

December 21, 2018

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

_____)	
In the Matter of)	
Exelon Generation Company, LLC)	Docket Nos. 50-277/278 SLR
Peach Bottom Atomic Power Station,)	
Units 2 & 3)	
_____)	

**BEYOND NUCLEAR’S REPLY TO EXELON’S AND NRC STAFF’S
OPPOSITIONS TO HEARING REQUEST AND PETITION TO INTERVENE**

INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(i)(2), Beyond Nuclear, Inc. (“Beyond Nuclear”) hereby replies to responses by Exelon Generation Co. (“Exelon”) and the U.S. Nuclear Regulatory Commission (“NRC”) Staff to Beyond Nuclear, Inc.’s Hearing Request and Petition to Intervene (Nov. 19, 2018) (“Hearing Request”).¹ Neither party opposes Beyond Nuclear’s standing, but both argue that Beyond Nuclear’s two contentions are inadmissible and that they improperly challenge NRC regulations. As discussed below in Section II, their arguments are without merit, and therefore the contentions should be admitted.

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¹ Exelon’s Answer Opposing Beyond Nuclear Inc.’s Hearing Request and Petition to Intervene (Dec. 14, 2018) (“Exelon Opp.”) and NRC Staff Answer to Beyond Nuclear, Inc.’s Hearing Request and Petition to Intervene (Dec. 14, 2018) (“NRC Staff Opp.”).

II. DISCUSSION

A. Contention 1 is Admissible.

Contention 1 challenges the adequacy of Exelon’s Aging Management Programs to satisfy NRC safety standards in 10 C.F.R. Part 54, because they fail to address any of the following issues:

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

Hearing Request at 4. Therefore, Beyond Nuclear contends that Exelon’s license for Peach Bottom Units 2 and 3 should not be renewed until these actions have been taken.

*Id.*² Contention 1 is supported by the exper report of David Lochbaum, Proposed Subsequent License Renewal of Peach Bottom Units 2 and 3: Exelon’s Aging Management Programs Fail to Provide Adequate Measures for Consideration of Operating Experience Throughout the Period of Extended Operation (Nov. 16, 2018) (“Lochbaum Report”).

1. Contention 1 does not challenge NRC regulations.

The NRC Staff argues that because NRC regulations do not explicitly require aging management programs to consider operating experience, Contention 1 constitutes an impermissible attack on the NRC’s regulations. NRC Staff Opp. at 31-35. In making

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² Beyond Nuclear cites three regulations in the contention: 10 C.F.R. § 54.21(a)(3), 10 C.F.R. § 54.29(a)(1), and 10 C.F.R. § 54.31(a)(1). Hearing Request at 4. The NRC Staff correctly notes that Beyond Nuclear’s citation to 10 C.F.R. § 54.31(a)(1) was a typographical error. NRC Staff Opp. at 30 n.134. Beyond Nuclear hereby clarifies that the regulations relied on in Contention 1 are 10 C.F.R. §§ 54.21(a)(3) and 54.29(a)(1).

this argument, the Staff ignores the relevant rulemaking history of 10 C.F.R. Part 54, and also contradicts itself.

First, the Staff ignores the rulemaking history of the NRC’s license renewal regulations. In promulgating those rules, the Commission expressly noted the importance of being able to consult a substantial body of operating experience – both at the time of license renewal applications and throughout the license renewal term. As noted by Mr. Lochbaum, the stated purpose of 10 C.F.R. § 54.17 -- which prohibits licensees from applying for license renewal more than twenty years before the expiration of the current reactor license -- is to “ensure that substantial operating experience is accumulated.” Lochbaum Report at 7 (citing Final Rule, Nuclear Power Plant License Renewal, 56 Fed. Reg. 64,943, 64,963 (Dec. 13, 1991)).³ The full text of the discussion shows that consideration of operating experience – both internal and external – was fundamental to both the time limit imposed by 10 C.F.R. § 54.17 and the NRC’s general approach of allowing licensees to address aging risks through long-term management programs rather than resolving all issues at the outset of the license renewal term:

Neither the [Atomic Energy Act] nor the Commission’s current regulations set a limit on how long before expiration of the operating license a renewal application may be filed. The Commission has decided to impose such a limit to ensure that substantial operating experience is accumulated by a licensee before it submits a renewal application.

In the proposed rule, the Commission suggested a 20-year time limit for filing renewal applications. Several commenters argued that 20 years would not be a sufficient period of time to accumulate an adequate body of information and experience to support the agency’s consideration of a renewal application.

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³ Exelon asserts that 10 C.F.R. § 54.17 “requires 20-years of *plant-specific* [operating experience].” Exelon Opp. at 22 n.12 (emphasis in original). But the rule itself does not refer to operating experience at all, and the rule’s preamble contradicts Exelon.

Commenters incorrectly suggest that new information about plant systems and components as well as age-related degradation concerns discovered after the renewed license is issued would not be considered by the NRC or would not be factored into a plant's programs. The [current licensing basis] of a plant will continue to evolve throughout the term of the renewed license to address the effects of age-related degradation as well as any other operational concern that arises. The licensee must continue to ensure that the plant is being operated safely and in conformance with its licensing basis. *The NRC's regulatory oversight activities will also assess any new information on age-related degradation or plant operation issues and take whatever regulatory action is appropriate for ensuring the protection of the public health and safety. The commenters ignore the fact that both renewal applicants and the NRC will have the benefit of the operational experience from the nuclear industry and are not limited to information developed solely by the utility seeking a renewed license.* For example, there are now approximately 1400 reactor years of operating experience in the U.S. nuclear power industry. *This experience will increase each year. All of this experience would be considered by the NRC in evaluating the adequacy of licensee-proposed activities to address age-related degradation in connection with a renewal application.*

56 Fed. Reg. at 64,963 (emphasis added). This language in the rule's preamble establishes the central role played by the ongoing reliance on operating experience in the Part 54 regulatory scheme. *Martin v. American Cyanamid*, 5 F.3d 140, 145 (6th Cir. 1993) citing *Martin v. OSHRC*, 941 F.2d 1051,1056 (10th Cir.1991); *Ohio Manufacturers' Assoc. v. Akron*, 801 F.2d 824, 832-33 (6th Cir.1986), *cert. denied and appeal dismissed*, 484 U.S. 801 (1987) ("The preamble to a regulation may be consulted in determining the administrative construction and meaning of the regulation.").

The Staff's argument is also contradicted by the Staff's own opposition brief, which acknowledges that the Commission relies on NRC guidance to flesh out the details of the general terms of NRC's license renewal regulations. NRC Staff Opp. at 24-25 and n.106 (citing *NextEra Energy Seabrook, L.L.C.* (Seabrook Station, Unit 1), CLI-12-5 75 N.R.C. 301, 304 (2012); *Entergy Nuclear Vermont Yankee, L.L.C.* (Vermont Yankee Nuclear Power Station), CLI-10-17, 72 N.R.C. 1, 36 (2010); *AmerGen Energy Co. L.L.C.*

(Oyster Creek Nuclear Generating Station), CLI-08-23, 68 N.R.C. 461, 467-68 (2008)).⁴

Thus, as the Staff admits, a subsequent license renewal applicant’s commitment to implement an aging management plan that “is consistent with the GALL-SLR Report” constitutes – by itself – “an adequate demonstration of reasonable assurance that effects of aging will be managed in accordance with § 54.29(a)(1).” *Id.* See also *Seabrook*, CLI-12-15, 75 N.R.C. at 304; *Vermont Yankee*, CLI-10-17, 72 N.R.C. at 36; *Oyster Creek*, CLI-08-32, 68 N.R.C. at 467-68.

The Commission has also held that operating experience -- identified in the GALL-SLR as one of ten essential elements of an adequate aging management program - - *must* be addressed in license renewal applications. *Oyster Creek*, CLI-08-23, 68 N.R.C. at 468. See also NRC Staff Opp. at 32 (citing GALL-SLR, Vol. 1, at xxxiv). A discussion of how the license renewal applicant will consider the ten fundamental elements of aging management may not be avoided by proposing an alternative means of satisfying the regulations. *Id.* Thus, contrary to the Staff’s argument, not all of the elements of GALL-SLR are merely “advisory.” NRC Staff Opp. at 34 (citing *Duke Energy Corp. (Catawba Nuclear Station, Units 1 & 2)*, CLI-04-29, 60 N.R.C. 417, 424 (2004), *recon. denied*, CLI-04-37, 60 N.R.C. 646 (2004)). To the extent that GALL-SLR adopts concepts that are

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⁴ These guidance documents primarily consist of the “Generic Aging Lessons Learned for License Renewal Report” (NUREG-1801) (“GALL Report”) and the “Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants” (NUREG-2192) (“SRP”). *Seabrook*, CLI-12-05, 75 NRC at 304. These guidance documents, updated multiple times since 1991, were most recently revised for subsequent license renewal as “Generic Aging Lessons Learned for Subsequent License Renewal Report,” NUREG-2191 (July 2107), (“GALL-SLR”) (ML17187A031) and “Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants” NUREG-2192 (“SRP-SLR”) (ML17188A158).

already in the Part 54 regulations (*i.e.*, 10 C.F.R. § 54.17 and its regulatory history), it is mandatory.

Furthermore, among the ten critical elements of an aging management plan, operating experience plays a particularly important role. As explained in the GALL-SLR:

Operating experience (OE) is a crucial element of an effective aging management program (AMP). It provides the basis to support all other elements of the AMP and, as a continuous feedback mechanism, drives changes to these elements to maintain the overall effectiveness of the AMP. OE should provide objective evidence to support the conclusion that the effects of aging are managed adequately so that the structure- and component-intended function(s) will be maintained during the subsequent period of extended operation.

The systematic review of plant-specific and industry OE concerning aging management and age-related degradation confirms that the subsequent license renewal (SLR) AMPs are, and will continue to be, effective in managing the aging effects for which they are credited. The AMPs should either be enhanced or new AMPs developed, as appropriate, when it is determined through the evaluation of OE that the effects of aging may not be adequately managed. AMPs should be informed by the review of OE on an ongoing basis, regardless of the AMP's implementation schedule.

GALL-SLR at B-1 (emphasis added). *See also* Lochbaum Report at 9. While the GALL-SLR does not state that a substantial amount of operating experience is necessary for an adequate aging management plan, the concept is implicit. If, as the GALL-SLR states, operating experience is a “continuous feedback mechanism” that “supports all other elements” of the aging management program and helps to “maintain the overall effectiveness” of the program, then a lack of feedback will diminish the quality of the entire program.

The GALL-SLR also makes it clear that the asserted effectiveness of an aging management plan must be supported with evidence, *i.e.*, “OE should provide objective evidence to support the conclusion that the effects of aging are managed adequately so that the structure- and component-intended function(s) will be maintained during the

subsequent period of extended operation.” *Id.* at B-1. If the amount of available operating experience declines, Exelon will have less evidence to present in support of its aging management program.

The Staff provides no information to indicate that the amount of operating experience needed to inform safe operation during the license renewal term has declined. And neither the Commission nor the NRC Staff has announced that the NRC has now learned everything possible about aging effects on nuclear reactor equipment, therefore rendering it unnecessary to address a significant decline in the amount of available external operating experience. To the contrary, the NRC has identified significant unresolved issues, such as reactor pressure vessel embrittlement, irradiation-assisted stress corrosion cracking of reactor internals, concrete and containment degradation, and electrical cable qualification and condition assessment. Hearing Request at 5 (citing Lochbaum Report at 3-4 and SECY-14-0016, Memorandum from Mark A. Satorius, NRC Executive Director of Operations, to NRC Commissioners, re: Ongoing Staff Activities to Assess Regulatory Considerations for Power Reactor Subsequent License Renewal (Jan. 31, 2014) (NRC ADAMS Accession No. ML14050A306) (“SECY-14-0016”).

Here, Beyond Nuclear has legitimately challenged Exelon’s and the NRC Staff’s continued reliance on the outdated assumption that the amount of operating experience will steadily increase and continue to provide an adequate amount of information to inform Exelon’s aging management program during the subsequent license renewal term. As the NRC Staff also acknowledges, Exelon’s reliance on the GALL-SLR as part of its subsequent license renewal application “does not insulate that program from litigation

where the challenge is adequately supported.” NRC Staff Opp. at 25 (citing *Seabrook*, CLI-12-05, 75 N.R.C. at 315).⁵ Beyond Nuclear has raised an admissible issue as to whether the GALL-SLR’s requirement to use operating experience for an effective aging management program can be satisfied without considering the degree to which Exelon’s aging management program depends on operating experience; whether the amount of available external operating experience will be sufficient during the subsequent license renewal term to adequately inform Exelon’s aging management program; and if it is not, providing an alternative means of obtaining that operating experience.

2. Contention 1 makes specific criticism of Exelon’s application.

Exelon argues that Contention 1 is inadmissible because it is “vague and generalized, failing to challenge any portion of the Application or identify any specific deficiency in any of the aging management programs described in the Application.” Exelon Opp. at 12-13. This argument lacks merit for several reasons.

First, Contention 1 is a contention of omission, because it asserts that Exelon’s aging management programs, submitted with its subsequent license renewal application, are inadequate for failure to contain information that is necessary to demonstrate regulatory compliance. A contention of omission, by its very nature, cannot be more specific than to identify the general portion of a license application that is deficient

⁵ The NRC Staff argues that in *Seabrook*, the Commission rejected a contention “similar” to Contention 1. NRC Staff Opp. at 34-35 and n.153. In *Seabrook*, the petitioners sought to impose a requirement to “preclude” moisture from affecting cables in the reactor. 75 N.R.C. at 314-15. The Commission found that such a measure would go beyond the scope of the regulations, which merely require licensees to “manage” aging and not to take specific measures to prevent aging from occurring. *Id.* at 315. The measures sought by Beyond Nuclear relate directly to the conduct of Exelon’s aging management program. Beyond Nuclear seeks to ensure that Exelon has sufficient information about operating experience to ensure the effectiveness of its aging management program.

because it lacks certain information. In fact, Beyond Nuclear is quite specific regarding the portions of Exelon's aging management programs whose adequacy will be affected by a reduced amount of operating experience. *See* Lochbaum Report at 33 (discussing the effects of a lack of operating experience on the "effectiveness assessments" described at pages B-6 and B-7 of Exelon's Subsequent License Renewal Application. Mr. Lochbaum also identifies the "monitoring and evaluation programs specified by NRC license renewal guidance that would be affected by a lack of adequate operating experience:

For instance, as described on pages 9-12 above, the nuclear industry, Exelon, and NRC use monitoring and evaluation processes to identify sources of operating experience (e.g, licensee event reports, inspection findings, etc.) and how the information will be handled (e.g., evaluated by qualified individuals with corrective action reports initiated for out-of-normal findings.) The outcomes from these processes have prompted revisions to aging management programs, including assessments of how effectively each step in the process is being implemented. But none of the processes seek to ascertain whether the amount of operating experience is sufficient to enable the revisions needed to maintain effective aging management programs. In other words, they fail to specify the "critical mass" of operating experience information needed to confirm the continued adequacy of aging management programs or trigger the necessary upgrades.

Lochbaum Report at 31.

Neither of the cases cited by Exelon hold otherwise. Exelon cites *Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), CLI-15-23, 82 N.R.C. 321, 328 (2015) for the proposition that Contention 1 is impermissibly vague because it does not cite or discuss "the specific portions of the Application believed to be insufficient." Exelon Opp. at 14. *Palisades*, however, is inapposite. In *Palisades*, the petitioner disputed the adequacy of a mathematical analysis designed to demonstrate fracture toughness of pressure vessels, asserting that the applicant must test new physical samples as part of the analysis. 82 N.R.C. at 322-24. The Commission faulted petitioners and their expert for failing to (a)

cite the “specific portions of the analysis” that were deficient or (b) explain why previously analyzed samples were insufficient. 82 N.R.C. at 328. In short, the expert “provide[d] no explanation for his claim that additional physical testing is necessary to support the . . . analysis.” *Id.* Here, in contrast, Beyond Nuclear has identified with specificity the type of information that is missing from Exelon’s aging management program, *i.e.*, a description of:

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

Hearing Request at 4. *See also* Lochbaum Report at 3-4, 30, 33, 40-41. Mr. Lochbaum’s expert report also provides a detailed discussion of why that information is necessary to satisfy NRC’s license renewal regulations. His report:

- provides background information on NRC license renewal regulations, aging management, and operating experience (Section 1);
- explains why operating experience is essential to ensure the adequacy of aging management programs (Section 2);
- gives examples of how operating experience has changed and improved aging management programs, addressing important safety issues (Section 3);
- identifies unresolved aging issues that will need to be addressed in future aging management programs (Section 4);

- shows a trend of declining operating experience in the U.S. nuclear industry and explains why it is likely to continue through the subsequent license renewal terms of the Peach Bottom reactors (Section 5);
- discusses and evaluates the particular manner in which Exelon’s aging management programs use operating experience, including the failure of those programs to address the availability of operating experience in the future or to compensate for a reasonably foreseeable decline in the amount of available operating experience (Section 6);
- explains how Exelon’s failure to address the potential decline in available operating experience will adversely affect the adequacy of particular aspects of Exelon’s aging management programs (Section 7); and
- alternatives to operating experience that could be used to compensate for the lack of external operating experience, such as increasing internal monitoring, evaluating reactor properties during routine maintenance, and evaluating the properties of components harvested from other reactors (Section 8).

Thus, Contention 1 suffers from none of the defects in specificity or analytical support identified by the Commission in *Palisades*. Nor does Contention 1 raised only “generalized concerns” without identifying “any specific portion of the application that it seeks to challenge.” Exelon Opp. at 15 (citing *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-15-21, 82 N.R.C. 295, 306 (2015)).

Exelon complains that it “should not be forced to parse through Contention 1 and Mr. Lochbaum’s lengthy report to identify Petitioner’s specific challenges to the Application.” Exelon Opp. at 15. In fact, however, Contention 1 clearly identifies what is

missing from the application (Hearing Request at 4) and the basis statement briefly explains the reasons why the omissions preclude a finding of compliance with NRC's license renewal application. Mr. Lochbaum's report is also clearly organized, with descriptive headers to guide the reader to his criticisms of the application itself (in Sections 6 and 7). Furthermore, the only subject of Mr. Lochbaum's report is the inadequacy of Exelon's aging management programs for subsequent license renewal at Peach Bottom. Beyond Nuclear could have pasted the entire report into the basis statement for the contention; there would have been no portion that it would have been appropriate to omit. By incorporating by reference a separate expert report, that was devoted entirely to the support of Contention 1, and that contained separate and clearly labeled sections differentiating background information from the clearly and specifically-stated claims of the contention, Beyond Nuclear presented an admissible contention.

Moreover, none of the cases cited by Exelon at page 15 concerned similar circumstances or suggest that Contention 1 should be rejected. In *USEC, Inc. (American Centrifuge Plant)*, CLI-06-10, 63 N.R.C. 451, 457 (2006), for example, the Commission faulted a contention for an "overwhelming" lack of "minimal factual or legal support." Similarly, in *Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3)*, CLI-01-24, 54 N.R.C. 349, 358 (2001), the Commission stated that it would reject contentions that make "bald or conclusory allegation[s]." Contention 1, in contrast, has significant factual and legal support as set forth in Mr. Lochbaum's expert report. In *Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Unit 3)*, CLI-08-17, 68 N.R.C. 231, 233 (2008) (quoting *Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3)*, CLI-99-11, 40 N.R.C. 328, 334 (1999), the Commission stated

that a contention should be capable of resolution in an adjudication and not a “generalized grievance” about NRC policies.⁶ Here, Beyond Nuclear specifically disputes the adequacy of Exelon’s aging management programs to satisfy NRC license renewal regulations in Sections 6 (Operating Experience in Aging Management During License Renewal at Peach Bottom) and 7 (Operating Experience May Become Insufficient to Maintain Effective Aging Management). In Section 8 (Alternate Sources of Operating Experience), Mr. Lochbaum identifies several methods for replacing the operating experience lost when nuclear reactors permanently shut down. Thus, far from presenting a “generalized grievance,” Mr. Lochbaum’s expert report identifies a specific problem as well as potential resolutions.

3. Contention 1 has an adequate basis and demonstrates a material dispute with Exelon.

Exelon further contends that Contention 1 “lacks a basis and support demonstrating any material dispute.” Exelon Opp. at 13. The NRC Staff makes a similar argument at pages 36-37. According to Exelon, Beyond Nuclear Exelon “ignores much of the existing infrastructure surrounding aging management, including the already robust aging management and operational experience programs in place, both at Peach Bottom and industry-wide and the multiple sources of OE evaluated under these programs, as described in the application.” *Id. See also id.* at Exelon Opp. at 13. The NRC Staff also takes the general position that Exelon’s aging management programs are sufficient merely *because* they consider operating experience, without regard to the question of

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⁶ While Exelon also cites *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 N.R.C. 125, 144 (2004) for this proposition, no such holding appears at page 144.

whether the amount of available operating experience is sufficient to ensure that Exelon is adequately informed of aging issues. NRC Staff Opp. at 36-37. The Staff asserts that Mr. Lochbaum's report is "vague," "speculative," and "generalized;" and that it is not "specific." *Id.* at 38.

In fact, however, Mr. Lochbaum describes Exelon's aging management programs in detail, states that these programs fail to acknowledge the limitations on operating experience that will exist in the future, and explains why that is a significant deficiency. Exelon ignores the very gravamen of the contention: that although Exelon's aging management programs may have been able to rely on an acceptable amount of operating experience in the past, it is no longer reasonable to assume that the same amount or quality of operating experience will be available during the subsequent license renewal term for Peach Bottom.

The NRC Staff argues that Beyond Nuclear "overlooks publicly available information that indicates that NRC guidance documents have been revised to address information related to managing aging effects of aging during the SLR period." NRC Staff Opp. at 59. This is incorrect. Contention 1 draws upon a wealth of material in NRC guidance documents and government reports – including a government report that previously was publicly available and has now completely disappeared from the public record: the December 2017 study by Pacific Northwest National Laboratory entitled "Criteria and Planning Guidance for Ex-Plant Harvesting to Support Subsequent License Renewal" (PNNL-27120). *See* Lochbaum Report at 35-41. The removal of PNNL-27120 from government websites -- including NRC's ADAMS -- raises questions about the

NRC's commitment to transparency, rigor, and documentation in the entire subsequent license renewal program.

Exelon also argues that as long as it complies with the GALL-SLR, that is sufficient to show compliance with the NRC's license renewal requirements. Exelon Opp. at 17 (citing *Oyster Creek*, CLI-08-23, 68 N.R.C. at 467; *Vermont Yankee*, CLI-10-17, 72 N.R.C. at 36; *Seabrook*, CLI-12-5, 75 N.R.C. at 315). But the GALL-SLR does not rule out the need to address the issues raised in Contention 1. Rather, the GALL-SLR anticipates that aging management programs will be robust and up-to-date for the very reason that they take operating experience into account throughout the subsequent license renewal term. *See* discussions above at 6 and 9 and GALL-SLR at B-1 – B-2. As Exelon recognizes, referencing an aging management program in the GALL-SLR does not insulate the program from challenge. Exelon Opp. at 20 (citing *Seabrook*, CLI-12-05, 75 N.R.C. at 315).

Exelon further argues that any deficiencies in the aging management programs will be identified and addressed in the course of the subsequent license renewal term. Exelon Opp. at 20-23. In making this argument, Exelon misses the point of Contention 1, that without a clear explanation and understanding of how the aging management programs use operating experience, including the amount and nature of operating experience consulted, Exelon will be unable to recognize the effects of a declining body of operating experience, or to make informed decisions about how to compensate for it. *See* Lochbaum Report at 32-33. Beyond Nuclear seeks to ensure that Exelon's aging management programs contain elements necessary to ensure their effectiveness over the long-term.

Exelon claims that Beyond Nuclear fails to acknowledge the availability of information from reactors outside the U.S. and from research programs. Exelon Opp. at 23. In promulgating the Part 54 regulations, however, the Commission explicitly focused on operating experience from U.S. reactors. *See* 56 Fed. Reg. at 64,963 and discussion above at 3-4. In any event, the degree to which foreign reactor operating experience provides relevant and sufficient information is a factual merits question, not an an issue of admissibility.

With respect to the role of research, Contention 1 addresses the issue through Mr. Lochbaum's expert report. As he discusses in Section 8 (Alternative Sources of Operating Experience) accelerated and/or expanded research efforts could compensate for the declining availability of operating experience from U.S. reactors. But to continue research at the same level, in the absence of sufficient operating experience, would not be acceptable. The NRC's research programs are tailored to fill current knowledge gaps. The permanent closure of reactors in the future could create new gaps or widen existing gaps, thus prompting the need to revise the research efforts. As Mr. Lochbaum asserts, Exelon's aging management programs should include an evaluation of the programs' dependence on various sources of operating experience, in order to enable informed and timely decision-making about obtaining additional feedback from operating reactors (including research results) as the availability of operating experience declines. For example, Mr. Lochbaum explains that recommendations for harvesting reactor parts have resulted from recent research. Lochbaum Report at 37.

Thus, Beyond Nuclear has raised an admissible concern regarding whether Exelon's aging management programs comply with both NRC's license renewal regulations and GALL-SLR.

4. Contention 1 is based on reasonably foreseeable events, not vague speculation.

Finally, Exelon contends that Contention 1 is "based on vague speculation" that the amount of external operating experience available for consideration will decline. Exelon Opp. at 13. But Mr. Lochbaum has provided unassailable facts showing the trend of expiring licenses and early shutdowns that has already started. Beyond Nuclear does not need to prove that this trend will continue in order for Contention 1 to be found admissible. The applicable standard is whether Beyond Nuclear, through Mr. Lochbaum's expert report, has presented "sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact." 10 C.F.R. § 2.309(f)(1)(vi). Mr. Lochbaum's report provides more than sufficient support for his concern that operating experience at U.S. reactors will decline in the future rather than continue at the same rate or increase. Thus, Contention 1 is not speculative.

A. Contention 2 is Admissible.

Contention 2 disputes Exelon's claim that the risk of operating Peach Bottom with aging equipment is a "Category 1" issue and therefore exempt from consideration under 10 C.F.R. § 51.53(c)(3) and 10 C.F.R. Part 50, Appendix A, Table B-1. Instead, Beyond Nuclear argues that 10 C.F.R. § 51.53(c)(2) requires Exelon to address reactor aging phenomena and their effects beyond 60 years, including a review of relevant literature and reactor aging issues identified by the NRC Staff in SECY-14-0016. Beyond Nuclear also asserts that the Environmental Report should address the degree to which a lack of

information regarding the effects of aging on reactor systems and components affects the environmental risk posed by extended operation. Finally, Beyond Nuclear seeks a discussion of the significance of the declining amount of external operating experience available to Exelon to assist and increase its understanding of age-related environmental risks during the subsequent license renewal term. In support of the contention, Beyond Nuclear incorporates by reference Mr. Lochbaum's expert report. Hearing Request at 6-8.

1. By its plain language, 10 C.F.R. § 51.53(c)(3) does not apply to Exelon's subsequent license renewal application.

By its own plain language, 10 C.F.R. § 51.53(c)(3) applies only to "applicants seeking an initial renewed license," *i.e.*, a renewed license directly following an initial 40-year license term. But both the NRC Staff and Exelon argue that 10 C.F.R. § 51.53(c)(3) applies to Exelon's subsequent license renewal application, and therefore Exelon may avail itself of the Category 1 exemptions in Table B-1 of Appendix A to 10 C.F.R. Part 51. NRC Staff Opp. at 57, Exelon Opp. at 29. The Staff and Exelon brush by this plain language, claiming it is trumped by the history of the Part 51 regulations and the License Renewal Generic Environmental Impact Statement ("GEIS").

By dismissing the plain language of the rule, the Staff and Exelon ignore a bedrock principle of statutory and regulatory interpretation, the "plain language" rule. Where a "statute's language is plain," resolution of a disputed issue "begins with the language of the statute itself, and that is also where the inquiry should end." *Puerto Rico v. Franklin Cal. Tax-Free Tr.*, 136 S. Ct. 1938, 1946 (2016) (internal quotation marks omitted). In interpreting a statute, a court must "look first to its language, giving the words used their ordinary meaning." *Artis v. District of Columbia*, 138 S. Ct. 594, 603

(2018).⁷ “There is, of course, no more persuasive evidence of the purpose of a statute than the words by which the legislature undertook to give expression to its wishes.” *United States v. Am. Trucking Assns., Inc.*, 310 U.S. 534, 543 (1940). Moreover, “effect must be given, if possible, to every word, clause and sentence.” *United States v. Menasche*, 348 U.S. 528, 538–39 (1955); *see also Wrangler Laboratories, et. al.*, ALAB-951, 33 N.R.C. 505, 513–14 (1991) (quoting *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-900, 28 N.R.C. 275, 288 (1988)). There is nothing ambiguous about 10 C.F.R. § 51.53(c)(3), and therefore the ASLB must apply the plain language barring its application in any type of proceeding other than initial license renewal.⁸ #

2. The regulatory history of 10 C.F.R. § 51.53(c)(3) does not support the Staff’s and Exelon’s position.

The Supreme Court has repeatedly made clear that the “plain meaning” of a legislative text is “conclusive, except in the ‘rare cases’” in which such an interpretation would “produce a result *demonstrably at odds with the intentions of its drafters.*” *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 571 (1982) (emphasis added). But the Staff and Exelon fail to show the type of “rare circumstances” that would justify any departure from the plain language rule. To the contrary, application of the plain meaning of § 51.53(c)(3) to exclude subsequent license renewal applicants yields a logical result, not an absurd result. There is nothing “absurd” or even illogical about requiring a subsequent

⁷ Canons of statutory construction apply with equal force to construction of regulations. *Nat’l Ass’n of Home Builders v. Defs. of Wildlife*, 551 U.S. 644, 668 (2007); *Long Island Care at Home, Ltd. v. Coke*, 551 U.S. 158, 170 (2007).

⁸ The desire to achieved increased “efficiency” by applying Category 1 as broadly as possible in any kind of license renewal proceeding (NRC Staff Opp. at 53) hardly rises to the level of a “rare” circumstance warranting disregard of the plain language doctrine.

license renewal applicant to analyze Category 1 environmental issues on a site-specific basis. The 1996 License Renewal Generic Environmental Impact Statement (“GEIS”) focused only on the environmental impacts of the first twenty years following the initial license term, and the 2013 Revision to the License Renewal GEIS did nothing to expand on that temporal scope. Therefore, it would be *illogical* to apply the Category 1 exemptions to a second license renewal term whose environmental impact had never been analyzed in an EIS.

a. The temporal scope of the 1996 GEIS is clearly limited to the 40-year initial license term plus one renewal term.

The limited temporal scope of the 1996 GEIS is clear. As a general matter, it states:

This GEIS examines how these plants and their interactions with the environment would change if such plants were allowed to operate (under the proposed license renewal regulation 10 CFR Part 54) *for a maximum of 20 years past the term of the original plant license of 40 years.*

1996 GEIS at 2-1 (emphasis added). And the limited temporal scope of the 1996 GEIS’ findings undergirding Table B-1 is repeated in specific environmental analyses. For instance, the Category 1 designation of “radiation exposures to the public” in Table B-1 is based on the conclusion that “[r]adiation doses to the public from continued operations and refurbishment associated with license renewal are expected to continue at current levels, and would be well below regulatory limits.” This finding is based, in turn, on the environmental analysis in Section 2.6 of the 1996 GEIS, which assumes that the license to be renewed is the initial operating license. As stated in Section 2.6.2.2:

The generic license renewal programs utilized in this evaluation were based on similar schedules for carrying out the selected aging management activities. Any major refurbishment work called for by the programs was assumed to start shortly after a renewed license had been granted. *In these example programs, this would*

occur in roughly year 30 of the original 40-year license term. This work was assumed to be completed over several successive outages, including one at the end of the 40th year of plant operation.

1996 GEIS at 2-34 (emphasis added). *See also* Section 2.6.2.7, where the 1996 assumes that a renewed license would be “covering the balance of the original 40-year term, as well as the additional 20-year term.” *Id.* at 2-36. The NRC carried this temporal limit throughout the 1996 GEIS for a range of environmental impacts. *See, e.g., id.* at 7-1 – 7-17 (decommissioning); *id.* at 3-39 (radiation protection); *id.* at 4-59 (transmission lines); *id.* at 4-85 (public radiation doses). A 40-year term of reactor operation is assumed throughout as the “base case” or “baseline.” *Id.* at 7-1, 7-10, 7-14, 4-85. Thus, the 1996 GEIS analyzes the effects of adding a 20-year term to an original 40-year license term, and no more.⁹

b. The NRC did not expand the temporal scope of the License Renewal GEIS in the 2013 Revised GEIS.

The 2013 Revised License Renewal GEIS did not change this temporal scope. Instead, it simply re-evaluated and confirmed the previous findings. For instance, the 2013 Revised GEIS asserts that the 1996 GEIS’ conclusions regarding the environmental impacts of refurbishment activities are “valid and conservative.” 2013 Revised GEIS at

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⁹ Further confirmation of the NRC’s intent to limit the temporal scope of the 1996 GEIS can be found in a clarifying amendment to the 1996 rule, promulgated later that year. Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 66,537 (Dec. 18, 1996) (making “minor non-substantive changes” to Table B-1 and other provisions). In responding to comments, the NRC referred to “waste currently being generated during the initial license term of power reactors” (*id.* 66,538) and the “attribution of transportation impacts between the initial operating license and the renewed license.” *Id.* at 66,539. This language confirms that the only two license terms that were evaluated in the 1996 GEIS or the 1996 rule were the initial license term and the first license renewal term.

2-3. And the 2013 Revised GEIS concludes that “[d]uring the license renewal term, commercial nuclear power plants would continue to operate in the same manner as they had during the original license term.”¹⁰

The temporal limitation of the 2013 Revised GEIS to 40 plus 20 years is also evident in the GEIS’ discussion of specific types of environmental impacts. With respect to occupational radiation exposures, for example, the 2013 Revised GEIS states:

During 2005, with occupational radiation protection programs in place, nuclear power plants maintained an annual average individual dose of 0.12 rem and 0.18 rem for PWRs and BWRs, respectively (Table 3.9-11), compared with an exposure limit of 5 rem. For all nuclear power plants combined, the occupational doses to individual workers are estimated to average 0.15 rem/yr (Table 3.9-4). At these dose levels, the average increase in fatal individual cancer risk to a worker is approximately 6×10^{-5} /yr (using the ICRP risk coefficient of 4×10^{-4} /rem from Table 3.9-20). *If the reactor operates for 60 years, the cumulative increase in fatal cancer to an individual worker is estimated to be 3.6×10^{-3} (a 50 percent increase over the baseline of 40 years of operations).* However, it is very unlikely that the same worker would be employed for all 60 years of plant operations.

2013 Revised GEIS at 4-138 – 4-139 (emphasis added). The 2013 Revised GEIS contains a similar analysis for public radiation doses. Once again, 40 years is the “baseline” for an environmental analysis that predicts environmental impacts over a subsequent 20-year renewal period:

Although dose rates (mrem/yr) are not expected to change during license renewal, the cumulative dose (total mrem) would increase as a result of 20 more years of operations. If the reactor operates for 60 years, it is estimated that the increase in fatal cancer risk to the MEI would range from 6×10^{-7} to 4.6×10^{-4} (a 50 percent increase over the baseline of 40 years of operation). However, it is unlikely that the same person would be exposed to these doses for 60 years of plant operations.

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¹⁰ *Id.*

Id. at 4-145 (emphasis added). On the same topic of environmental impacts of radiation exposures to the public, the 2013 Revised GEIS further states:

Regulatory Guide 1.109 (NRC 1977) provides guidance for calculating the dose for significant release pathways. To account for the buildup of radioactive materials, buildup factors are included in the calculations. Initially, most of the calculations for the construction and operating stage permits used 15 years as the approximate midpoint of a facility's operating life. This value is now more often taken to be 20 years. The potential license renewal term is an additional 20 years; *thus, the effective midlife is 30 years.*

Id. at 4-144 (emphasis added). Along the same lines, with respect to decommissioning, the 2013 Revised GEIS states:

As discussed in the 1996 GEIS, the dose to the public from long-lived radionuclides after 40 years of plant operation is expected to be negligible, and the increase in quantities of long-lived radionuclides after an additional 20 years would result in a negligible dose (less than 0.1 person-rem). Accordingly, the NRC concluded that the contribution of license renewal to radiological impacts to the public from decontamination would be of SMALL significance at all nuclear plants.

Id. at 4-217. Throughout the 2013 Revised GEIS, the NRC refers to a time frame totaling 60 years, and a baseline of 40 years. The 2013 Revised GEIS does not refer to a time frame totaling 80 years or a baseline of 60 years.

There is nothing surprising, therefore, about a regulatory provision that would preclude a subsequent license renewal applicant from relying on the Category 1 finding in Table B-1. To the contrary, application of the plain meaning of § 51.53(c)(3) would yield a logical result, *i.e.*, to preclude a subsequent license renewal applicant from relying on environmental findings beyond the temporal scope of a second license renewal term. Thus, there is nothing “absurd” about applying the plain language of § 51.53(c)(3) to Exelon's subsequent license renewal application.

3. The rulemaking history is consistent with the plain language of 10 C.F.R. § 51.53(c)(3).

The NRC Staff acknowledges that in the 1991 proposed rule, where the NRC first proposed to include the phrase “applicants seeking an initial renewed license” in 10 C.F.R. § 51.53(c)(3), that the NRC explicitly intended to limit the scope of license renewal environmental reviews to the first twenty-year renewal term after the initial forty-year term. NRC Opp. at 46. However, the NRC Staff finds significance in the fact that this limitation “was not discussed in the subsequent regulatory history for the 1996 rule.” *Id.* But the Staff is incorrect. The 1996 Final Rule directly references the NRC’s assumption that its environmental review for license renewal covered only the first renewal term, with respect to decommissioning impacts:

The analysis in the GEIS for license renewal examines the physical requirements and attendant effects of decommissioning after a 20-year license renewal compared with decommissioning at the end of 40 years of operation and finds little difference in effects.

Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,482 (June 5, 1996).

Equally importantly, the 1996 Final Rule codifies and relies on the findings of the 1996 GEIS. *Id.* at 28,467 (stating that the rule is “based on the analyses conducted for and reported in NUREG–1437, “Generic Environmental Impact Statement for License Renewal of Nuclear Plants” (May 1996)). The GEIS, in turn, explicitly describes the “proposed action” addressed by its analysis as allowing nuclear power plants to operate “for a maximum of 20 years past the terms of their *original* 40-year operating licenses.” 1996 GEIS at 2-28–29 (emphasis added).

In any event, the entire purpose of the 1996 rule was to codify the License Renewal GEIS, which by its own terms was limited to the initial license renewal term. There is no reason to think the NRC would promulgate a rule to codify the application of NEPA findings to proceedings not covered by the GEIS.

4. The limitation of § 51.53(c)(3) to “applicants seeking an initial renewed license” is not inconsistent with NRC’s regulatory framework for implementation of NEPA in license renewal proceedings.

The NRC Staff contend that interpreting § 51.53(c)(3) to exclude subsequent license renewal applicants like Exelon is inconsistent with the NRC’s “regulatory framework.” NRC Opp. at 50. The Staff contends that Beyond Nuclear’s interpretation of § 51.53(c)(3) contradicts NRC’s regulations for preparing environmental impact statements, which contain no comparable prohibition against applying the Category 1 exclusions of Table B-1 to EISs for subsequent license renewal applicants. NRC Opp. at 51. In promulgating Table B-1, § 51.71, and § 51.95 in 1996, the NRC had no reason to state that the Category 1 exception applied only to initial license renewals, because neither the rule nor the underlying 1996 GEIS applied to anything *other than* initial license renewals (*i.e.*, 40 plus 20 years). The NRC could not allow licensees to rely upon generic review of Category 1 issues beyond the initial license renewal term, because the agency never conducted a generic environmental analysis of impacts beyond the 60-year time frame to justify it.

Thus, the NRC had no reason to state that Table B-1 would apply to subsequent license renewal applications (*i.e.*, 60 plus 20 years). The NRC *did* have a reason to notify license applicants that § 51.53(c)(3) (and hence Table B-1) would only apply to the initial license renewal term, however. Having told licensees that “[n]o limit on the number of

license renewals is specified” in NRC’s Part 54 regulations (1996 GEIS at 1-1), the NRC reasonably clarified that the scope of its license renewal review under NEPA would be more limited in § 51.53(c)(3).¹¹

a. The regulatory history of NRC’s NEPA rules and GEIS for license renewal contain no reference to the concept of subsequent license renewal.

Tellingly, the Staff does not identify even a single reference to the concept of subsequent license renewal in the 1996 Final Rule, the 2009 proposed amendments to the 1996 Final Rule, or the 2013 Final Rule amending the 1996 rule. Nor does the Staff point to a single reference to the concept of subsequent license renewal in the 1996 GEIS, the 2013 Revised GEIS, or the draft versions of those documents. And no such references can be found. In fact, the regulatory history of § 51.53(c)(3), the License Renewal GEIS, and the NRC’s regulations for the implementation of NEPA in license renewal cases demonstrates unequivocally that the inclusion of the phrase “applicants seeking an initial renewed license” in past and current versions of § 51.53(c)(3) was indeed intentional; and that NRC never considered applying § 51.53(c)(3) or the generic Category 1 findings of Table B-1 to any license renewal term other than the first twenty-year renewal term following an initial 40-year license term.

In addition, the rulemaking history of § 51.53(c)(3) shows that the NRC repeatedly carried over that same phrase from the 1991 proposed rule into the 1996 final

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¹¹ The fact that the NRC imposes no limit on the number of license renewal terms that may be sought under the Part 54 rules and the Atomic Energy Act has no bearing on the question of whether the License Renewal GEIS, issued under NEPA and Part 51 regulations, is limited to the initial license term plus 20 years. As the Commission has held, the AEA and its implementing regulations are separate from NEPA and its implementing regulations. *Florida Power & Light Co. Turkey Point Nuclear Generating Plant, Units 3 and 4*, CLI-01-17, 54 NRC 3, 13 (2001).

rule, the 2009 proposed amendments to the 1996 final rule, and the 2013 final amendments to the 1996 rule. *See* Final Rule, 61 Fed. Reg. at 28,487; Proposed Amended Rule, 74 Fed. Reg. 38,117, 38,128, 38,132 (July 31, 2009); and Final Amended Rule, 78 Fed. Reg. 37,312, 37,316 (June 20, 2013).

Finally, the 2013 Revised GEIS contains no evidence of a temporal expansion beyond the first twenty years after the original 40-year license term. *Nowhere* does the 2013 Revised GEIS refer to a time frame totaling 80 years or a baseline of 60 years.

Thus, the use of the term “current” in the 2013 Revised GEIS does not signify any change from the use of the same term in the 1996 GEIS to describe the original license term.¹²

5. The Staff’s proposed interpretation of § 51.53(c)(3) is inconsistent with NRC’s regulatory scheme for preparation of EISs, including the scoping process.

In the process of scoping an EIS, the NRC must, *inter alia*, “[d]efine the proposed action” (10 C.F.R. § 51.29(a)(1)), “[d]etermine the scope of the statement” (10 C.F.R. § 51.29(a)(2)), and “identify the significant issues to be analyzed in depth.” *Id.* As discussed above in Section II(A)(1), the record of the 1996 GEIS shows that the temporal scope of that GEIS was limited exclusively to the first license renewal term after the initial operating license term. The Staff cannot point to a single word in either the

¹² The Staff makes much of the fact that the 2013 Revised GEIS uses the phrase “current license term,” leaving open to interpretation whether the NRC meant that the agency was considering an addition to the original license term or to an already-renewed license term. NRC Staff Opp. at 29. But the 1996 GEIS uses the phrases “current license term,” “current license period,” and “current license” throughout to refer to the original license term. *See, for example*, 2013 Revised GEIS at xxxvii-xliii, 1-2, 1-6, 2-36, 2-37, 2-48, 3-6, 3-50, 4-55, 4-123 – 4-127, 5-1, 5-97, 6-37. The word “or,” as used in the phrase “original or current license term” in the Glossary of the 2013 Revised GEIS, is just as likely to mean “i.e.” as it is “in the alternative.” *See* NRC Staff Opp. at 49.

scoping notice for the 2009 proposed amendments to the 1996 final rule or the 2009 draft revised GEIS that (a) re-defined the proposed action as extending reactor operating licenses for multiple 20-year terms, (b) stated that the scope of the 2013 Revised GEIS would cover multiple license renewal terms, or (c) identified or sought public comment on the significant issues that should be analyzed in the course of the expanded environmental review. Instead, the only action proposed by the NRC was to “update” the 1996 GEIS. Notice of Intent to Prepare an Environmental Impact Statement for the License Renewal of Nuclear Power Plants and to Conduct Scoping Process, 68 Fed. Reg. 33,209 (June 3, 2003).¹³

The Staff’s inability to point to a scoping process that expanded the scope of the License Renewal GEIS fundamentally undermines any claim to a temporal expansion, because the scope of an EIS determines the scope of the federal action that may be taken under the authority of that EIS. *Duke Power Co. (Oconee/McGuire)*, LBP-80-28, 12 N.R.C. 459, 473 (1980) (citing *Swain v. Brinegar*, 542 F.2d 364, 367 (7th Cir. 1976)). Here, the scope of the 1996 GEIS, as updated in the 2013 Revised GEIS, is limited to the first license renewal term after the original operating license term. Therefore, the NRC may not take the federal action of applying the Category 1 exclusions in Table B-1 to any

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¹³ The 2013 Revised GEIS was part of the NRC’s plan to update the GEIS every ten years after issuance of the 1996 GEIS. But no inference can be drawn from this about subsequent license renewal. At the time the 1996 rule was promulgated, none of the licenses for more than 100 operating reactors had been renewed, and indeed all plans for license renewal were awaiting promulgation of regulations that would allow them to go forward. Thirteen years later (in 2009), about half (51) of reactor licenses had been renewed. Proposed Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 74 Fed. Reg. 38,117, 38,119 (Jul. 31, 2009). Had the NRC stayed on schedule and actually revised its GEIS every ten years after 1996 as originally planned, the License Renewal GEIS would have been revised several times before all original operating licenses were renewed for an initial renewal term.

license renewal applications other than initial license renewal applications. The NRC may still *refer* to the environmental findings of the 2013 Revised GEIS in a subsequent license renewal review, but NEPA prohibits the NRC from *codifying* those findings for purposes of a subsequent license renewal review.

6. Internal NRC memoranda and policy statements cannot substitute for notice-and comment rulemaking, scoping process, and a new draft GEIS for license renewals.

As discussed above, a formal notice-and-comment rulemaking led to the original and still-current language in § 51.53(c)(3). That language is plain in limiting the scope of the regulation to initial license renewal applications. If the NRC Staff wishes to change that language, it must prepare a new or revised License Renewal GEIS. No intervening memoranda, policy statements, or GEIS can change that. *See, e.g., Perez v. Mortg. Bankers Ass’n*, 135 S. Ct. 1199, 1206 (2015) (“agencies [must] use the same procedures when they amend or repeal a rule as they used to issue the rule in the first instance.”). The “convenience” of avoiding notice-and-comment rulemaking “comes at a price: Interpretive rules ‘do not have the force and effect of law and are not accorded that weight in the adjudicatory process.’” *Id.* at 1204 (internal citations omitted). This is black letter law.

7. NRC internal memoranda do not substitute for NEPA Compliance or notice-and-comment rulemaking.

The only NRC documents that the Staff can point to which actually mention subsequent license renewal in the context of the NRC’s NEPA review are three NRC memoranda: SECY-09-0034, Proposed Rulemaking Environmental Protection Regarding the Update of the 1996 [GEIS] for Nuclear Power Plant License Renewal (Mar. 3, 2009); SECY-12-0063, Final Rule: Revisions to Environmental Review for

Renewal of Nuclear Power Plant Operating Licenses (Apr. 20, 2012); SECY-14-0016, Ongoing Staff Activities to Assess Regulatory Considerations for Power Reactor Subsequent License Renewal (Jan. 31, 2014) (ML14050A306), and SRM- SECY-14-0016 – Ongoing Staff Activities to Assess Regulatory Considerations for Power Reactor Subsequent License Renewal (Aug. 29, 2014) (ML14241A578) (“SRM-SECY-14-0016”). None of these internal NRC memoranda could substitute for the notice-and-comment rulemaking, scoping process, and new draft GEIS for license renewal that the NRC *must* undertake if it wishes to apply the Category 1 exclusions to subsequent license renewal applications. *See Perez*, 135 S. Ct. at 1206.

In any event, the internal memoranda do not come close to addressing the issue of whether the NRC is entitled to ignore the plain language of § 51.53(c)(3) or the temporal limitations of the 1996 GEIS as revised in 2013. They simply acknowledge that licensees will become eligible for a second license renewal term and that the NRC should establish guidance for the proceedings. And the instructions in SRM-SECY-14-0016 not to commence a new rulemaking related only to the NRC’s Part 54 regulations, not Part 51; thus it is irrelevant here.

8. Absent a new rulemaking and NEPA proceeding, Exelon’s subsequent license renewal application is governed by 10 C.F.R. §§ 51.53(c)(2) and 51.45(a).

Absent a new rulemaking and NEPA proceeding to expand the scope of the 1996 GEIS and 2013 Revised GEIS, Exelon’s subsequent license renewal application must be reviewed under §§ 51.53(c)(2) and 51.45(a), which do not provide for application of Category 1 exclusions. If the NRC wishes to apply the Category 1 exemptions to subsequent license renewal applicants like Exelon, it must first revise the 1996 GEIS and rule, and the 2013 Revised GEIS and amended rule, to comply with its own procedural

requirements for implementation of NEPA and the Administrative Procedure Act. First, the NRC must issue a scoping notice for a new or revised GEIS, which clearly states the scope of the proposed GEIS and seeks public participation in determining the scope of the analysis and the issues that must be addressed “in depth.” 10 C.F.R. §§ 50.28, 50.29(a)(1), and 50.29(a)(2).

Second, the NRC must prepare a draft GEIS and solicit public comment, as required by 10 C.F.R. Part 51. Compliance with these procedural requirements is essential to fulfill NEPA’s twin purposes of ensuring sound environmental decisions and allowing the public to play a role in the decision-making process. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348–49 (1989).

Finally, the NRC must comply with NEPA and the Administrative Procedure Act by publishing, for public comment, revised NEPA regulations which make the requirements of Table B-1 binding in subsequent license renewal proceedings. *New York v. N.R.C.*, 681 F.3d 471, 476 (D.C. Cir. 2012) (holding that regulations codifying NEPA findings constitute “major federal action” requiring an EIS or environmental assessment); *Union of Concerned Scientists v. N.R.C.*, 711 F.2d 370, 383 (D.C. Cir. 1983) (citing *Pickus v. U.S. Board of Parole*, 507 F.2d 1107, 1113 (D.C. Cir. 1974) (requiring notice-and-comment rulemaking for an NRC decision that “alters a binding norm.”)).

9. Contention 2 is otherwise admissible.

The Staff and Exelon make a number of other arguments that the concerns raised by Contention 2 are inadmissible under NEPA. NRC Staff Opp. at 58-61, Exelon Opp. at 36-40. To a significant extent, these arguments are based on the assumption that 10 C.F.R. § 51.53(c)(1) applies. Exelon and the Staff also argue that Beyond Nuclear has not provided sufficient basis to show a material dispute with Exelon. These arguments are

incorrect. Beyond Nuclear has shown that the Environmental Report does not discuss the risk of accidents due to aging of equipment at Peach Bottom *at all*, and that Exelon has no lawful excuse for failing to do so. Beyond Nuclear has also identified particular issues that should be addressed in that discussion. By itself, however, the very failure of Exelon to provide any discussion of environmental impacts due to aging reactor equipment constitutes a lawful and adequate basis for Contention 2.

III. CONCLUSION

For the foregoing reasons, Exelon's and the Staff's arguments in opposition to Contentions 1 and 2 are without merit, and therefore they should be admitted for a hearing.

Respectfully submitted,

 /signed electronically by/

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December 21, 2018

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

_____)	
In the Matter of)	
Exelon Generation Company, LLC)	Docket Nos. 50-277/278 SLR
Peach Bottom Atomic Power Station,)	
Units 2 & 3)	
_____)	

CERTIFICATE OF SERVICE

I certify that on December 21, 2018, I posted copies of the foregoing Beyond Nuclear, Inc.'s Reply to Exelon's and NRC Staff's Oppositions to Hearing Request on the NRC's Electronic Information Exchange System.

/signed electronically by/
Diane Curran