

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE SECRETARY

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

**BEYOND NUCLEAR, INC.’S HEARING REQUEST AND  
PETITION TO INTERVENE**

**I. INTRODUCTION**

Pursuant to 10 C.F.R. § 2.309 and the Secretary’s Order of November 1, 2018, Beyond Nuclear, Inc. (“Beyond Nuclear”) hereby requests the U.S. Nuclear Regulatory Commission (“NRC” or “Commission”) to grant a hearing on Exelon Generation Co., L.L.C.’s (“Exelon’s”) application for subsequent license renewal of its operating license for the Peach Bottom Units 2 and 3 nuclear power plant. If Exelon’s application is granted, it will be allowed to operate Peach Bottom for an additional twenty years beyond its current renewed operating license term, or until 2053 (Unit 2) and 2054 (Unit 3). As discussed in Section II below, Beyond Nuclear has standing to make this hearing request.

Beyond Nuclear’s contentions are set forth in Section III. Contention 1 challenges the adequacy of Exelon’s aging management programs to address the declining body of external operating experience available during the proposed subsequent license renewal term. Contention 2 challenges the failure of Exelon’s Environmental Report to address the accident risks posed by aging equipment during a second license renewal term.

## II. BEYOND NUCLEAR HAS STANDING TO REQUEST A HEARING.

Pursuant to 10 C.F.R. § 2.309(d), a request for a hearing must address: (1) the nature of the petitioner's right under the Atomic Energy Act ("AEA") to be made a party to the proceeding, (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding, and (3) the possible effect of any order that may be entered in the proceeding on the petitioner's interest. The Atomic Safety and Licensing Board ("ASLB") summarized these standing requirements as follows:

In determining whether a petitioner has sufficient interest to intervene in a proceeding, the Commission has traditionally applied judicial concepts of standing. Contemporaneous judicial standards for standing require a petitioner to demonstrate that (1) it has suffered or will suffer a distinct and palpable harm that constitutes injury-in-fact within the zone of interest arguably protected by the governing statutes (*e.g.*, the Atomic Energy Act of 1954 and the National Environmental Policy Act of 1969); (2) the injury can fairly be traced to the challenged actions; and (3) the injury is likely to be redressed by a favorable decision. An organization that wishes to intervene in a proceeding may do so either in its own right by demonstrating harm to its organizational interests, or in a representational capacity by demonstrating harm to its members. To intervene in a representational capacity, an organization must show not only that at least one of its members would fulfill the standing requirements, but also that he or she has authorized the organization to represent his or her interests.

*Pacific Gas & Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), LBP-02-23, 56 NRC 413, 426 (2002), *petition for review denied*, CLI-03-12, 58 NRC 185 (2003).

Beyond Nuclear is a nonprofit, nonpartisan membership organization that aims to educate and activate the public about the connections between nuclear power and nuclear weapons and the need to abolish both to protect public health and safety, prevent environmental harms, and safeguard our future. Beyond Nuclear advocates for an end to the production of nuclear waste and for securing the existing reactor waste in hardened on-site storage until it can be permanently disposed of in a safe, sound, and suitable underground repository. For almost ten years, Beyond

Nuclear has worked toward its mission by regularly intervening in NRC licensing, relicensing, and other proceedings related to nuclear safety matters.

Beyond Nuclear's standing to participate in this proceeding is demonstrated by the attached declarations of its members: Declaration of Ernest Eric Gyll (Oct. 20, 2018) (Attachment 1); Declaration of John S. Adams (Oct. 29, 2018) (Attachment 2); and Declaration of Virginia Topkis (Nov. 9, 2018) (Attachment 3). As set forth in their declarations, these Beyond Nuclear members live near the Peach Bottom nuclear power plant, *i.e.*, within 50 miles, and would be adversely affected by an accident at the reactors if Exelon's operating license is renewed for a second term. Beyond Nuclear has presumptive standing by virtue of its members' location within 50 miles of a proposed nuclear plant operation. *Diablo Canyon*, 56 NRC at 426-27 (citing *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-06, 53 NRC 138, 146, *aff'd*, CLI-01-17, 54 NRC 3 (2001)).

By intervening in this proceeding, Beyond Nuclear seeks to protect its members' health, safety and lives, as well as the health and safety of the general public and the environment. Beyond Nuclear seeks to ensure that Exelon's operating license is not approved for a second renewal term unless and until Exelon demonstrates full compliance with NRC safety regulations and NEPA's requirements for protection of public health and the environment.

### III. CONTENTIONS

#### **CONTENTION 1: FAILURE TO SATISFY NRC REGULATIONS FOR AGING MANAGEMENT PROGRAMS**

##### **A. Statement of Contention**

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

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

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

##### **B. Basis Statement**

The basis for this contention is set forth in the attached expert report by David A. 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 Expert Report"), which is adopted by reference and incorporated into this contention. As summarized by Mr. Lochbaum:

The license renewal rule requires effective aging management of applicable structures, systems, and components throughout the period of extended operating. Operating experience is an integral part of effective aging management, both in establishing adequate programs and in revising the programs when necessary to maintain their effectiveness. Abundant evidence speaks to the vital role played by operating experience

in shaping, and re-shaping, aging management programs for operation of reactors during license renewal terms.

Abundant evidence also speaks to gaps, deficiencies, and uncertainties in present understanding of aging degradation mechanisms. The NRC staff has identified several key systems and components as posing “*the most significant technical issues challenging operation beyond 60 years*” — reactor pressure vessel embrittlement, irradiation-assisted stress corrosion cracking of reactor internals, concrete and containment degradation, and electrical cable qualification and condition assessment (NRC 2014c, Enclosure 1, page 3). As stated by the NRC, “*it is the industry’s responsibility to resolve these and other issues to provide the technical bases to ensure safety operation beyond 60 years*” (*Id.*).

Feedback from operating experience is needed to close the knowledge gaps regarding these key systems and components. Learning from operating experience is key to enabling the changes that will ensure the effectiveness of aging management programs throughout reactor operating lifetimes that could be double the initial 40-year license term.

Several reactors have closed in recent years, closures of several other reactors have already been announced, other reactors could cease operating before either Peach Bottom reactor enters the subsequent license renewal period, and still other reactors could shut down during the period of extended operation. Consequently, the amount of available reactor operating experience could be significantly reduced.

The subsequent license renewal application submitted by Exelon Generation Co., L.L.C. (Exelon) for Peach Bottom Units 2 and 3 describes how operating experience was factored into its aging management programs. But the application fails to acknowledge how dependent the aging management programs are on internal and external operating experience sources. And it fails to address the degree to which the closure of reactors and the associated reduction in the amount of external operating experience may impair the effectiveness of its aging management programs. Finally, the application fails to show how Exelon can obtain information about operating experience from alternate sources should closure of reactors eliminate that option. Thus, the application fails to comply with the regulatory requirement to identify how aging of applicable structures, systems, and components will be adequately managed throughout the period of extended operation. Therefore, the operating licenses for Peach Bottom Units 2 and 3 is inadequate to satisfy the license renewal requirements.

In order to ensure compliance with NRC license renewal regulations and provide adequate protection of public health and safety, Exelon’s subsequent license renewal application must describe three factors:

- (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.

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

Lochbaum Expert Report at 3-4 (Executive Summary).

**C. Demonstration that the Contention is Within the Scope of the Proceeding**

Contention 2 is within the scope of this proceeding because it raises issues of compliance with NRC safety regulations for renewal of reactor operating licenses.

**D. Demonstration that the Contention is Material to the Findings NRC Must Make to renew Exelon's operating license**

Contention 2 is material to the findings NRC must make to renew Exelon's operating license because it asserts that Exelon's subsequent license renewal application lacks sufficient information to support the safety findings that NRC must make under 10 C.F.R. § 54.31.

**E. Concise Statement of the Facts or Expert Opinion Supporting the Contention, Along with Appropriate Citations to Supporting Scientific or Factual Materials**

This contention is supported by the attached Declaration of David A. Lochbaum (Nov. 16, 2018) ("Lochbaum Declaration") and by Mr. Lochbaum's Expert Report.

**CONTENTION 2: FAILURE TO ADDRESS ENVIRONMENTAL IMPACTS OF OPERATING AGING REACTOR EQUIPMENT DURING A SECOND LICENSE RENEWAL TERM**

**A. Statement of Contention**

Exelon's Environmental Report for Peach Bottom Units 2 and 3 violates the National Environmental Policy Act ("NEPA") and NRC implementing regulation 10 C.F.R. § 51.53(c)(2) by failing to address the accident risks posed by operating aging reactor equipment during a

second license renewal term. Exelon incorrectly claims that the risk of operating Peach Bottom with aging equipment is a “Category 1” issue and therefore exempt from consideration under 10 C.F.R. § 51.53(c)(3) and 10 C.F.R. Part 50, Appendix A. Environmental Report at 4-12 (citing Category 1 designation of “design-basis accidents”). In taking this position, Exelon disregards the plain language of § 51.53(c)(3), which states that the regulation applies only to “initial” operating license renewal applications. Exelon’s application is governed by 10 C.F.R. § 51.53(c)(2), which contains no such exemption.

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

Exelon’s Environmental Report should also address the environmental implications of reactor aging issues identified by the NRC Staff in SECY-14-0016, Memorandum from Mark A.

Satorius, NRC Executive Director of Operations, to NRC Commissioners, re: Ongoing Staff Activities to Assess Regulatory Considerations for Power Reactor Subsequent License Renewal (Jan. 31, 2014) (NRC ADAMS Accession No. ML14050A306). These issues, characterized by the Staff as “the most significant technical issues challenging [reactor] operation beyond 60 years,” include reactor pressure vessel embrittlement; irradiation-assisted stress corrosion cracking of reactor internals, concrete structures and containment degradation; and electrical cable qualification and condition assessment. *Id.*, Enclosure 1 at 2-3. As stated by senior NRC management, “it is the industry’s responsibility to resolve these and other issues to provide the technical bases to ensure safe operation beyond 60 years.” *Id.* at 3. Beyond Nuclear is aware of no determination that these issues have been resolved since publication of SECY-14-0016. The Environmental Report should address the degree to which a lack of information regarding the effects of aging on reactor systems and components affects the environmental risk posed by extended operation. *See* 40 C.F.R. § 1502.22, which provides “guidance” to the NRC (74 NRC at 444) that “when an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.”

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

## **B. Basis Statement**

### **1. Legal basis**

#### **a. Statutory framework**

Exelon's Environmental Report is governed by the National Environmental Policy Act ("NEPA"). NEPA implements a "broad national commitment to protecting and promoting environmental quality." *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87 (1998) (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989) and citing 42 U.S.C. § 4331). NEPA has two key purposes: to ensure that the agency "will have available, and will carefully consider, detailed information concerning significant environmental impacts" before it makes a decision; and to guarantee that "the relevant information will be made available to the larger audience that may also play a role in the decision-making process and implementation of that decision." *Robertson*, 490 U.S. at 349.

In fulfilling NEPA's first purpose of evaluating the environmental impacts of its decisions, NEPA requires a federal agency to take a "hard look" at potential environmental consequences by preparing an EIS prior to any "major Federal action[] significantly affecting the quality of the human environment." *Robertson*, 490 U.S. at 349; 42 U.S.C. § 4332(c). The "hallmarks of a 'hard look' are thorough investigation into environmental impacts and forthright acknowledgment of potential environmental harms." *National Audubon Society v. Dep't of Navy*, 422 F.3d 174, 185 (4th Cir. 2005).

An EIS must include an evaluation of the cumulative impacts of a proposed action. As set forth in the regulations of the President's Council on environmental Regulations:

"Cumulative Impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-Federal) or person undertakes such other actions. Cumulative impacts

can result from individually minor but collectively significant actions taking place over a period of time.”

40 C.F.R. § 1508.7. In addition, the agency must “rigorously explore and objectively evaluate the projected environmental impacts of all reasonable alternatives for completing the proposed action.” *Van Ee v. EPA*, 202 F.3d 296, 309 (D.C. Cir. 2000). The alternatives analysis is the “heart” of an EIS. *City of Alexandria, Va. v. Slater*, 198 F.3d 862, 866 (D.C. Cir. 1999) (quoting 40 C.F.R. § 1502.14).

In fulfilling NEPA’s second purpose of public participation, the agency’s environmental analysis must be published for public comment “to permit the public a role in the agency’s decision-making process.” *Robertson*, 490 U.S. at 349-50; *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 443 (4th Cir. 1996). NRC’s Part 51 regulations also allow interested members of the public to participate in the environmental decision-making process through the NRC’s hearing process. 10 C.F.R. §51.104(a).

#### **b. NRC regulations for implementation of NEPA**

NRC regulation 10 C.F.R. § 51.53(c)(2) establishes general requirements for environmental reports by license renewal applicants. Section 51.53(c)(2) requires an operating license renewal applicant (other than an applicant for initial license renewal) to describe, *inter alia*, “the affected environment around the plant,” the “environmental impacts of alternatives,” and “any other matters described in § 51.45(a).” Section 51.45(a), requires, in turn, that the Environmental Report must include the following information:

*Analysis.* The environmental report must include 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. . . . The environmental report must also contain an analysis of the cumulative impacts of the activities to be authorized by the limited work authorization, construction permit, or combined license in light of the preconstruction impacts described in the environmental report. . . . The analyses for environmental

reports shall, to the fullest extent practicable, quantify the various factors considered. To the extent that there are important qualitative considerations or factors that cannot be quantified, those considerations or factors shall be discussed in qualitative terms. The environmental report should contain sufficient data to aid the Commission in its development of an independent analysis.

Environmental impacts of reactor accidents

**c. Section 51.53(c)(3) does not apply to Exelon’s application.**

Exelon claims that 10 C.F.R. § 51.53(c)(3) applies to its subsequent license renewal application, and therefore that Exelon is exempt from addressing certain “Category 1” environmental impacts in Table B-1 of 10 C.F.R. Part 51, Appendix A. Environmental Report at 4-12. By its own terms, however, Section 51.53(c)(3) establishes requirements for applicants “seeking an *initial* renewed license.” *Id.* (emphasis added). *See also* Proposed Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 56 Fed. Reg. 47,016, 47,017 (Sept. 17, 1991) (stating that “the part 51 amendments [including 10 C.F.R. § 51.53(c)(3) and Table B-1 in Appendix A of 10 C.F.R. Part 51] apply to one renewal of the initial license for up to 20 years beyond the expiration of the initial license.”). Because Exelon is seeking a subsequent renewed license, 10 C.F.R. § 51.53(c)(3) does not apply.

**2. Factual basis**

Because it relies on Category 1 exemptions in its Environmental Report, Exelon does not address the environmental risks of design-basis accidents raised by operating Peach Bottom Units 2 and 3 for twenty years beyond the initial license term. And no environmental impact statement (“EIS”) exists that addresses the issue. NUREG-1437, the NRC’s 1996 Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants (1996) (“1996 License Renewal GEIS”), describes the “proposed action” addressed by the GEIS as allowing nuclear power plants to operate “for a maximum of 20 years past the terms of their *original* 40-

year operating licenses.” *Id.* at 2-28 – 2-29 (emphasis added). The Revised License Renewal GEIS, issued by NRC in 2013, does not expand the temporal scope of the environmental analysis. NUREG-1437, Rev. 1, Generic Environmental Impact Statement for License Renewal of Nuclear Plants (2013). Instead, the 2013 Revised License Renewal GEIS simply “reviews and reevaluates” the findings of the 1996 License Renewal GEIS. *Id.* at 1-7.<sup>1</sup>

A review of the literature on aging reactors demonstrates the existence of a number of age-related issues whose implications for environmental risk should be addressed in Exelon’s environmental report. For instance, the 2014 EMDA Report, prepared by the NRC and the DOE, raised concerns regarding “increased susceptibility to known degradation modes” and “new mechanisms” of degradation during reactor operation after 60 years, as follows:

Extending reactor operation to beyond 60 years will increase the demands on materials and components. While operation beyond 60 will add additional time and neutron fluence, the primary impact will be increased susceptibility to known degradation modes, although new mechanisms are possible.

For the reactor core and primary systems, several key issues have been identified. Thermomechanical considerations such as aging and fatigue must be examined. Irradiation-induced processes must also be considered for higher fluences, particularly the influence of radiation induced segregation (RIS), swelling, and/or precipitation on embrittlement. Corrosion takes many forms within the reactor core and piping systems,

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<sup>1</sup> In SECY-14-0016, the NRC Staff expressed its opinion that the 2013 Revised License Renewal GEIS is adequate to support subsequent license renewal. *Id.* at 3. But SECY-14-0016 does not state, nor does any evidence exist, that the 2013 Revised License Renewal GEIS specifically examined the environmental impacts of operating reactors for an additional twenty years beyond the initial renewed license term. The opinion of the NRC Staff is just an opinion. Unless it is published and offered for public comment, it cannot be relied upon to expand the scope of the 1996 GEIS or the 2013 Revised GEIS. *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.”).

In any event, the Staff does not explain how it is possible to reconcile its opinion that the 2013 Revised License Renewal GEIS is adequate to support subsequent license renewal with its opinion – stated in the same memorandum – that subsequent license renewal raises technical issues that must be resolved in order to ensure safe operation. *See* Enclosure 1 at 2-3.

although irradiation assisted stress corrosion cracking (IASCC) and PWSCC [primary water stress corrosion cracking] are of high interest in extended life scenarios.

Research in these areas can build upon other ongoing programs in the light water reactor (LWR) industry as well as other reactor materials programs (such as fusion and fast reactors) to help resolve these issues for extended LWR [light water reactor] life. In the secondary systems, corrosion is extremely complex. Understanding the various modes of corrosion and identifying mitigation strategies is an important step for long-term service.

For reactor pressure vessels, a number of significant issues have been identified for future research. Relatively sparse or nonexistent data at high fluences, for long radiation exposure (duration), and resulting high embrittlement create large uncertainties for embrittlement predictions. The use of test reactors at high fluxes to obtain high fluence data is not the most direct representation of the low flux conditions in RPVs. Late-blooming phases (LBPs), especially for high nickel welds, have been observed and additional experimental data are needed in the high fluence regime where they are expected. Other discussed issues include specific needs regarding application of the fracture toughness master curve, data on long term thermal aging, attenuation of embrittlement through the RPV wall, and the development of an embrittlement trend curve based on fracture toughness measurements.

Concrete structures can also suffer undesirable changes in properties with time, including adverse performance of its cement paste matrix or aggregate constituents under environmental influences (e.g., physical or chemical attack). Changes to embedded steel reinforcement as well as its interaction with concrete can also be detrimental to concrete's service life. Aging effects can be exacerbated if improper concrete specifications were used at the time of construction. A number of areas of research would help assess the long-term integrity of the reactor concrete structures.

Cable and cable insulation systems play an important role in the safety and operation of a nuclear power plant. Degradation of polymer insulation due to the combined effects of mechanical stress, elevated temperature, irradiation and high humidity environments (or complete submergence) has been observed, although there may be knowledge gaps for reactor long term operation.

EMDA Report, Vol. 1 at 3-4 (ML14279A321). The EMDA recommended further research on these issues.

The NRC Staff has also instructed licensees that in order to they must “resolve” issues related to reactor pressure vessel embrittlement; irradiation-assisted stress corrosion cracking of reactor internals, concrete structures and containment degradation; and electrical cable qualification and condition assessment, in order to “provide the technical bases to ensure safe

operation beyond 60 years.” SECY-14-016, Enclosure 1 at 2-3. At the very least, the Environmental Report must address the environmental implications of the lack of information. *Pacific Gas and Electric Co.*, CLI-11-11, 74 NRC at 443.

Finally, as discussed in Mr. Lochbaum’s Expert Report, the body of external operating experience which was previously available to help licensees better understand the processes of aging reactor equipment is now in decline because of the increased rate of shutdown of operating reactors. Exelon’s Environmental Report should discuss how Exelon plans to make up for the reduced amount of external operating experience in achieving an adequate understanding of the behavior the aging equipment in the Peach Bottom reactors.

**C. Demonstration that the Contention is Within the Scope of the Proceeding**

Contention 2 is within the scope of this SLR proceeding because it raises an issue of compliance with NEPA and NRC regulations for implementation of NEPA.

**D. Demonstration that the Contention is Material to the Findings NRC Must Make to renew Exelon’s operating license**

Contention 2 is material to the findings that NRC must make in order to renew Exelon’s operating license for a second time because it seeks to ensure that Exelon’s application fulfills the requirements of NEPA and NRC regulations for the implementation of NEPA.

**E. Concise Statement of the Facts or Expert Opinion Supporting the Contention, Along with Appropriate Citations to Supporting Scientific or Factual Materials**

As detailed in Section B. above (Basis Statement), Beyond Nuclear relies for Contention 2 on the facts and opinions stated in SECY-14-016, the EMD Report, and the Lochbaum Expert Report.

## V. CONCLUSION

For the foregoing reasons, Beyond Nuclear's hearing request and petition to intervene should be granted.

Respectfully submitted,

          /signed electronically by/          

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November 19, 2018

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE SECRETARY

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 November 19, 2018, I posted copies of the foregoing Beyond Nuclear, Inc.'s Hearing Request and Petition to Intervene on the NRC's Electronic Information Exchange System. I also posted Attachments 1 through 4:

Attachment 1 – Declaration of Ernest Eric Gyll (Oct. 20, 2018)

Attachment 2 – Declaration of John S. Adams (Oct. 29, 2018)

Attachment 3 – Declaration of Virginia Topkis (Nov. 9, 2018)

Attachment 4 – Declaration of David A. Lochbaum (Nov. 16, 2018), including attachments:

- Curriculum vitae
- Expert report, 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)

          /signed electronically by/            
Diane Curran