that factual circumstances and scientific analysis can change over time. That is, while bird collisions may not have posed a problem for plants generally at the time the generic determination was made, they may pose a problem *now*, at a specific facility seeking license renewal. The waiver process provides, then, a mechanism through which such new information and analysis may be brought to the Commission's attention.

However, the same argument simply does not apply to subsection (L). When it enacted subsection (L) the Commission understood that technology would change, and that new SAMA candidates could emerge over time. [FN43] The emergence of ***68** new SAMA candidates is, it seems, the equivalent of the new data regarding bird collisions in our example above. However, in the case of bird collisions, the possibility that new data could become available also provides the basis for a potential successful waiver petition. Here, the possibility that new SAMA candidates may become available cannot be the basis for a successful waiver petition, because the Commission knew that SAMA technology would change, but was confident that processes, other than the SAMA analysis process, would adequately address any such developments. [FN44] To put it another way, for most Category 1 issues, there is an implicit understanding that information and analysis may change, and such new information may be presented in a waiver petition. However, for subsection (L), for this ""functional equivalent" of a Category 1 issue, there can be no such understanding. Indeed, the Commission certainly enacted subsection (L) knowing that new SAMA candidates likely could and would emerge during the time between the initial SAMA analysis and license renewal.

C. Conclusions Regarding 10 C.F.R. § 51.53(c)(3)(ii)(L)

****10** So, this leaves us in a difficult and ambiguous situation. Has NRDC demonstrated that the purpose of subsection (L) will be frustrated by applying subsection (L) to Limerick? No, but through no fault of their representatives, who seem to have done the most they could in a confusing situation. Ultimately, given the purpose of subsection (L), NRDC was faced with the seemingly impossible task of demonstrating that the purpose of subsection (L) (i.e., to grant Limerick an exemption from the SAMA requirement) would be frustrated by granting Limerick an exemption from the SAMA requirement. In CLI-12-19, the Commission remanded to the Board review of a waiver petition to be filed by NRDC. This implies to the Board that, on some level, the Commission believed that a petitioner or party could be granted a waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L) under section 2.335(b). Our review of the regulations leads us to conclude that this is an impossibility.

For the foregoing reasons, we are compelled to find that NRDC has not presented a *prima facie* case that it has satisfied 10 C.F.R. § 2.335(b), and therefore we must deny its waiver petition. However, NRDC's petition has ***69** presented us with such a "catch-22" situation [FN45] that we also feel compelled to refer this decision to the Commission, not under 10 C.F.R. § 2.335(d), but under 10 C.F.R. § 2.323(f)(1). We trust the Commission, in its review of our decision, will shed light on the interplay of 10 C.F.R. § 51.53(c)(3)(ii)(L) and 10 C.F.R. § 2.335(b).

IV. CONCLUSION

For the foregoing reasons, NRDC's petition for a waiver of 10 C.F.R. §51.53(c)(3)(ii)(L) is DENIED, and this decision of the Board is hereby REFERRED to the Commission pursuant to 10 C.F.R. § 2.323(f)(1).[FN46]

***70** It is so ORDERED.

THE ATOMIC SAFETY AND LICENSING BOARD

William J. Froehlich
Chairman
Administrative Judge

Dr. Michael F. Kennedy
Administrative Judge

Dr. William E. Kastenberg
Administrative Judge

Rockville, Maryland February 6, 2013

[FN1]. Natural Resources Defense Council's Petition, by Way of Motion for Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L) as Applied to Application for Renewal of Licenses for Limerick Units 1 and 2 (Nov. 21, 2012) [hereinafter Waiver Petition].

[FN2]. *See*Philadelphia Electric Company, Docket No. 50-352, Limerick Generating Station, Unit 1, Facility Operating License, License No. NPF-39 (Aug. 8, 1985) (ADAMS Accession No. ML011520196).

[FN3]. *See Limerick Ecology Action v. NRC*, 869 F.2d 719, 722-23 (3d Cir. 1989).

[FN4]. Indeed, the Commission issued a policy statement in 1985 declaring that individual licensing proceedings were *not* the appropriate forum for evaluating SAMAs. *Id.* at 727.

[FN5]. *Id.* at 739.

[FN6]. Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,481 (June 5, 1996).

[FN7]. *See generally id.*

[FN8]. 10 C.F.R. § 51.53(c)(3)(ii)(L).

[FN9]. 61 Fed. Reg. at 28,481.

[FN10]. *See* Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing Regarding Renewal of Facility Operating License Nos. NPF-39 and NPF-85 for an Additional 20-Year Period; Exelon Generation Co., LLC, Limerick Generating Station, 76 Fed. Reg. 52,992, 52,992 (Aug. 24, 2011).

[FN11]. Natural Resources Defense Council Petition to Intervene and Notice of Intention to Participate (Nov. 22, 2011).

[FN12]. LBP-12-8, 75 NRC 539, 570-71 (2012).

[FN13]. *Id.* at 550.

[FN14]. *See* Tr. at 43-52, 59-68, 80-85, 108-09, 118-25, 132-34, 172-76, 266.

[FN15]. *See*61 Fed. Reg. at 28,474.

[FN16]. *See id.*

[FN17]. *See*10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1.

[FN18]. LBP-12-8, 75 NRC at 552-53.

[FN19]. *Id.* at 16.

[FN20]. CLI-12-19, 76 NRC 377, 386 (2012).

[FN21]. *Id.*

[FN22]. *Id.* at 389.

[FN23]. *See* Waiver Petition.

[FN24].*See* Exelon'Ds Response Opposing NRDC's Petition for Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L) (Dec. 14, 2012) [hereinafter "Exelon Response"]; NRC Staff Answer to [NRDC] Petition for Waiver of 10 C.F.R. §51.53(c)(3)(ii)(L) (Dec. 14, 2012) [hereinafter "NRC Response"].

[FN25]. *See* Reply of [NRDC] in Support of Petition, by Way of Motion, for Waiver of 10 C.F.R. § 51.53(c)(3)(ii)(L)

as Applied to Application for Renewal of Licenses for Limerick Units 1 and 2 (Dec. 21, 2012).

[FN26]. 10 C.F.R. § 2.335(a).

[FN27]. *Id.* § 2.335(b).

[FN28]. *See Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 559-60 (2005).

[FN29]. *Id.*(quotations and citations omitted). Hereinafter, we will refer to this four-part test as "the *Millstone* test."

[FN30]. *Id.*(emphasis in original).

[FN31]. 10 C.F.R. § 2.335(c).

[FN32]. *Id.* § 2.335(d). We were unable to find any reported instances in which the Commission has granted a waiver request pursuant to section 2.335(d) submitted by an intervenor/petitioner.

[FN33]. *Id.* § 2.335(b).

[FN34]. Waiver Petition at 17 (*quoting*61 Fed. Reg. at 28,480) (emphasis in original).

[FN35]. *Id.*(emphasis in original).

[FN36]. *See* Exelon Response at 20-21; NRC Staff Response at 13-15.

[FN37]. For a more detailed discussion of how SAMA analyses are conducted, see *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), LBP-12-27, 76 NRC 583, 592-94 (2012).

[FN38]. 10 C.F.R. § 51.53(c)(3)(ii)(L).

[FN39]. 61 Fed. Reg. at 28,481.

[FN40]. 10 C.F.R. § 2.335(b).

[FN41]. CLI-12-19, 76 NRC at 386.

[FN42]. 10 C.F.R. Part 51, Subpart A, App. B, tbl. B-1.

[FN43]. In the Statement of Considerations accompanying the final rule adopting subsection (L), the Commission

stressed that it had three other ongoing processes whereby the NRC Staff would be evaluating alternatives to mitigate severe accidents: the Containment Performance Improvement (CPI) program, the Individual Plant Examination (IPE) program, and the Individual Plant Examination for External Events (IPEEE) program. 61 Fed. Reg. at 28,481. The Commission noted that the IPE and IPEEE programs "have resulted in a number of plant procedural or programmatic improvements and some plant modifications that will further reduce the risk of severe accidents."*Id.*

[FN44]. *See id.*

[FN45]. A catch-22 is a paradoxical situation in which an individual cannot or is incapable of avoiding a problem because of contradictory constraints or rules. Random House Dictionary (2012).

[FN46]. We note that our denial of NRDC's waiver petition does not terminate this proceeding. On July 9, 2012, NRDC filed with the Board a motion to admit a new environmental contention that challenges the failure of Exelon's Environmental Report to address the environmental impacts of spent fuel pool leakage and fires, as well as the environmental impacts that may occur if a spent fuel repository does not become available. *See* NRDC's Motion for Leave to File a New Contention Concerning Temporary Storage and Ultimate Disposal of Nuclear Waste at Limerick (July 9, 2012) [hereinafter New Contention Motion]. The New Contention Motion is based on the United States Court of Appeals for the District of Columbia Circuit's decision in *State of New York v. NRC*, 681 F.3d 471 (D.C. Cir. 2012) which invalidated the NRC's Waste Confidence Decision Update (75 Fed. Reg. 81,037 (Dec. 23, 2010)) and the NRC's final rule regarding Consideration of Environmental Impacts of Spent Fuel After Cessation of Reactor Operation (75 Fed. Reg. 81,032 (Dec. 23, 2010)).

> On August 7, 2012, the Commission issued CLI-12-16, wherein it found, "[I]n view of the special circumstances of this case, as an exercise of our inherent supervisory authority over adjudications, we direct that these [Waste Confidence] contentions -- and any related contentions that may be filed in the near term -- be held in abeyance pending our further order."*Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-12-16, 76 NRC 63, 68-69 (2012). The Commission noted that "should we determine at a future time that case-specific challenges are appropriate for consideration, our normal procedural rules will apply."*Id.* at 69 n.11. In an August 8, 2012 Order we held any participant or Board activity concerning this new contention in abeyance pending further Commission directive. *See* Order (Suspending Procedural Date Related to Proposed Waste Confidence Contention) (Aug. 8, 2012) (unpublished).

77 N.R.C. 57, 2013 WL 5962910 (N.R.C.)

END OF DOCUMENT

EXHIBIT B

Defendant's Motion to Exclude, Exhibit 2, Report of Ron Seagraves

S. All. for Clean Energy v. Fla. Power & Light Co., No. 1:16-cv-23017 (S.D. Fla. Oct. 17, 2018)

Expert Report of Ron Seagraves

For

Southern Alliance for Clean Energy, et al. v. Florida Power & Light Co.,
Case No. 1:16-cv-23017 (S.D. Fla.)

Ron Seagraves

Vice President
High Bridge Associates

Table of Contents

1 SUMMARY

This report contains my opinions regarding the likely cost and technical challenges associated with the proposal to build cooling towers for Turkey Point Power Plant Units 3 and 4. My firm, High Bridge Associates, Inc. (High Bridge) was retained by Florida Power & Light Company (FP&L) to assess the Turkey Point 3&4 Cooling Towers Cost Estimate as presented in the May 14, 2018, Expert Report of Bill Powers (Powers) for Plaintiffs in the case of *Southern Alliance for Clean Energy, et al. v. Florida Power & Light Co*., Case No. 1:16-cv-23017 (S.D. Fla.). Our review of the Powers report concentrated primarily on cost estimate accuracy, adequacy of the technical basis, and expected schedule duration.

Based on our review, the proposal to build cooling towers as proposed in the Powers Report would cost approximately $1.84 billion in capital costs, and approximately $109.2 million a year in additional operating costs. Our estimate excludes the cost to do other potential projects at the Turkey Point facility, such as removal of the cooling canals, installation of additional groundwater recovery wells, or other projects not specifically identified in the Powers Report.

The Powers Report contains a series of significant inaccuracies and omissions, which resulted in the substantial underestimation by Powers and which are summarized below:

- Total Capital cost including contingency for the closed loop cooling tower system ranges between $323.5 million and $405.5 million for Powers versus $1.84 billion for High Bridge.
- Total annual O&M costs required to operate the Closed Loop Cooling System are $8.5 million for Powers versus $109.2 million for High Bridge.

Similarly, review of Powers technical basis indicated numerous miscalculations and oversights which are summarized below:

- The effects of environmental conditions on evaporative cooling tower performance and design were not adequately considered, resulting in unsound cost estimating basis.
- The monumental challenges and complexities of implementing a cooling tower retrofit at PTN Units 3 and 4 were dramatically understated.
- Inadequate consideration was given to the project physical requirements to maintain Ultimate Heat Sink (UHS) and to the regulatory rigor that such changes will incur to obtain approval from the Nuclear Regulatory Commission.
- Supply, storage, and treatment requirements for reclaimed water from Miami-Dade Water and Sewer Department (MDWASD) were downplayed to a substantial degree resulting in significant cost estimate deficiencies. A 60 MGPD makeup water treatment plant costs over $400 million.
- Forced outage duration assumptions were at the low range anticipated by High Bridge and the cost estimate reflected a flawed accounting basis for full utility cost recovery.

Additionally, given the magnitude and complexity of design, regulatory, and construction requirements, High Bridge concluded that Powers 4.5 year schedule duration is more likely to span seven to nine years.

2 EXPERT QUALIFICATIONS

2.1 Professional Summary of Ron Seagraves

Mr. Seagraves is a seasoned professional with over 35 years of project management, construction management, risk management, and executive consulting experience in the nuclear, petrochemical, oil and gas,

and fossil industries. As Vice President and Director of the Center of Estimating Excellence and Special Studies, he has managed detailed cost estimating and high level independent cost assessments for various customers and projects. Mr. Seagraves is responsible for the continuing improvement and implementation of the High Bridge best-in-class process for scoping and estimating operating nuclear plant modifications, new nuclear construction, and decommissioning projects. Since joining the Chattanooga office in September 2016, Mr. Seagraves has managed estimate development for modification projects for multiple nuclear utilities/owners within the US and Europe at 29 different nuclear sites. These estimates have covered all stages of the project life cycle including conceptual to design issued and construction ready. The High Bridge process supports independent bottom-up estimating as well as review and validation of existing estimates.

Mr. Seagraves' 38 years of experience includes engineering, construction, start-up, and capital improvement of nuclear and fossil power facilities. Project management, specialty consulting and staffing, and subject matter expertise for multiple commercial construction and engineering companies and public utilities. Key responsibilities have included overall project management; project scope development and control; schedule development; cost and schedule performance management; variance and risk analyses; enterprise and project risk management, resource management; contract negotiation; development of financial tracking programs and systems; and cash flow and fiscal budget development.

For additional details, please refer to attached curriculum vitae.

3 COST ESTIMATE ASSESSMENT

3.1 Assessment Approach

High Bridge reviewed the 109 page Powers Expert Report and the basis for its estimated cost range. This report is comprised of several pages of Turkey Point 3&4 analyses, 40 pages of analyses of other reference project data, and 66 pages of Attachments including a one-page cooling tower vendor price quote.

In order to prepare this report, High Bridge utilized information and costs contained within its July 2015 cost estimate and conceptual engineering scope basis to retrofit Turkey Point Units 3 and 4 with the addition of cooling towers to take the place of the existing canal cooling system. However, the 2015 Report addressed a more limited scope and did not include all necessary elements to construct the cooling tower system that is described in the Powers Report. High Bridge also updated information to reflect 2017 dollars and various significant scope changes. This update included using reclaimed municipal sewage as the makeup water source for Units 3, 4, and 5; adding a reclaimed water line from MDWASD; adding a reclaimed water make up storage reservoir; adding a reclaimed water treatment plant; installing a Zero Liquid Discharge system to the cooling tower blowdown system; mitigation of wetland impacts associated with construction of the new system; modifications to the ultimate heat sink (UHS); canal modifications and significant site civil impacts necessary to implement cooling towers; and other construction infrastructure scope created as a result of deferring construction of Turkey Point Units 6 and 7. These items were not part of the conceptual cost estimate prepared in 2015, and these costs assumed that the reclaimed water pipeline and infrastructure would be constructed by Turkey Point Units 6 and 7.

3.2 Cost Estimate Conclusions

The Powers Report estimated a capital cost range of $404.5 million to $322.5 million in 2017 dollars using two-40 cell (80 cells) or two-54 cell (108 cells) cooling towers supplied by SPX Corporation. High Bridge estimates the capital cost to be approximately $1.84 billion in 2017 dollars using two-37 cell matrix GEA Counter-flow Model: 606049-74B-32.81-FCF units (74 cells). Specific High Bridge findings for the Powers Report cost estimate include:

1. Significant shortcomings in the technical basis, quantitative price outcome, and the qualitative process used to develop the cost estimate.
2. Failure to fully appreciate and account for extensive site facilities and infrastructure required to utilize reclaimed municipal sewage water in the main power turbine condensers and the evaporative cooling towers.
3. Lack of recognition that converting from a Canal Cooling System to a Cooling Tower System utilizing reclaimed municipal sewage water is a major first of a kind (FOAK) project built at a wetlands site with major complexities and uncertainties.
4. Overlooks or minimizes the sizeable complexities, risks, and uncertainties associated with this major project at an operating nuclear power plant in the very early conceptual stage of design maturity.

3.3 High Bridge Assessment of the Powers Report Cost Estimate and Lack of Technical Basis

Over 90 percent of the Powers report addresses other reference project historical cost information and outlines the case for why retrofitting a power plant cooling water system with a closed loop cooling tower is technically possible, economically feasible, and environmentally desirable. Very little of the analysis addresses the Turkey Point overall site and Units 3 and 4 specific technical challenges, issues, and Florida state location climatic parameters that drive the costs for licensing, design, construction, and operational performance of the proposed cooling towers.

The Powers Report cost estimate is simplistic and based entirely on a cooling tower vendor price quote, and an estimate for project infrastructure for permitting, design, and construction developed based on a rule of thumb factor of three times the vendor cooling tower price that does not recognize the complexities and challenges of the Turkey Point Site. Powers openly admits this fact in Attachment A which states that: "*Budget is tower only, not including basins. Infrastructure cost is estimated by some at 3 times the cost of the wet tower, including such things as site prep, basins, piping, electrical wiring and controls, etc. Subsurface foundations such as piling can add significantly and may be necessary for a seacoast location.*" This example represents a high-level overview of assumptions and minimizes the formidable technical, logistical, and regulatory challenges of converting the Canal Cooling System to Cooling Towers utilizing reclaimed sewer water.

The Powers Report is insufficient to provide a realistic comprehensive cost estimate for the conversion of the CCS system to mechanical cooling towers. The Powers Report summarizes the history of many dissimilar projects that added cooling towers or that had other characteristics in common with the Turkey Point Units 3 & 4 proposed modifications. However, the report ignores major factors that impact the design and the costs of the Turkey Point modifications. First, mechanical draft cooling towers heat removal capacity is based on the evaporation of water. Therefore, the environmental conditions at the plant are of paramount importance. Comparisons with cooling tower installations at plants in California, Minnesota, Vermont or Arizona with very different humidity levels and temperatures have limited relevance to the realities of Turkey Point.

The report provides considerable background information on the general topic of cooling power plants. It cites numerous examples of power plants of different types and provides a summary of mechanical draft cooling tower applications. However, the report is superficial in its analysis and conclusions regarding the Turkey Point Units 3 & 4 cooling tower modification and the required site infrastructure systems and facilities.

This approach is inadequate to address the complexities of retrofitting a major modification like the closed loop cooling tower system to an operating nuclear plant. Work at a nuclear site, especially inside the protected area, forces numerous inefficiencies on the craft labor. These restraints force tasks to take longer and to cost more. In addition, Turkey Point Units 3 & 4 use a unique closed cooling water system based on approximately 10 square miles of cooling canals. When seen from above, the plant site resembles a large wetlands area. There are limited access roads or staging areas for large construction projects.

In reality, this cooling tower retrofit project would be a major site infrastructure project that consists of five projects all performed in the same general area that need to be coordinated and managed to avoid interferences. The projects consist of:

1. Adding the cooling towers
2. Modifying the Discharge Canal to accept a large pumping station structure
3. Modifying the return canal to increase its capacity for the Ultimate Heat Sink
4. Installing a tie-in to the MDWASD, including a Recycled Water Treatment Facility and storage pond
5. Installing a Zero Liquid Discharge system to the cooling tower blowdown system.

Based on the High Bridge technical critique (Refer to Section 4 of this report) of the Powers Report, significant deficiencies in the Powers estimated cost for Turkey Point 3&4 cooling towers include:

- No engineering analyses or conceptual site arrangement assumptions/definitions for project.
- No recognition or analysis of risk issues applicable for early stage/low design maturity status.
- No risk Monte Carlo assessment or identification of cost estimate confidence level ranges.
- No inclusion of project contingency funds to address estimate accuracy and discrete risks.
- No recognition that south Florida climate (humidity and average air/cooling water temperatures) impacts cooling tower performance compared to its cost estimate reference projects in California, Arizona, Minnesota, Vermont, and Massachusetts.
- No specific analyses recognizing scope elements and costs required for using
    - reclaimed municipal sewage as the makeup water source,
    - adding a reclaimed water line from MDWASD,
    - adding a reclaimed water make up storage reservoir,
    - adding a water treatment plant,
    - adding a Zero Liquid Discharge system to the cooling tower blowdown system, and
    - mitigation of wetland impacts.
- Assumes the availability of Unit 6 and Unit 7 infrastructure, when that project has been deferred.
- No modifications to the ultimate heat sink (UHS) or recognition/understanding of this safety system impact on the licensing requirements and scope.
- Understating the cost for likely substantial tie-in outage duration involving UHS safety system and canal modifications and resulting loss of power generation revenues.

3.4 High Bridge Cost Estimate

High Bridge updated its 2015 cost estimate to reflect 2017 present day dollars for same basis comparison to the Powers Report. It updated the conceptual engineering scope basis to retrofit Turkey Point Units 3 and 4 with the addition of cooling towers to take the place of the existing canal cooling system to reflect various scope changes and impacts. High Bridge used its extensive library of projects, utilized conceptual engineering analyses, and developed a quantified basis for estimated costs for areas of change. High Bridge observed its corporate processes and various industry standards that provide guidance for documenting scope and developing estimated costs. Industry guidance observed include the Association for the Advancement of Cost Engineering (AACE), Project Management Institute Body of Knowledge (PMBOK), and Department of Energy (DOE) Order 413,3 regarding Capital Projects.

These industry practice guidance sources and High Bridge experience all recognize the importance of thorough scope definition and understanding of requirements coupled with the development of a contingency allowance to cover estimate accuracy and project risks at the early stage of project development. The High Bridge

estimate utilized the 2015 project risk register and Monte Carlo probabilistic simulation to define contingency requirements to achieve cost estimate certainty. The Powers report disregarded these industry professional practice guides for cost estimating and included no contingency allowance to cover estimate accuracy uncertainties of discrete event project risks.

Table E-1 below provides a Summary Comparison of Estimated Capital Costs by Powers ($322.5 million to $404.5 million) and High Bridge ($1.84 billion) in 2017 dollars. The High Bridge estimate includes all the specific items mentioned above that were not itemized in the Powers Report. It also includes allowances for contingency/risks and lost generation revenue due to the estimated project tie-in outage duration. Also shown are Annual O&M Costs by Powers ($8.5 million) and High Bridge ($109.2 million) which includes expected performance penalties due to net additional parasitic electric loads for cooling tower operations.

The table shows two cost columns for Powers to accurately reflect the range of cost cited in the report. Powers high range assumes 108 cooling tower cells while the low range assumes 80 cooling tower cells. (The High Bridge column is based on 74 cells as specified in the 2015 engineering analysis.)

Table E-1: Summary Comparison of Estimated Costs by Powers and High Bridge

Cost Estimate Comparison

Expert Report of Bill Powers, P.E. vs High Bridge Associates

	Basis for Expert Report Bill Powers, P.E.		Basis for High Bridge Associates
Technical Characteristics			
Total Heat Rejection Capability MMBTU/Hr	16,800	12,300	13,100
Number of Cooling Tower Cells	108	80	74
Cooling Tower & Infrastructure Costs			
Cooling Tower Design, Procure, & Install	$79.0	$58.5	$51.8
Cooling Tower Infrastructure	$237.0	$175.5	**Details Below**
Design Engineering	Covered in $237.0 Above for 108 C.T. Cells	Covered in $175.5 Above for 80 C.T. Cells	$17.2
Cooling Tower Fndn, Basin, & Pump Pits			$70.6
Cooling Tower Pumps			$26.8
Cooling Tower Piping			$29.8
Canal Reconfiguration & UHS Mods			$64.0
Electrical Power Equip, Raceway, Cable			$19.5
Instrumentation & Controls			$4.9
Constr. Facilities, Equip, & Infrastructure			$6.7
Craft Support Labor	3.0 X $79.0	3.0 X $58.5	$8.5
Small Tools & Consumables			$2.1
Post 2015 Safety Culture Impacts @15% Labor			$30.0
Construction Field Non-Manual			$25.7
Project Mgt & Controls, Contract Mgt, and Project Oversight			$53.6
Subtotal	**$316.0**	**$234.0**	**$411.2**
Additional Direct Capital Costs			
Reclaimed Water Line from MDWASD	$0.0	$0.0	$87.0
Reclaimed Water Storage Reservoir	$15.0	$15.0	$35.0
Reclaimed Water Treatment Facility	$0.0	$0.0	$400.0
Zero Liquid Discharge (ZLD) Facility	$33.5	$33.5	$33.5
Project Mgt & Controls, Contract Mgt, and Project Oversight	$0.0	$0.0	$83.3
Subtotal	**$48.5**	**$48.5**	**$638.8**
Other Associated Capital Costs			
Lost Generation Costs for Dual Unit Tie-In Outages - 7.5 Months	$40.0	$40.0	$182.5
Wetlands Remediation - Reclaimed Water Line from MDWASD	$0.0	$0.0	$0.5
Wetlands Remediation - Reclaimed Water Treatment @ TP Site	$0.0	$0.0	$4.3
NRC Fees for License Amendment Reviews	$0.0	$0.0	$35.0
State, Local, & Army Corps Environmental Permits	$0.0	$0.0	$1.0
Subtotal	**$40.0**	**$40.0**	**$223.3**
Direct Capital Contingency			
AACE Recommended Contingency for Class 4/5 Estimate	$0.0	$0.0	$566.0
Subtotal	**$0.0**	**$0.0**	**$566.0**
Capital Cost Total - Closed Loop Cooling System	**$404.5**	**$322.5**	**$1,839.4**
Annual O&M Costs			
Cooling Tower Operations	$7.5	$7.5	$70.0
5% Net Impact to Generation for CT System Loads	$0.0	$0.0	$13.1
Reclaimed Water Treatment Facility	$0.0	$0.0	$25.1
ZLD System	$1.0	$1.0	$1.0
Annual O&M Cost Total - Closed Loop Cooling Syster	**$8.5**	**$8.5**	**$109.2**

3.5 Industry Cost Estimating Guidance and High Bridge Risk Analysis

High Bridge found it unusual that the Powers Report did not include any discussion of estimate accuracy, risks, and contingency estimated cost allowances appropriate for this project at such and early stage of conceptual design maturity. Not recognizing Turkey Point Site characteristics and challenges, and not understanding the scope and magnitude of the construction infrastructure, are the likely causes for this omission. This resulted in an enormous understatement of estimated project costs in the Powers Report.

Various industry rule of thumb guidance references were mentioned earlier. The Association for the Advancement of Cost Engineering (AACE) guidance for contingency allowances to provide for risk and estimate accuracy as a function of design maturity is reflected below on **Table E-2 & Table E-3**:

Table E-2: AACE Guidance for Contingency Allowances to Provide for Risk and Estimate Accuracy

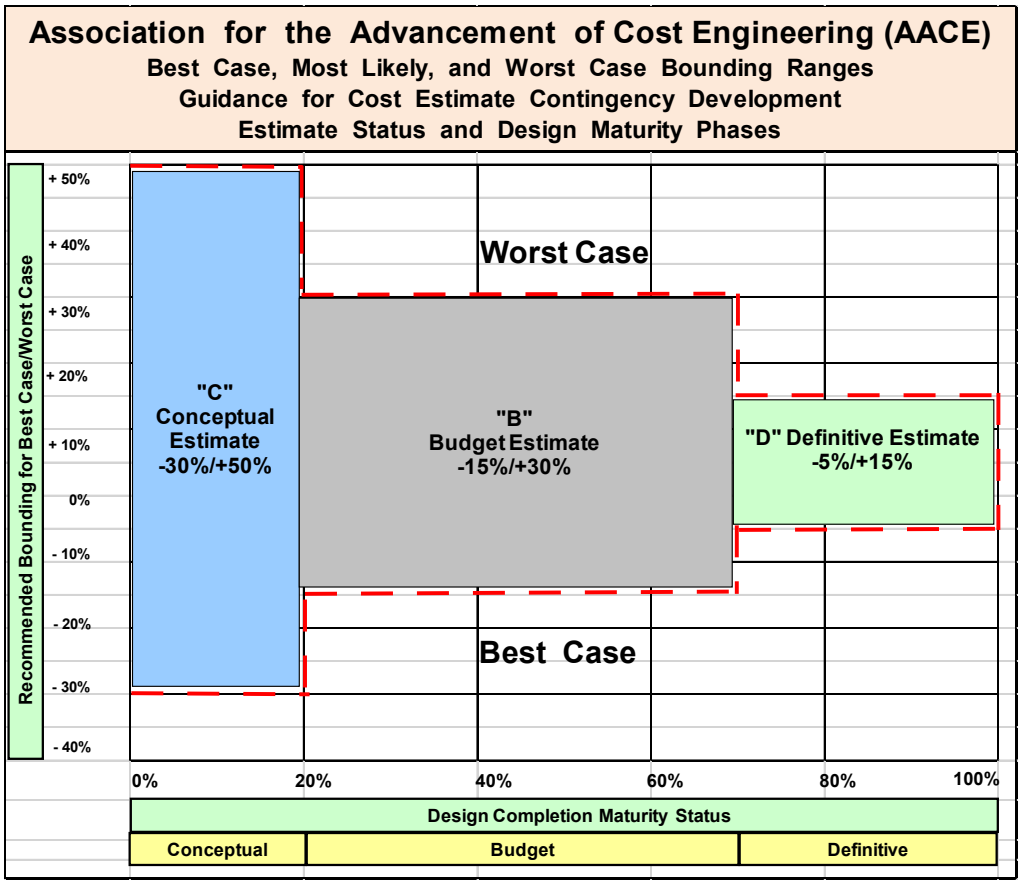

Table E-3: AACE Cost Estimate Classification Matrix for the Process Industries

COST ESTIMATE CLASSIFICATION MATRIX FOR THE PROCESS INDUSTRIES

	Primary Characteristic	*Secondary Characteristic*		
ESTIMATE CLASS	**MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES** Expressed as % of complete definition	**END USAGE** Typical purpose of estimate	**METHODOLOGY** Typical estimating method	**EXPECTED ACCURACY RANGE** Typical variation in low and high ranges [a]
Class 5	0% to 2%	Concept screening	Capacity factored, parametric models, judgment, or analogy	L: -20% to -50% H: +30% to +100%
Class 4	1% to 15%	Study or feasibility	Equipment factored or parametric models	L: -15% to -30% H: +20% to +50%
Class 3	10% to 40%	Budget authorization or control	Semi-detailed unit costs with assembly level line items	L: -10% to -20% H: +10% to +30%
Class 2	30% to 75%	Control or bid/tender	Detailed unit cost with forced detailed take-off	L: -5% to -15% H: +5% to +20%
Class 1	65% to 100%	Check estimate or bid/tender	Detailed unit cost with detailed take-off	L: -3% to -10% H: +3% to +15%

Notes: [a] The state of process technology, availability of applicable reference cost data, and many other risks affect the range markedly. The +/- value represents typical percentage variation of actual costs from the cost estimate after application of contingency (typically at a 50% level of confidence) for given scope.

The Turkey Point 3&4 Cooling Tower Project clearly falls into the conceptual design maturity range and straddles Estimate Class 4 and Class 5. With design completion of less than 10%, a contingency parametric or rule of thumb value of 50% is appropriate. This data was available for consideration in the Powers Report but was not utilized to develop its cost estimate.

In 2015, High Bridge developed a Turkey Point 3&4 Cooling Tower Project Risk Register and performed a Monte Carlo probabilistic simulation to define contingency requirements to achieve cost estimate certainty during that effort. That analysis yielded a contingency of 44.45% to achieve a confidence level of 100% for its cost estimate which is consistent with the AACE guidance cited above. High Bridge elected to utilize the previous 44.45% contingency for purposes of the analysis.

4 TECHNICAL ASSESSMENT

4.1 Summary Assessment of Powers Report Approach

The May 14, 2018, expert report prepared by Bill Powers, P.E., Powers Engineering does not provide an adequate technical basis or estimate of cost for the conversion of the Turkey Point cooling canal system to mechanical cooling towers. The report summarizes the history of many dissimilar projects that added cooling towers or that had other characteristics in common with the Turkey Point Units 3 & 4 proposed modifications. However, the report does not recognize major factors that impact the design and the costs of the Turkey Point modifications. The heat removal capacity of mechanical draft cooling towers is based primarily on climatic conditions that enable the evaporation of water. Therefore, the environmental conditions at the plant location are of paramount importance. Comparisons with cooling tower installations at plants in California, Minnesota, Vermont or Arizona have limited relevance to the requirements and conditions at Turkey Point.

The report provides background information on the general topic of cooling for power plants. It cites numerous examples of power plants of different types at various locations and provides an eclectic summary of mechanical draft cooling tower applications. However, the report is superficial in its analysis and conclusions regarding the Turkey Point Units 3 & 4 cooling tower modification and the required site infrastructure systems

and facilities. The report outcomes rely on a budgetary price quote from a cooling tower vendor to obtain a cost estimate for the cooling tower. It then takes the cost estimate for the cooling tower equipment and factors it three times to estimate the cost of the site infrastructure for connecting the cooling towers to the plant.[1]

This approach is inadequate to address the complexities of retrofitting a major modification like the closed cooling water system to an operating nuclear plant. Work at a nuclear site, especially inside the protected area of a nuclear plant forces numerous inefficiencies on the craft labor. These restraints force construction activities to take longer and to cost more. In addition, Turkey Point Units 3 & 4 use a unique closed Cooling Canal System based on approximately 10 square miles of cooling canals. The site has limited access roads and staging areas for large construction projects.

This proposed cooling tower retrofit project would be a major site infrastructure project that consists of five interrelated projects all being performed in the same general area that would need to be coordinated and managed to avoid interferences.

The projects are:

1. Adding the cooling towers
2. Modifying the Discharge Canal to accept a pumping station, which is a large intake structure
3. Modifying the return canal to increase its capacity for the Ultimate Heat Sink
4. Installing a tie-in to the MDWASD, including a Reclaimed Water Treatment Facility and storage pond
5. Installing a Zero Liquid Discharge (ZLD) system to the cooling tower blowdown system.

The Powers Report recognizes that FP&L and the MDWASD have recently agreed to evaluate the potential use of reclaimed sewage water for the makeup to the cooling canals. Originally, the use of reclaimed sewage effluent was to be included in the planned Turkey Point Units 6 & 7 nuclear plant design. These plants have been deferred, and now the entire cost of making this connection would have to be incorporated in the costs of the cooling tower modification for proposed Units 3 & 4. However, the Powers Report relies upon a vendor-provided rule of thumb to estimate the cost of the atypical modifications necessary to install cooling towers at Turkey Point. The rule of thumb is, at best, a generic value and in no way tailored for the specifics of the Turkey Point estimate.

The Powers Report contains several significant errors or incorrect assumptions as follows:

Modification Not Safety Related and Does Not Require NRC Involvement[2] – The Powers Report incorrectly considers the cooling tower modification to not be safety related and that it should not involve Nuclear Regulatory Commission (NRC) involvement and oversight. However, the cooling tower retrofit directly impacts the Ultimate Heat Sink that currently relies upon the Cooling Canal System for heat removal during accident scenarios. The proposed elimination of the Cooling Canal System forces modifications to the safety related Ultimate Heat Sink. This would necessitate the preparation of safety analysis of the proposed changes and the NRC's acceptance of the adequacy of the proposed modifications. This would also require a modification to the Updated Final Safety Analysis Report (UFSAR), potentially new technical specifications, and other modifications to the plants' licensing bases. Moreover, the cooling tower modification would also require many non-safety related modifications to the Updated FSAR to accurately capture the new design. This licensing effort can probably be accomplished within the schedule proposed in the Powers Report but will cost more than the Powers Report estimates and represents a significant project risk that adds to the necessary project risk contingency. We have parametrically estimated the NRC approval costs using FP&L experience for Units 6 and 7.

[1] Expert Report of Bill Powers, P.E., Powers Engineering, In the case of Southern Alliance for Clean Energy, et. al. vs. Florida Power and Light Company, Case No.: 1:16-cv-23017-DPG (S.D. Fla.), May 14, 2018, pg. 19
[2] ibid, pg. 35

Moreover, all environmental impacts of a nuclear plant's operation are reviewed by the NRC not the EPA. The entire scope of this project that is within the confines of the Turkey Point site require the NRC involvement and oversight.

Makeup Water Treatment Facility Sizing and Understanding of Water Chemistry Requirements - The Powers Report notes the need for a cleanup system to make use of the reclaimed sewage water for cooling tower makeup. The Powers Report assumes that the cleanup system would be straightforward and would only be required to protect the cooling towers. However, the makeup water also would have to meet the more stringent water chemistry requirements of the Turkey Point Units 3 & 4 main power generation steam turbine condensers. A large and complicated facility would be needed to achieve the water chemistry and purity required and is not recognized in the Powers Report. The High Bridge estimated $400 million cost for this makeup water treatment facility alone nearly equals the maximum estimated cost of $404.5 million for the total cooling tower and infrastructure modification included in the Powers Report.

Makeup Water Storage Pond Capacity and Liner - The Powers Report reasonably assumes that the power plants need to be able to operate for 14 days following a hurricane has incapacitated the cleanup plant. The Storage Pond would need to be sized to supply the necessary 60 million gallons per day (MGD) flow rate for the makeup of Turkey Point Units 3, 4, & 5 for fourteen days without recharge. That results in a capacity of 840 million gallons. The Powers Report calculated a capacity of only 490 million gallons based on an incorrect value of 35 MGD makeup.[3] In addition, it incorrectly assumed that the Storage Pond could be unlined. An unlined system would interact with saline groundwater, which would change the water chemistry and require retreatment before it could be used in the cooling towers. The increase in capacity coupled with the need for a liner and possibly a leakage detection system results in a cost more than double the Powers $15 million estimated cost.

Inadequate Understanding of Final Infrastructure and Cooling Tower Tie-In Plant Outage - The Powers Report did not understand the magnitude and complexity of scope involved, along with the resulting estimated cost of the forced outage necessary for this modification to be accomplished. Much of the work could indeed take place while the plant is in operation, albeit at the forced inefficiencies mentioned previously. However, the installation of the Pump Pit, which adds the six large pumps necessary to lift the water from the Discharge Canal to the cooling towers, would need to take place with the plants in cold shutdown. The Pump Pit would be a large intake structure and pumping station that by itself is a major civil structural design and construction project that cannot reasonably be accomplished with the plants in operation. The Cooling Tower retrofit would also require the installation of Earthen Berms in the Discharge Canal to control the flow of water once the cooling towers are in operation, the installation of the Ultimate Heat Sink modifications necessary for the transfer canal to be put into operation, and installation of the canal liner at the plant intake and discharge structures will all require both units in cold shutdown. [4]

Inadequate Understanding of Electrical Power, Instruments & Controls (I&C) and Switchyard Modification Scopes - New power and control systems would need to be added to the plant and I&C cables pulled into the plant. New panels would need to be added to the control rooms of the power plants, which is work that could only be done during an outage. Finally, the startup and test cycle would need to be accomplished to demonstrate the proper operation of the cooling towers, the Reclaimed Water Treatment Facility, and the Zero Liquid Discharge systems before the plant could be placed back into operation. This is estimated to be a 6 to 9-month outage of both units. The cost of replacement power must be recognized, not only the differential cost of makeup power. The Powers Report assumed a 24-week outage, which is just under the minimum outage time High Bridge estimates for this project. Not only did it underestimate the extent of the outage necessary to install this modification, the report calculated the cost of replacement power to be the difference in the cost between the cost

[3] ibid, pg. 25
[4] Subsequent License Renewal Analysis for Turkey Point Units 3 and 4: Technology Assessment for Using Mechanical Draft Cooling Towers for Closed-Cycle Cooling, Enercon Services, NEETPX064-PR-002, Rev. 0, 8/03/2015, pg. 7

of electricity from the nuclear plants and from the next available generator to provide the power. This is an incorrect accounting of the cost of the outage that does not recover all the costs necessary for the utility to operate.

4.2 Evaporative Cooling Towers in Different Regions Cannot be Compared Accurately

4.2.1 Environmental Conditions have a Dominant Impact on Cooling Tower Performance

Cooling towers remove heat from liquid systems primarily via evaporation. The rate of evaporation is controlled by the temperature of the water, the ambient air temperature and the local relative humidity or wet-bulb temperature. Generally, the higher the average ambient wet-bulb temperature, the more cooling tower surface area is required to achieve the same heat removal. The Powers Report cites power plants in Arizona (Palo Verde Nuclear Plant), Minnesota (Prairie Island Nuclear Generating Plant), and Vermont (Vermont Yankee). None of these plants have environmental conditions remotely similar to Turkey Point.

Ultimately, the Powers Report cost estimate is based solely upon a budgetary estimate provided by SPX Thermal Equipment and Services for a West Coast location using the environmental data from Turkey Point Unit 5. It is not clear why that data is selected rather than the more up-to-date data contained in the Turkey Point Units 6 & 7 COLA documentation, but in any case, the cost of the cooling towers is not the major portion of the estimated cost from SPX. The SPX engineer proposed using a factor of three for the cost of installation. The basis for this rule of thumb is not explained, but clearly any error in the cooling tower cost is magnified by this methodology. The resultant heat removal capacity of the initial sizing is too large for the plants, so the number of cells is arbitrarily reduced to generate the cost range in the Powers Report.[5] It is not clear what bearing all of the discussion about other plants in different regions of the country have on the conclusions of the report.

4.2.2 Environmental Conditions have a Major Impact on Cooling Tower Design

The approach used for addressing the technical basis for the cost estimate for Turkey Point ignores the costs imposed on cooling tower designs. Cooling towers in northern climates need to make special provisions for freeze protection that are not a concern for Turkey Point. The SPX cooling tower design used in the report contains additional structural design elements to address the seismic issues of a West Coast application but contains no provisions for tidal surges and hurricanes.

These errors are magnified by using a rule of thumb based on construction costs from hard rock sites, from new construction installations, or from virgin sites using work rules from last century. When these inherent assumptions are then ratioed by inflation/escalation rates, or by size of heat load, the errors become magnified.

Turkey Point is built on reclaimed tidal marsh lands. All heavy construction needs careful site preparation and extensive use of engineered backfill. The cost of bringing these materials to the site and installing them properly would be significant. The cooling towers specified for the site are 120 feet wide, 2,200 feet long, and 60 feet tall. They are going to be located as described in the Powers Report directly adjacent to the discharge canal; a water-saturated soil adjacent to the discharge canal. The proposed cooling towers would impose significant static and dynamic loads on the soil that would have to be supported by careful foundation preparation. The amount of civil preparation and structural foundation work necessary to install them at Turkey Point fall outside of the typical “rule of thumb” estimating practice used in the report.

[5] Expert Report of Bill Powers, P.E., Powers Engineering, In the case of Southern Alliance for Clean Energy, et. al. vs. Florida Power and Light Company, Case No.: 1:16-cv-23017-DPG (S.D. Fla.), May 14, 2018, pg. 19

4.3 The Challenges of Cooling Tower Retrofit Project

4.3.1 Tie-in Complexity

The Turkey Point cooling tower modification would take place inside the exclusion area or the protected area of an operating nuclear plant. That puts it within the security oversight mandated by federal law and NRC regulation. All activities within those boundaries are subject to work stoppages for drills, training, and random security checks. Ingress and egress to the work site is strictly controlled and additional work rules are imposed on all construction activities that have a deleterious impact on worker efficiency. The Powers Report does not recognize and did not analyze any resulting impact on the construction of the Turkey Point cooling towers and other required infrastructure construction activities due to the proximity to operating nuclear power plants. These requirements have been substantially enhanced this century in response to ever changing threat models. There is no comparison between these work rules now to those that applied last century. Both sets of work rules are more stringent than for new site construction.

The Turkey Point Cooling Canal System is a closed-cycle, open-channel, natural flow system that is incompatible with the addition of cooling towers without significant modifications. Pumps would need to be added to the plant discharge canal to pump the water up to the top of the cooling towers with enough pressure to energize the sparger spray headers. These pumps would need to move approximately 1,500,000 gallons per minute from the discharge canal to the cooling towers. Flow rates of that magnitude create large hydraulic loads on any structure that direct this flow toward the pumps. For this reason, the pump pit for these two sets of pumps would need to be carefully designed to avoid turbulence and hydraulic forces that could destroy the structure and generate additional maintenance costs. The design would require extensive civil/structural construction effort that will force the shutdown of the two nuclear plants and potentially even the drainage of portions of the plant discharge canal to support the construction.

4.3.2 Pre-Existing Conditions Add Scope

Construction at an operating nuclear plant is complicated by physical conditions in addition to operational restrictions. The plant site is optimized for operations; not for construction. The addition of cooling towers, the Reclaimed Water Treatment Facility, the Makeup Storage Pond, the Zero Liquid Discharge Systems, the Pipeline tie-in to the MDWASD treatment facility, and all the civil work to expand and line the new Ultimate Heat Sink cooling water system represent six simultaneous large construction projects involving complicated interfaces:

- The bulk of the Turkey Point site is dominated by the existing Canal Cooling System.
- The barge unloading area is near retired unit 1 and unit 2, as well as operating unit 5. Additionally, the heavy haul road runs through this congested site area.
- The site has no designated laydown area suitable for staging the required quantities of heavy equipment and material.
- The overhead transmission lines from the operating power plants limit the height of packages and crane operations.
- These proposed projects would require a great deal of excavation for foundations and footings, and the site is not uniformly capable of supporting these activities. Large quantities of engineered backfill may be required that will further occupy the limited shipping and receiving facilities necessary to receive components and bulk commodities to support the construction.
- Buried utilities and abandoned construction services from previous projects, that may or may not be well documented, challenge and interfere with these civil construction projects.

These site exigencies add scope to the project that adversely impact cost estimates that assume an undeveloped site. For these reasons, contingencies are added to construction estimates. The Powers Report did not include contingencies for expected complexities of construction projects on developed sites.

4.3.3 Cost Impacts of Construction at an Operating Nuclear Plant

The Powers Report uses un-escalated costs for green field sites to predict the cost to retrofit cooling towers to Turkey Point. The Turkey Point cooling tower project would be constructed primarily within the exclusion area of operating nuclear plants but with important tie-ins inside the protected area for the main control room and intake and discharge structures. There are physical barriers between these areas that cannot readily be penetrated without additional security overwatch. This imposes unique and restrictive requirements on the personnel who can be on the construction crew as well as work rules and operational restrictions the govern the performance of the work. Movement between these security areas is controlled, monitored and restricted. These requirements have their foundations in the needs for nuclear security and safeguards and are enforced by federal statutes and NRC regulations.

Therefore, the cost of construction within the security envelope of a nuclear power plant is significantly higher than for a green field site. The construction contractors can demand a premium for this work because they need to perform additional screening and qualifications for the craft labor over their normal practice. Moreover, the labor efficiency once construction begins is adversely affected by the need for security screening, restrictions to movement from one area to another, and additional training, drills and personnel screening procedures that disrupt normal activities.

Additionally, the layout of the new components, systems and structures may require a relocation of the sites security boundaries and barriers. These can be extremely complicated to move because they are not simple fences or bollards. They may include sensors, cameras, and in extreme cases, the addition of security watch towers and hard points. These features represent costs that are not captured in cost estimates for the installation of cooling towers on green field sites.

4.3.4 Non-Optimal Design Compromises

The addition of cooling towers to an existing site involve compromises in the design. A green field design would maximize the efficiency of the construction project. Integrating cooling towers into already operating power plants necessarily will involve inefficiencies in the design due to the need to minimize disruption of plant activities and impacts on the existing facility design. For instance, this project will involve the construction of a larger Reclaimed Water Treatment Facility and a 100-acre storage pond. These must be made to fit in the northern portions of the site because the southern area is covered by the existing Cooling Canal System, which would have to remain in operation while the cooling towers are being constructed and tested.

The cooling tower modification for Turkey Point would require redundant circulating water pumps because the existing plants' circulating water pumps were not designed for the additional pressure drop required to accommodate cooling towers. Other less impactful design compromises are necessary for this retrofit application that will increase the cost above what would be expected for a new build plant.

4.4 Additional Scope for the Turkey Point 3 & 4 Cooling Tower Modification

4.4.1 Ultimate Heat Sink

A major complexity of the addition of cooling towers to the Turkey Point nuclear plants is that the Ultimate Heat Sink for the safety related cooling of the nuclear reactors uses the existing Cooling Canal System. Substituting the cooling towers for the existing cooling system eliminates the plants' Ultimate Heat Sink. This safety related system would need to be reestablished by modifications to the cooling water canals. Assuming that the canals would remain in place, this would involve the deepening and widening of the return canal to increase the water volume to meet the UHS requirements. If the cooling canals were fully eliminated (e.g., removed), then some other water volume would need to be identified. In addition, this new water volume needs to be in a lined reservoir to minimize salinization due groundwater in-leakage. A new connection would need to be constructed

between the plants' discharge canal and this new ultimate heat sink reservoir that does not short circuit the cooling towers.

This involves extensive civil construction in an area of the site that is not readily accessible for heavy earth moving equipment. This is an extensive safety related construction project that impacts the licensing basis for both Turkey Point units. This project requires formal NRC design and regulatory review and approval. The Powers Report did adequately address the cost impacts of these requirements or the impact on the cooling tower modification cost estimate. Moreover, the report specifically concluded that there would be no requirement for the NRC to review any aspect of the cooling tower modification. These costs need to be included.

4.4.2 Tie-in to Miami Dade Waste Water Treatment Plant

The Powers Report acknowledges the need for the cooling towers to use reclaimed water from the Miami-Dade Water and Sewer Department, but it significantly underestimates the extent of the costs necessary to accomplish this. This connection would consist of an approximately 10-mile pipeline of likely 60" diameter pipe from a MDWASD plant to the site. Several routing possibilities were developed for the Turkey Point Units 6 & 7 plants before they were deferred. Most of this piping would be installed using open trenching but some 40% of the pipeline would require horizontal directional drilling or micro tunneling to install the pipeline. The pipeline needs to cross several canals and navigate along existing rights of way to avoid legal delays.

This is a cost not enveloped by the cooling tower vendor's rule of thumb about the cost of installation. It represents a large public private partnership with a cost impact that needs to be included in the cost of the cooling tower modification.

4.4.3 Water Pre-Treatment System

In addition to the cost of the tie-in to the MDWASD treatment plant, it needs to be treated before it can be used by the Turkey Point nuclear units. The plants' main power steam turbine condensers need to be protected against the residual chemicals in the reclaimed makeup water from municipal sewage. The Powers Report acknowledges the need for a Reclaimed Water Treatment Facility (RWTF) but did not include any costs for this. The extent of this facility to address the residual chemicals in the water is quite substantial.

This pre-treatment system will consist of nitrogen, phosphorus and disinfection of the reclaimed water. The treatment systems need to be sized for the 60 million gallons per day (MGD) flow rate agreed to recently which would result in a water treatment system that would look more like a municipal water treatment facility. It would include chemical treatment, large full flow sand filters, settling ponds, and a range of other subsystems that all add to the costs.[6]

As noted in the Powers Report, the nuclear plants would not be able to operate without this processing plant operation. To minimize the cost, a Storage Pond of cleaned water would be necessary to provide 14 days of cooling tower makeup. However, the Powers Report used the lowest value for the makeup requirements for just the cooling towers for Turkey Point Units 3 & 4, ignoring Unit 5 which would rely on the same MDWASD source. Following a major storm that incapacitated the RWTF, FP&L would likely need the generating power of all operable units rather than just the two nuclear plants. The Powers Report assumed a storage pond 25 feet deep covering 60 acres would be adequate based on a 35 MGD flow rate. If a flow of 60 MGD is substituted to address the 45 MGD for Turkey Point 3 & 4 and 15 MGD for Unit 5, the 25-foot deep storage pond would cover 103 acres. The Powers Report also assumed that an unlined pond would be acceptable, but that ignores the fact that the proponents of the cooling towers oppose the use of unlined water bodies at the facility (such as the cooling

[6] Reclaimed Wastewater Reuse Plan, Turkey Point Generation Station, Golder Associates, Inc., 1776866-0004-4-R-0, June 2017

canals themselves). Therefore, it is likely that this pond of suspect water would be required to be lined regardless the water chemistry.

4.4.4 Civil Work to Erect Dams and to Widen Water Ways

The Cooling Tower modification to the plants' discharge canal would require the construction of many earthen berms to direct flow into the cooling tower system and to prevent flow directly into the return canal to the inlet. Also, the canal would need to be deepened and widened to minimize silting resulting from the outflow from the cooling tower into the modified canal. None of these costs are adequately enveloped by the cooling tower vendor's rule of thumb.

4.4.5 Zero Liquid Discharge System

The Powers Report makes a case for the use of a Zero Liquid Discharge System rather than a deep well injection for cooling tower blowdown. The Powers Report included a cost of $33.5 million for the ZLD. The original estimate performed by High Bridge in 2015 was based on the continuation of the deep well injection approach previously used. However, the cost estimate has been updated to include the $33.5 million for the ZLD system proposed in the Powers Report which appears to be approximately correct based on High Bridge research.

4.5 Forced Outage Costs

The Powers Report correctly identified that the construction of the cooling towers would require the shutdown of the Turkey Point Units 3 & 4 to complete the project. It assumed a 24-week duration of the forced outage based on the experience of other retrofit applications. This top-down estimate would result in a duration of slightly less than 6 months. Indeed, much of the construction work could take place while the plants are in operation, albeit with the forced inefficiencies imposed on the construction work mentioned previously. However, the integration of the Pump Pit into the canal system is a major construction project that would require several months to accomplish. This is a major civil structural design and construction project and may require the drainage of the plant discharge canal. There is a high risk that it cannot reasonably be accomplished with the plants in operation.

Furthermore, the addition of the earthen berms in the discharge canal and the work necessary to tie in the new cooling water flows to the existing design will require the plants to be shut down while the work takes place. New power and control systems need to be added to the plant and I&C cables pulled into the plant. New panels will need to be added to the control rooms of the power plants, which is work that can only be done during an outage. Finally, the startup and test cycle need to be accomplished to demonstrate the proper operation of the cooling towers, the Reclaimed Water Treatment Facility, and the Zero Liquid Discharge systems before the plant can be placed back into operation. It is estimated that this will require a forced outage of from 6 to 9-month duration for both units; not 24 weeks.

The cost of a forced outage is the cost of replacement power necessary to replace the lost capacity. The Powers Report uses the novel approach of only calculating the differential cost to calculate the cost penalty of a forced outage. The Powers Report assumed a 24-week outage, which is just under the minimum outage time High Bridge estimates for this project. Not only did it under estimate the extent of the outage necessary to install this modification, the report calculated the cost of replacement power to be the difference in the cost between the cost of electricity from the nuclear plants and from the next available generator to provide the power. This is an incorrect accounting of the cost of the outage that does not recover all the costs necessary for the utility to operate.

4.6 Nuclear Licensing vs EPA Permitting

4.6.1 The Ultimate Heat Sink is Safety Related

This modification would have a major safety-related impact on both Turkey Point Units 3 & 4. Both plants rely upon the existing Canal Cooling System for their Ultimate Heat Sink. The UHS is required to remove

decay heat from the reactors after shutdown. All safety related heat rejection during postulated nuclear events is sent to the UHS. The Cooling Tower modification would make the existing Canal Cooling System unavailable and force a redesign of the UHS.

This is obviously a design change that would require the interaction of the Nuclear Regulatory Commission. A major design change needs to be made to the UHS and that forces a licensing basis revision, which impacts all relevant regulatory documents. The Powers Report ignores the costs for this major plant modification.

4.6.2 Cooling Tower Modification Adds Environmental Issues

The Powers Report incorrectly assumes that the addition of cooling towers to the Turkey Point Units 3 & 4 would be an easy modification as far as the EPA is concerned. In the first place, nuclear plants environmental impacts are addressed by the NRC that represents the plant for federal environmental reviews. While the impact on the site of the installation of the cooling towers may have a low impact on the environment, the inclusion of the rest of the infrastructure necessary to support the cooling towers operation with reclaimed municipal sewage and with ZLD systems would be more significant. None of this is adequately described in the existing Environment Impact Statement or the existing plant licensing documents. All of this would require costs and time to accomplish. Much of this parallel activity that can be accomplished in the schedule proposed in the Powers Report. However, the costs for these activities need to be addressed.

5 SCHEDULE ASSESSMENT

The Powers Report asserts that permitting and construction of the Turkey Point Unit 3 and Unit 4 Cooling Tower System can be accomplished in the same 4.5 years required for a cooling tower retrofit for the 1,500 MW coal-fired Brayton Point Station which was achieved between January 2008 and May 2012. As noted in detail in the Technical Assessment section of the High Bridge report, the regulatory, design, and construction requirements necessary to accomplish a cooling tower retrofit for an operating 2-unit nuclear power plant in a sensitive marshland environment bear few similarities to Brayton Point Station.

While many factors and influences preclude development of a precise project schedule, High Bridge offers a more realistic opinion of how the Turkey Point Unit 3 and Unit 4 Cooling Tower System implementation would likely unfold. Given the complex regulatory and design issues combined with the fact that many of the constructions activities cannot be accomplished in parallel, High Bridge estimates that the project would be a challenging seven to nine year duration.

6 Testimony in Other Cases

I have not testified as an expert witness, at deposition or trial, in any other case in the past four years.

7 Compensation

High Bridge Executive Consultants are paid $250 per hour.

8 Curriculum Vitae for Ron Seagraves

High Bridge Associates, Inc. and Work Management, Inc.
September 2016-Current
Vice President / Executive Consultant / Director of Estimating Services
High Bridge Associates provides planning, scheduling, estimating, project controls, construction management, independent assessment, and process improvement services to the energy, power, industrial, and government business sectors. Currently has direct management responsibility for the Center for Estimating Excellence and Special Studies and the development and implementation of large scale estimates, independent assessments, and project control systems for utility clients. Project estimates have included next generation nuclear plants, major nuclear operating plant modification, decommissioning, and new construction projects as well as major fossil plant environmental projects. Also, development of overall project control systems, project control procedures, and other special studies. Responsible for developing business opportunities, recruiting personnel, and managing project activities for various owner and engineer/constructor customers. Using recent business successes as an impetus for expansion, responsible for starting up an engineering division to provide conceptual engineering packages in concert with existing cost estimate products.

CNSI Inc.
November 2013 – September 2016
PRESIDENT AND OWNER

- Management Staffing and Consulting Company for the commercial industry
- Offered professional assessment and staffing services including but not limited to project management, project controls, construction specialist staffing, and subject matter expertise
- Evaluated technical and management issues in support of large projects at nuclear utilities
- Provided management and technical support for completing firm price contracts and large assessments and estimates
- Performed cost, estimate, and schedule assessments of firm price construction projects

Constellation Energy/Exelon
January 2014 – December 2015
SENIOR PROJECT MANAGER

- Senior Project Manager for Various Projects at Calvert Cliffs Nuclear Plant
- Performed comprehensive project management for all areas of assigned projects spanning contract management to enterprise risk management
- Managed budgets of over $1 billion for large capital projects at 3 sites, including high priority projects; responsible for projects including Independent Spent Fuel Storage Installation (ISFSI), Power Block Roof Replacement, and PAA Injection

Progress/Duke Energy
January 2012 – January 2013
DIRECTOR OF EMERGENCY DIESEL PROJECTS

- Director of Emergency Diesel Projects including new Emergency Diesel Installations
- Developed conceptual plans for installation of new emergency diesels including engineering and installation plans

Constellation Energy
July 2007 December 2012
SENIOR PROJECT MANAGER

- Project Manager for ISFSI at Calvert Cliffs Nuclear Plant; project consisted of expansion of existing ISFSI facility and license extension for Spent Fuel Storage
- Developed the project business case, project charter, project plan, communications plan, and risk management tools

ASSISTANT PROJECT DIRECTOR

- Provided project management for a FGD installation at coal plant outside Baltimore
- Duties included setting up organizational and management infrastructure, staffing plans, project plans, risk management plans, schedule and budget reporting, development of business plans, and overall project management
- Assisted with contract negotiations of major contracts valued at over $800 million.

Crystal River Nuclear Plant
June 2005 – July 2007
CONSTRUCTION MANAGER

- Construction Manager for all phases of work associated with a Self-Managed Steam Generator Replacement (SGR) Project for Crystal River Nuclear Plant
- Direct report to project manager
- Duties included direct management oversight of the SGR construction task managers and subcontractors.
- Direct management responsibility for project field engineering, project safety, procurement, training, document Control, and Construction Management.
- Responsibilities also included development of Bottoms Up Estimate for SGR Project, development of long range Staffing Plan, development of Risk Management Plan and Communication Plan Project Plan, Task Plan Procedures, Reporting Procedures, WBS.

Prairie Island SGRP
April 2004 – November 2004
NIGHT SHIFT MANAGER
SGR Project Manager

- Utility Night Shift Manager for all phases of work associated with the Steam Generator Project for Prairie Island Nuclear Plant.
- Duties included direct management oversight of the SGR Contractor.
- Direct management responsibility for utility project engineering, field engineering, outage control center representatives, scheduling and construction coordinators.
- Coordinated and managed all day-to-day activities and issues during the SGRO.

Calvert Cliffs Unit 2 RVHP
February 2003 – January 2004
PROJECT MANAGER INSTALLATION

- Project Manager responsible for all installation tasks associated with the Reactor Head Replacement Project including:
    - Developed schedule and drafted WBS
    - Coordinated the primary and dependent work activities
    - Provided support for draft of RFP for Head Replacement
    - Supported bid evaluations
    - Developed the construction plan
    - Provided input to evaluation of replacement scenarios, specific to rigging, re-use of component internals

Sequoyah Nuclear Plant
June 2001 to February 2003
ASSISTANT INSTALLATION MANAGER

- Assisted the TVA Installation Manager in all aspects of pre-planning the SGR project to review the contractor procedures and work plans, Interface with contractor and plant for integration of contractors' scope of work with station and oversee the schedule development and review. Additional duties are as follows:

- Provided input to development of outage schedule. Assessed and assisted in resolution of conflicting activities, including horizontal and vertical slice reviews
- Provided assistance to containment coordination in the development of containment laydown plans and material routing
- Provided input and implementation of project specific safety plans
- Provided input and coordination between project and plant Safety, HP and ALARA staff
- Provided interface and coordination for all Oversight Supervisors (Civil, Electrical, Welding, Mechanical) to counterpart Bechtel SGRP supervision
- Provided review and input to development of WP&IR's. Ensures compliance to plant norms, standards and procedures whenever applicable
- Assisted in review and development of project specific training and qualification programs
- Assisted in review of project welding program; provided input where required to review SPM to ensure compliance to standard welding codes and appropriate WPS
- Assisted Lead Containment Coordinator in development of plan for protection of permanent plant equipment
- Assisted Lead Electrical Coordinator in review of SGR plan for temporary electrical power and communications
- Assisted Lead Civil Coordinator in review of SGR plans and procedures involving heavy lifts, haul routes and the erection of temporary facilities

Farley Nuclear Plant
October 1999 - 2001
PROJECT COORDINATOR

- SGR Project Coordinator reporting directly to SGR Installation Manager and Plant Outage Manager, in support of Southern Nuclear Corp. for Unit 1and 2 SGRP at Farley Nuclear Plant.
- Duties included the following: established communication meetings between SGR Group and Plant personnel, provided oversight for schedule and WP&IR development and review, evaluated WBS and resource loading, assigned craft and distribution of planned hours for specific activities, developed laydown drawings for material and equipment for containment, provided oversight for schedule implementation, performed role of task manager for containment mob/ demob, laydown for containment and areas both inside and outside the Protected Area

Big Rock Nuclear Plant
September 1997 – October 1999
PROJECT MANAGER DECOMMISSIONING

- Project Manager for Major Component Removal
- Provided Project Management for utility under decommissioning of a nuclear generating plant.
- Duties included providing overall management for the utility of prime contractor performing removal of large component project (i.e. reactor vessel, steam drum, and demolition of containment building, turbine building, and all structures and foundations)
- Direct interface with Dry Fuel Storage and Fuel Pool Clean-out projects
- Developed and released Request for Proposal (RFP)
- Assisted in proposal review, evaluation preparation, and selection of contract award and in contract negotiations
- Developed incentive plan for major contractor; contract value of $50+ million
- In charge of review and approval of contractor QA Program and Procedures
- Developed integration plan between major contractor and station

Millstone Nuclear Plant
January 1997 - September 1997
CONSTRUCTION MANAGER

- In charge of repairs and upgrades of drywell for Unit 1 restart

- Served as liaison between contractors and utility
- Managed all planning and contractor work activities for pipe replacements and modifications in drywell

Various Nuclear and Conventional Plants
January 1994 - January 1997
SUPERINTENDENT / PROJECT MANAGER

- Duties included all phases of planning, costing, scheduling, manpower, and subcontractors
- Projects ranging from $30 thousand to $3 million in size, including pipe replacements and steam generator replacements
- Pipe Replacements included Millstone 1 and Dresden 2
- SGRPs included VC Summer and Ginna
- Decommissioning included Shoreham

Charleston, SC
October 1989 to November 1993
PROJECT / PROCESS ENGINEERING MANAGER

- A large metal fabrication facility that specialized in metal expansion joints, pressure vessels, ductwork, and high volume manufacturing.
- Duties included oversight of planning and estimating; managed weld engineering, new process line development, and contract administration for subcontractors
- Established welding procedures and weld training/testing
- Established and managed engineered metal stamping process
- Engineered contracts ranging from $20K to $21M

Charleston, SC
August 1986 – November 1989
DIVISION MANAGER

- An independent NDT inspection lab, providing services to private contractors, private shipyards, US Navy, Air Force and power companies.
- Worked with NAVSEA and Mil. Standard Codes, also with ASME, AWS, ANSI, and ASTM
- Qualified Level II tested in accordance with ASNT-TC-1A for MT, PT and RT, also Level I UT
- Duties included full responsibility for managing lab for inside and outside work
- Provided welding consulting including welding procedure development, welder training and certification
- Served as Expert Witness for weld failure analysis litigation

Various Nuclear and Conventional Plants
October 1985 – July 1986
WELDING SUPERVISOR

- Supervised pipe replacements at Mojave Generating Station and Four Corners, New Mexico
- Performed CRDM overlays at Indian Point Station and Salem Unit 2

Vogtle Nuclear Plant
March 1985 – September 1985
WELDING TECHNICIAN

- Performed welding of loop piping for Unit 2 new construction
- Trained and tested welders on automated welding equipment
- Also in charge of maintenance, calibration, and equipment inventory

Beaver Valley Nuclear Plant
October 1984 – February 1985
PROJECT SUPERINTENDENT

- Performed training of plant welders on Dimetrics Goldtrack welding systems for feed water valve ID overlay

Browns Ferry Nuclear Plant / Edwin I. Hatch Nuclear Plant/ Peach Bottom Nuclear Plant
August 1983 to August 1984
SUPERINTENDENT

- Superintendent for overlays of sweepolets on recirc and RHR piping at Browns Ferry Plant
- Night shift superintendent for replacement of reactor recirculating piping

Vogtle Nuclear Plant
November 1982 – August 1983
WELDING SPECIALIST

- Duties included preparing welding procedures and training approximately 40 welders on Dimetrics automated welding systems
- After training was completed, went into field as welding superintendent for loop piping and feedwater piping

Atlanta, GA
March 1980 - September 1982
WELDER/WELDING FOREMAN

- Duties included supervising of all local welding operations, dispatching mobile units, estimating field and shop welding, scheduling and assigning work, and training personnel.
- Extensive expertise with SMAW, GTAW, and GMAW welding of stainless, carbon, cast, aluminum, titanium, plate and pipe
- Inspection of Quality Control

Charleston, SC
June 1976 – November 1979
WELDER/FOREMAN

- In charge of 15 man welding crew
- Operating automatic and manual machines
- Instructor for welding school
- Inspection of weld preps for QC inspection
- Manufacturer of LNG Aluminum Spheres

EDUCATION

- Trident Technical College
- Welding Technology
- Goose Creek High School, Charleston, SC

SPECIALTY TRAINING

- Clemson University- Continuing Education
- Project Manager Training Course
- QA Training Course
- Primavera Project Planning
- Power Draw (Macintosh)
- Auto-Cad 13
- PMI Training
- Risk Management Training

MEMBERSHIPS

- Project Management Institute- PMI
- American Welding Society - AWS
- American Society Non-Destructive Testing - ASNT
- Former Member Advisory Committee Trident Technical College
- American Nuclear Society- ANS

EXHIBIT C

Generic Environmental Impact Statement for License Renewal of Nuclear Plants
Supplement 5, Second Renewal
Regarding Subsequent License Renewal for Turkey Point Nuclear Generating
Unit Nos. 3 and 4

Final Report

[excerpt]

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

NUREG-1437
Supplement 5
Second Renewal

Generic Environmental Impact Statement for License Renewal of Nuclear Plants

Supplement 5, Second Renewal

Regarding Subsequent License Renewal for Turkey Point Nuclear Generating Unit Nos. 3 and 4

Final Report

Office of Nuclear Reactor Regulation

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U.S.NRC
United States Nuclear Regulatory Commission
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Supplement 5
Second Renewal

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Final Report

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Office of Nuclear Reactor Regulation

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The Biscayne Bay Aquatic Preserve includes 67,000 ac (27,000 ha) of sovereign submerged lands managed by the FDEP's Office of Coastal and Aquatic Managed Areas. The preserve runs the length of Biscayne Bay from the headwaters of the Oleta River down to Card Sound near Key Largo. The FDEP designated the waters within the Biscayne Bay Aquatic Preserve as Outstanding Florida Waters for waters worthy of special protection because of natural attributes. Under the Outstanding Florida Waters designation, the State cannot issue permits for direct discharges that would lower ambient water quality (FDEP 2017a).

Card Sound is a shallow bay south of the Turkey Point site with limited connection to the Atlantic Ocean. It lies wholly within the boundary of the Florida Keys National Marine Sanctuary. The mangrove forests surrounding Card Sound are part of the longest continuous stretch of mangrove remaining on the east coast of Florida and provide a source of food and refuge for approximately 70 percent of the region's commercially and recreationally important marine species. Both Biscayne Bay and Card Sound are nursery areas for the spiny lobster (*Panulirus argus*). The State of Florida has designated the area from Cape Florida near Key Biscayne south to Card Sound as the Biscayne Bay-Card Sound Lobster Sanctuary.

Section 2.4.2 of the NRC staff's EIS for the Turkey Point Units 6 and 7 combined licenses (NUREG–2176) (NRC 2016a) describes Biscayne Bay, Card Sound, and other nearby aquatic resources in detail. The NRC staff incorporates those descriptions from NUREG–2176 into this SEIS by reference. In addition, see Section 3.7.4 of this SEIS for a detailed discussion of FPL's semiannual monitoring of Biscayne Bay and Card Sound.

3.7.3 Aquatic Resources on the Turkey Point Site

Within the Turkey Point site, the primary aquatic environment is the cooling canal system (CCS). The CCS occupies an area that is approximately 2 mi (3.2 km) wide by 5 mi (8 km) long and includes 168 mi (270 km) of earthen canals that cover an effective water surface area of approximately of 4,370 ac (1,770 ha) and a total surface area of 5,900 ac (24 km^2) (FPL 2018f, NRC 2002c). The CCS's channels are about 200 feet (60 m) wide and range in depth from 1 to 3 feet (0.3 to 1 m) (FPL 2018f). FPL constructed the CCS to use as an industrial wastewater facility. For a description of the CCS operations, see Section 3.1.3, "Cooling and Auxiliary Water Systems," in this SEIS.

The CCS has historically supported a variety of fish, mollusks, crabs, and submerged aquatic vegetation that are tolerant of shallow, subtropical, hypersaline environments such as sheepshead minnow (*Cyprinodon variegatus*) and several *Fundulus* species. FPL (2014a) reported that the species identified in Table 3-9 were present in the CCS as of November 2007. Because the CCS does not directly connect to any surface water body, aquatic organisms are unable to travel between the CCS and any other water bodies. Aquatic biota in the CCS are not accessible for recreational or commercial harvest because FPL controls the entirety of the CCS and does not allow the public to access it.

Table 3-9 Aquatic Species Reported from the Cooling Canal System, November 2007

Species	Common Name
Fish	
Centropomus undecimalis	common snook
Cyprinodon variegatus	sheepshead minnow
Fundulus spp.	killifish

created by the FPL operation of the cooling canal system was caused by the 40 mgd of evaporation of water from the open canals which left millions of gallons of heavier salt behind in the bottom of the canals. The hot polluted hyper saline water (3 times saltier than seawater) in the cooling canals has caused the sea grass to die in the canals, which leaving a polluted mix of nutrients and decaying organic matter in the CCS that has interfered with the ability of the water to cool the reactors during periods of intense heat. Now, the system cannot be operated safely without the infusion of 30 million gallons of brackish water daily from our secondary aquifer, the Floridan, to freshen and dilute the salt concentration in the CCS. The CCS water is still hypersaline although the level of salinity has been reduced. Over the course of approximately 35 years, starting in about 1982; FPL has tried five times to resolve the issues caused by the cooling canals, but none of these proposed solutions have worked. At the present time, FPL is attempting a 6th fix which is a line of 10 extraction wells, along the western side of the 5 mile length of the canal system, to attempt to pull back the polluted hyper saline water after it leaks into the aquifer and to stop and pull back the hyper saline plume which extends out more than 4 miles in al! directions from the cooling canals. The hypersa/ine plume is still moving towards Monroe County water well field to the West of the TPPP. Now into the second year of operation , there is no evidence that the hyper saline plume has been stopped. Recently, FKAA scientist Kirk Martin provided us with monitoring well reports demonstrating that the hyper saline plume is still moving westward. (**0024-3** [List, Gary])

Comment: Nobody, animal or human, should have to worry about the safety of their drinking water! (**0110-1** [Sieger, Brenda])

Comment: Logic dictates that protection of human health and the water supply for hundreds of thousands of people must be the priority concern. (**0147-1** [Farber, Carol])

Comment: As a National Park lover and also one who appreciates clean drinking water, it's important to me that we protect our parks and our waters. (**0154-1** [Harris, Susan])

Response: *These comments express concerns regarding the effects of the cooling canal system on water supply and water quality, similar to several comments addressed above. The NRC staff considered the issues identified in these comments, among other matters, in this SEIS. Section 3.5 of the SEIS describes the water resources of the Turkey Point site including the current water quality of the CCS and surrounding surface- and groundwater-bodies. As described in Sections 3.5.1.4 and 3.5.2.2 of the SEIS, the staff considered the development of regulatory actions addressing CCS operational effects on groundwater quality and the adjacent surface waters. The staff also considered the likely effectiveness of the mitigative actions undertaken by FPL under the Miami-Dade County Consent Agreement and the Florida Department of Environmental Protection Consent Order to remediate the hypersaline plume and reduce the impact of CCS operation on water quality. The staff evaluated the potential water resources-related impacts of renewing the Turkey Point Units 3 and 4 operating licenses in Section 4.5. In preparing this final SEIS, the NRC staff reviewed information that became available after publication of the draft SEIS, including ongoing water quality monitoring data, additional environmental studies, and evolving regulatory actions to include information on FPL's progress in achieving the objectives related to the aforementioned State and County regulatory requirements. In addition, the staff incorporated recent information in the final SEIS, as appropriate.*

These comments provide no new information, and no changes have been made to this SEIS as a result.