**UNITED STATES OF AMERICA**
**NUCLEAR REGULATORY COMMISSION**

**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

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| In the Matter of: | ) | |
| VIRGINIA ELECTRIC AND POWER COMPANY and OLD DOMINION ELECTRIC COOPERATIVE | ) | Docket Nos. 50-338-SLR and 50-339-SLR |
| (North Anna Power Station, Units 1 and 2) | ) | January 8, 2021 |

# APPLICANTS' ANSWER OPPOSING REQUEST FOR HEARING, PETITION TO INTERVENE, AND PETITION FOR WAIVER SUBMITTED BY BEYOND NUCLEAR, SIERRA CLUB, AND ALLIANCE FOR PROGRESSIVE VIRGINIA


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## I. INTRODUCTION

Pursuant to 10 C.F.R. §§ 2.309(i)(1) and 2.335(b), Virginia Electric and Power Company ("Dominion Virginia Power" or "Dominion"), on behalf of itself and Old Dominion Electric Cooperative (collectively, "Applicants") submit this Answer opposing the Hearing Request and Petition to Intervene ("Hearing Request") and Petition for Waiver ("Waiver Request") (together, the "Petition")[1] filed by Beyond Nuclear, Sierra Club, and Alliance for Progressive Virginia ("Petitioners") on December 14, 2020, regarding the subsequent license renewal ("SLR") application ("SLRA") for North Anna Power Station, Units 1 and 2 ("North Anna").[2] The Hearing Request proposes one contention purporting to challenge Applicants' environmental report ("ER"). Petitioners' corollary Waiver Request asks that the application of certain U.S.

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1 Hearing Request and Petition to Intervene by Beyond Nuclear, Sierra Club, and Alliance for Progressive Virginia and Petition for Waiver of 10 C.F.R. §§ 51.53(c)(3)(i), 51.71(d), and 51.95(c)(1) to Allow Consideration of Category 1 NEPA Issues (Dec. 14, 2020) (ML20349D952) ("Petition").

2 *See* Letter from M. Sartain, Dominion, to NRC Document Control Desk, "Virginia Electric and Power Company, North Anna Power Station Units 1 and 2, Application for Subsequent Renewed Operating Licenses" (Aug. 24, 2020) (Package ML20246G703). The application package contains multiple enclosures. The SLRA is Enclosure 3, which consists of two files: the Main Report and Appendices A-D (ML20246G696) and Appendix E, which is the Environmental Report ("ER") (ML20246G698).

Nuclear Regulatory Commission ("NRC") environmental regulations be set aside in this proceeding. Petitioners recognize that their proposed contention cannot be admitted unless the Waiver Request is granted. As explained in detail below, the Petition should be denied in its entirety.

In sum, the Proposed Contention claims that the ER does not consider the environmental implications of a 2011 earthquake in Mineral, Virginia ("Mineral Earthquake") that exceeded the seismic design basis for North Anna,[3] and therefore does not satisfy the National Environmental Policy Act of 1969, as amended ("NEPA")[4] or the NRC's NEPA-implementing regulations in 10 C.F.R. Part 51. However, the impacts of beyond-design-basis earthquakes were analyzed generically in the NRC's Generic Environmental Impact Statement ("GEIS") for license renewal, which the ER incorporates by reference. Thus, the Proposed Contention actually seeks to challenge the GEIS analysis of that issue, which is codified in 10 C.F.R. Part 51, Subpart A, Appendix B ("Appendix B"). NRC regulations cannot be challenged in adjudicatory proceedings absent a waiver. Accordingly, Petitioners submitted the Waiver Request.

Neither the Waiver Request nor the Proposed Contention satisfies the legal requirements governing this Petition. As a general matter, the arguments that Petitioners seek to advance in the Petition are particularly vague and lack even the minimum clarity and precision required for adjudicatory challenges. Moreover, both the Waiver Request and the Hearing Request suffer from Petitioners' fundamental misunderstanding of: (1) the scope of the analyses in the GEIS, which squarely evaluate both design-basis and beyond-design-basis earthquakes; and (2) the

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3 *See* Petition at 30.

4 *See* Pub. L. 91–190, §2, Jan. 1, 1970, 83 Stat. 852 (codified at 42 U.S.C. §§ 4321 et seq.).

legal framework for the identification and screening of new information for potential significance to the GEIS analyses and conclusions codified in Part 51.

In fact, given these clear fundamental defects, and various internal contradictions in the Petition, it is difficult to reconcile the arguments being advanced. For example, Petitioners recognize that safety issues governed by a plant's current licensing basis ("CLB") are squarely beyond the scope of this proceeding; yet, the Petition tries to bootstrap such arguments into an environmental contention, as explained below. Additionally, the Petition is laden with numerous misleading statements and mischaracterizations of fact and law. In sum, these central flaws in the Petition, among the many others discussed below, require that both the Waiver Request and the Hearing Request be denied.[5]

## II. BACKGROUND

### A. Procedural History

Applicants filed their SLRA with the NRC on August 24, 2020, to renew North Anna's operating licenses for an additional 20-year period. As part of the SLRA, and as required by Part 51, Applicants submitted an ER that considers the potential environmental impacts of the requested extension. On October 15, 2020, the NRC published a notice in the *Federal Register* docketing the North Anna SLRA and providing an opportunity for interested persons to request a hearing by December 14, 2020.[6] On December 14, 2020, Petitioners filed their Petition seeking to intervene in this SLR proceeding, requesting a hearing, and seeking a waiver to raise Category 1 NEPA issues.

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5 Applicants do not challenge Petitioners' standing claim in this proceeding.

6 *See* Virginia Electric and Power Company; North Anna Power Station, Units 1 and 2; Subsequent License Renewal Application; Opportunity to Request a Hearing and to Petition for Leave to Intervene, 85 Fed. Reg. 65,438 (Oct. 15, 2020) ("Notice of Hearing Opportunity").

## B. SLR Environmental Review Under 10 C.F.R. Part 51

### 1. General SLR Environmental Review Framework

The NRC's license renewal environmental regulations in Part 51 are based in large part on the analyses in its GEIS for license renewal, which summarizes the findings of a systematic inquiry into the potential environmental consequences of license renewal.[7] Based on these analyses, the GEIS and Appendix B delineate two types of environmental issues:

- Generic / "Category 1" issues for which the NRC made "generic conclusions applicable to all existing nuclear power plants"; and
- Plant-Specific / "Category 2" issues for which site-specific analyses are required for each individual license renewal proceeding.

For Category 1 issues, the GEIS assigns impact levels (SMALL, MODERATE, or LARGE), based on the GEIS analyses, which are codified in Appendix B. As part of an application for original or subsequent license renewal, applicants must submit an ER considering all Category 2 issues on a plant-specific basis.[8] Applicants need not include analyses of Category 1 issues in the ER,[9] but may incorporate by reference the generic analyses and impact findings from the GEIS and Appendix B.[10]

In promulgating this license renewal environmental regulatory framework, the NRC recognized that new information may need to be considered, to the extent it *materially* impacts the GEIS analyses and conclusions.[11] Accordingly, the NRC promulgated a further requirement

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7 *See* NUREG-1437, Rev. 1, Generic Environmental Impact Statement for License Renewal of Nuclear Plants (June 2013); Vol. 1, Main Report (ML13106A241) ("GEIS" or "2013 GEIS"); Vol. 2, Public Comments (ML13106A242); and Vol. 3, Appendices (ML13106A244) ("2013 GEIS, Vol. 3").

8 *See* 10 C.F.R. §§ 51.41, 51.45, 51.53(c)(3)(ii).

9 *See id.* § 51.53(c)(3)(i).

10 *See id.* § 51.53(a).

11 *See* Environmental Review for Renewal of Nuclear Power Plant Operating Licenses; Final Rule, 61 Fed. Reg. 28,467, 28,470 (June 5, 1996) ("1996 Final Rule") (noting a "revised and expanded" "framework for consideration of significant new information" following discussions with the U.S. Environmental Protection Agency and the Council on Environmental Quality after the proposed rule was published).

that license renewal ERs must consider any "new and significant information" ("NSI") regarding the environmental impacts of license renewal of which the applicant is aware.[12] The NRC Staff draws upon the ER, the GEIS, and any NSI, among other sources of information, to produce a plant-specific Supplemental Environmental Impact Statement ("SEIS") for each license renewal application.[13] The NRC publishes a draft version of the SEIS for public comment. This provides an opportunity for members of the public to raise information they deem to be NSI for the NRC's review and consideration in preparing the final SEIS.[14]

2. GEIS Consideration of Postulated Earthquake Impacts

The NRC has long taken the position that its safety assessment of seismic hazards for existing nuclear power plants is a "separate and distinct" process from license renewal.[15] More broadly, "[s]eismic conditions are attributes of the geologic environment that are not affected by continued plant operations."[16] When new seismic hazard information becomes available, the NRC evaluates the new data and models to determine if any changes to the plant or its licensing basis are needed under the Atomic Energy Act ("AEA").[17] As a *safety* matter, such issues are

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12 10 C.F.R. § 51.53(c)(3)(iv). *See also* Regulatory Guide 4.2, Supp. 1, Rev. 1, Preparation of Environmental Reports for Nuclear Power Plant License Renewal Applications at 7-8 (June 2013) (ML13067A354). In broad terms, the NSI requirement is rooted in NEPA, which is intended to ensure that agencies consider the *significant* environmental consequences of their proposed actions. *See Balt. Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983).

13 *See* 10 C.F.R. §§ 51.20(a)(1), (b)(2).

14 *See* 1996 Final Rule, 61 Fed. Reg. at 28,470 ("[T]he NRC will review comments on the draft SEIS and determine whether such comments introduce new and significant information not considered in the GEIS analysis."); *id*. at 28,485 ("In both the public scoping process and the public comment process, the Commission will accept comments on all previously analyzed issues and information codified in Table B–1 of appendix B to 10 CFR part 51 and will determine whether these comments provide any information that is new and significant compared with that previously considered in the GEIS. If the comments are determined to provide new and significant information bearing on the previous analysis in the GEIS, these comments will be considered and appropriately factored into the Commission's analysis in the SEIS.").

15 2013 GEIS at 1-21 (the "reactor oversight process, which includes seismic safety, remains separate from license renewal").

16 *Id*. at 1-22.

17 *See id*. at 1-21.

addressed on an ongoing basis as part of the plant's CLB, which is beyond the limited scope of license renewal under 10 C.F.R. Part 54.[18] As the GEIS explains:

> The NEPA process focuses on environmental impacts rather than on issues related to safety. Safety issues become important to the environmental review when they could result in environmental impacts, which is why the environmental effects of **postulated accidents** are considered in the GEIS and in plant-specific supplements to the GEIS. Since NEPA regulations do not provide for a safety review, the license renewal process includes an environmental review that is distinct and separate from the safety review. Since the two reviews are separate, operational safety issues and **safety issues related to nuclear power plant aging are considered outside the scope for the environmental review**, just as the environmental issues are not considered as part of the safety review.[19]

The NRC's 2013 update to the GEIS also acknowledged the seismic hazard re-analyses that were ongoing at the time of the update—including further consideration of Generic Issue 199, "Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States on Existing Plants," and various post-Fukushima actions, but noted that all of these efforts were CLB matters "[u]nrelated to license renewal."[20]

Accordingly, for the separate *environmental* review required for license renewal under NEPA and 10 C.F.R. Part 51, the GEIS considers the environmental consequences of earthquakes under the broader topic of "Postulated Accidents."[21] The original 1996 GEIS assessed various impacts for two separate issues: Design Basis Accidents and Severe Accidents (*i.e.*, beyond-design-basis accidents).[22] The GEIS analyses for both types of accidents

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18 *See id*.

19 *Id*. at 1-8 (emphasis added).

20 *Id*. at 1-21.

21 *See id*. at 4-158.

22 *See id*.

considered both internal accidents and those triggered by external events, such as earthquakes, and included specific conservatisms to account for uncertainty.[23]

"Design Basis Accidents" are those that occur within the parameters of the plant's defined design basis, which is evaluated during initial licensing and re-evaluated, as necessary, during the life of the plant. The 1996 GEIS generically determined that the impacts of "Design Basis Accidents" are SMALL, largely based on the licensee's obligation to maintain "acceptable design and performance criteria throughout the renewal period."[24] The NRC's 2013 update to the GEIS also noted that this conclusion is further based on requirements for plants with renewed licenses to "implement aging management programs during the license renewal term."[25] Notably, there is no requirement—in the safety or environmental analyses—to assume that the aging management programs, which are the foundation of license renewal, will somehow be ineffective. Design Basis Accidents, therefore, are treated as a Category 1 issue for all plants.

The "Severe Accidents" issue captures all other types of accidents—*i.e.*, those that are "beyond" the plant's defined design basis. The 1996 GEIS generically concluded that the probability-weighted impacts of "Severe Accidents" are also SMALL, given the extraordinarily low probability of a severe accident.[26] More specifically, the NRC codified its generic conclusion that "[t]he probability-weighted consequences of atmospheric releases, fallout onto open bodies of water, releases to groundwater, and societal and economic impacts from severe accidents are small for all plants."[27] Notwithstanding this generic *impact* conclusion, the NRC

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23 *See id*.

24 NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Vol. 1, Main Report, at 5-114 (May 1996) (ML040690705) ("1996 GEIS").

25 2013 GEIS at S-17.

26 *See* 1996 GEIS at 5-114 to 5-116.

27 Appendix B, Tbl.B-1 ("Severe accidents" issue).

observed that not all plants had performed site-specific analyses of severe accident *mitigation alternatives* ("SAMAs").[28] Accordingly, it also codified a requirement that "alternatives to mitigate severe accidents must be considered for all plants that have not considered such alternatives."[29] For plants that have already performed SAMAs, such as North Anna, this is the functional equivalent of a Category 1 issue;[30] for all other plants, it is a Category 2 issue.[31] Furthermore, all license renewal ERs (regardless of whether this is a Category 1 or 2 issue for a given plant) must consider new information potentially relevant to either the generic impact conclusion or the SAMAs to screen it for significance, consistent with the NSI requirement in 10 C.F.R. § 51.53(c)(3)(iv).[32]

Notably, when the NRC updated the GEIS in 2013, it performed a substantial re-evaluation of the environmental impacts from externally-initiated Severe Accidents based on new information and analysis techniques.[33] As part of this re-evaluation, the NRC considered various analyses of accident risks from seismic events (expressed in quantitative terms of core damage frequency ("CDF")).[34] Notably, the NRC considered the results of the Individual Plant Examination: External Events ("IPEEE") program documented in NUREG-1742.[35] By way of

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28 1996 GEIS at 5-115 to 5-116.

29 Appendix B, Tbl.B-1 ("Severe accidents" issue).

30 10 C.F.R. § 51.53(c)(3)(ii)(L) excuses plants that have already performed SAMAs from the need to do so again. The Commission has explained that this renders the issue "the functional equivalent of a Category 1 issue" for such plants. *Exelon Generation Co., LLC* (Limerick Generating Station, Units 1 & 2), CLI-13-7, 78 NRC 199, 203 (2013) (citation omitted). *See also* GEIS, Supp. 7, Re: North Anna Power Station, Units 1 and 2, Final Report § 5.2 (Nov. 2002) (ML023380542) (addressing SAMAs for North Anna as part of the plant's initial license renewal).

31 Appendix B, Tbl.B-1 ("Severe accidents" issue).

32 The NRC has approved specific guidance for the SLR NSI review for SAMAs. *See* NEI-17-04, "Model SLR New and Significant Assessment Approach for SAMA," Rev. 1 (Aug. 2019) (ML19316C718) ("NEI 17-04"); Letter from A. Bradford, NRC, to C. Earls, NEI, "Interim Endorsement of NEI 17-04, 'Model SLR New and Significant Assessment Approach for SAMA, Revision 1'" (Dec. 11, 2019) (ML19323E740).

33 *See* 2013 GEIS, Vol. 3, App. E at E-16 to E-24.

34 *Id*. at E-16.

35 *Id*.

background, the IPEEE program required all operating plants to assess severe accidents initiated by external events.[36] The GEIS analyzes the IPEEE results and other quantitative data and notes that "the largest group of reported seismic CDFs [from the IPEEE] were in the range of 1 x $10^{-5}$ to 1 x $10^{-4}$."[37] The GEIS further explains that the CDFs considered in this re-analysis are "comparable to those from accidents initiated by internal events but lower than the CDFs that formed the basis for the 1996 GEIS."[38] Accordingly, the NRC reaffirmed its conclusion from the 1996 GEIS that the probability-weighted impacts of "Severe Accidents" are SMALL.

3. ER Consideration of Postulated Earthquake Impacts

Consistent with the NRC's regulatory regime discussed in Sections II.B.1. and II.B.2., above, Applicants' ER fully complies with 10 C.F.R. Part 51 and considers the full spectrum of environmental impacts from postulated earthquake-related accidents—both design-basis and beyond-design-basis—via a comprehensive analysis that consists of both generic analyses from the GEIS and additional evaluations performed by the Applicants. The analysis consists of three primary components, as described below.

First, although 10 C.F.R. § 51.53(c)(3)(i) provides that license renewal ERs need not include analyses of Category 1 issues, Applicants nevertheless incorporated by reference such analyses from the GEIS into their ER. As relevant here, that includes the analyses and conclusions from the GEIS and Appendix B as to the "Design Basis Accidents" issue and the "Severe Accidents" issue.[39]

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36 *Id*.

37 *Id*. at E-17.

38 *Id*. at E-24.

39 *See* ER at E-4-84 to E-4-87.

Second, Applicants undertook a comprehensive NSI review related to both of these issues. The process for this review is explained in detail in ER Section E5.[40] More specifically as to the "Severe Accidents" issue, the ER explains as follows:

> The assessment process for new and significant information related to the [impact] conclusion included (1) interviews with subject matter experts on the validity of the conclusions 2013 GEIS as they relate to NAPS; and (2) review of documents related to predicted impacts of severe accidents at NAPS. Consideration was given to developments in plant operation and accident analysis that could have changed the assumptions made concerning severe accident consequences after SAMAs were previously evaluated by the NRC for NAPS during initial license renewal. Developments in the following areas included:
>
> - New internal events information
> - External events
> - New source term information
> - Power uprates
> - Higher fuel burnup
> - Other considerations including population increase and risk-beneficial plant changes implemented in response to recommendations from the Fukushima Daiichi Near Term Task Force.
>
> No new and significant information was identified. Core damage frequency (CDF) from internal events has followed a decreasing trend at both NAPS units since the previous SAMA analysis was performed. Physical changes in the plant (e.g., changes in the RCP seal design) have significantly reduced risk in all aspects of the PRA. Also, changes have been implemented at the site in response to Fukushima Daiichi Near Term Task Force recommendations and other plant-specific programs that are "risk-beneficial" but not all are credited in NAPS PRA models. Therefore, the NRC conclusion in the 2013 GEIS that "the probability-weighted consequences of atmospheric releases, fallout onto open bodies of water, releases to groundwater, and societal and economic impacts from severe accidents are small" is considered appropriate for the NAPS SLR, is incorporated herein by reference, and no further analysis is needed.[41]

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[40] *See id.* at E-5-1 to E-5-4.

[41] *Id.* at E-4-87 (citations omitted).

Finally, because Applicants performed a SAMA analysis as part of North Anna's initial license renewal, they undertook a comprehensive analysis, consistent with NRC-approved guidance in NEI 17-04, to determine whether any NSI relevant to the original SAMA analysis for North Anna exists.[42] To determine the level of significance of new information, Applicants used a probabilistic risk assessment ("PRA") model reflecting "the most up-to-date understanding of plant risk at the time of analysis," including a state-of-the-art "seismic PRA [("SPRA")] which takes into account the [Mineral Earthquake]."[43] This robust analysis, which is described across several pages of the ER, did not identify any NSI relevant to the original SAMA analysis for North Anna.[44]

Collectively, these analyses consider the full spectrum of potential impacts of postulated earthquake-related accidents, both design-basis and beyond-design-basis, to the full extent required by Part 51.

### C. SLR Safety Review Under 10 C.F.R. Part 54

The NRC's license renewal regulations at 10 C.F.R. Part 54 govern the health and safety matters that must be considered in a license renewal proceeding. The Commission has limited this safety review to the management of aging of certain systems, structures and components, and the review of time-limited aging evaluations.[45] The Commission limited the scope of license renewal in this manner because it determined that re-assessments of CLB safety issues routinely monitored and assessed by ongoing agency oversight would be "unnecessary and wasteful."[46]

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42 *See id.* at E-4-85 to E-4-88.

43 *See id*. at E-4-89. *See also infra*, Section II.D.2. (describing the SPRA).

44 *See id*. at E-4-92.

45 10 C.F.R. §§ 54.21, 54.29(a); *see also Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-01-17, 54 NRC 3, 7-8 (2001); *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-26, 56 NRC 358, 363 (2002).

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

Thus, license renewal does not focus on operational safety issues, because these issues are "effectively addressed and maintained by ongoing agency oversight, review, and enforcement."[47] In sum, CLB "[i]ssues . . . which already are the focus of ongoing regulatory processes – do not come within the NRC's safety review at the license renewal stage."[48]

The NRC has issued guidance specific to SLR applications, including NUREG-2192, "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants" ("SRP-SLR") and NUREG-2191, "Generic Aging Lessons Learned for Subsequent License Renewal (GALL-SLR) Report" ("GALL-SLR Report"). The GALL-SLR Report was developed partly as a result of the Commission's direction in response to SECY-14-0016,[49] which identified certain technical areas for which the Staff had recommended further consideration, including issues discussed in a five-volume report titled "Expanded Materials Degradation Assessment" ("EMDA").[50] The GALL-SLR Report explicitly considered those issues.[51] Notably, the NRC has concluded that the use of aging management programs ("AMPs") consistent with those described in the GALL-SLR Report provides reasonable assurance that the effects of aging will be adequately managed during the period of extended operation.[52]

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47 *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-04-36, 60 NRC 631, 638 (2004) (citation omitted).

48 *Turkey Point*, CLI-01-17, 54 NRC at 10 (quoting 56 Fed. Reg. 64,943, 64,945 (Dec. 13, 1991)).

49 *See* Memorandum from M. Satorius, EDO, to NRC Commissioners, "SECY-14-0016 – Ongoing Staff Activities to Assess Regulatory Considerations for Power Reactor Subsequent License Renewal" (Jan. 31, 2014) (ML14050A306) ("SECY-14-0016").

50 *See* NUREG/CR-7153, Expanded Materials Degradation Assessment (EMDA) (Oct. 2014), *available at* https://www.nrc.gov/reading-rm/doc-collections/nuregs/contract/cr7153/index.html.

51 *See* NUREG-2191, "Generic Aging Lessons Learned for Subsequent License Renewal (GALL-SLR) Report," Vols. 1 & 2 at xxvii (July 2017) (ML17187A031 and ML17187A204).

52 *See AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-23, 68 NRC 461, 468 (2008) ("the license renewal applicant's use of an aging management program identified in the GALL Report constitutes reasonable assurance that it will manage the targeted aging effect during the renewal period").

### D. CLB Seismic Issues Governed by 10 C.F.R. Part 50

As noted above, the NRC has long considered its assessment of seismic hazards for existing nuclear power plants to be a CLB issue governed by Part 50—separate and distinct from both license renewal under Part 54, and environmental reviews under Part 51. Nevertheless, because Petitioners raise these issues in their Petition, a brief recitation of the relevant facts is provided below.

#### 1. Mineral Earthquake

The Magnitude 5.8 Mineral Earthquake occurred on August 23, 2011, with an epicenter approximately 11 miles from North Anna, while both units were operating at 100% power.[53] The Mineral Earthquake exceeded the spectral and peak ground accelerations for the Operating Basis Earthquake ("OBE") and Design Basis Earthquake ("DBE") for North Anna at certain frequencies and the station experienced a loss of offsite power.[54] Nevertheless, required safety systems in the plant "responded as expected," shutting down the plant automatically, and "remained functionally undamaged and capable of performing their intended design functions" during and following the event.[55]

The NRC's regulatory framework governing plant safety fully acknowledges the possibility that a plant may experience an earthquake that exceeds the OBE. Namely, 10 C.F.R. Part 100, Appendix A, paragraph V(a)(2), specifies that, if this happens, the plant must shutdown and, prior to resuming operations, the licensee must demonstrate that "no functional damage has occurred to those features necessary for continued operation without undue risk to the health and

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53 *See* Letter from E. S. Grecheck, Dominion, to NRC Document Control Desk, "Virginia Electric and Power Company (Dominion), North Anna Power Station Units 1 and 2, North Anna Independent Spent Fuel Storage Installation, Summary Report of August 23, 2011 Earthquake Response and Restart Readiness Determination Plan," at 1 (Sept. 17, 2011) (ML11262A151).

54 *See id.*

55 *Id.*

safety of the public." The NRC also provides specific guidance discussing the restart of a nuclear power plant shut down by a seismic event.[56] Accordingly, the NRC issued a Confirmatory Action Letter related to the plant's readiness to restart ("Restart CAL").[57] After months of comprehensive inspections and analyses, the NRC in November 2011, determined that the requisite criteria had been satisfied and the plant could be restarted safely.[58]

In addition, Applicants committed to perform various long-term evaluations, characterizations, and procedural changes, and these actions were captured in a separate Confirmatory Action Letter ("Long-Term Action CAL").[59] Notably, as part of this effort, Applicants implemented a seismic margin management program ("SMMP") to ensure adequate seismic margins[60] are maintained at the plant.[61] As part of the SMMP, Applicants "revised the design control process for North Anna Units 1 and 2 to require explicit evaluation of plant modifications[,] including seismic qualification of new and replacement equipment for the

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56 The relevant guidance at the time of the Mineral Earthquake was Regulatory Guide 1.167, "Restart of a Nuclear Power Plant Shut Down by a Seismic Event" (Mar. 1997) (ML003740093); that guidance has since been withdrawn and consolidated into Regulatory Guide 1.166, "Pre-Earthquake Planning, Shutdown, and Restart of a Nuclear Power Plant Following an Earthquake" (Rev. 1, Feb. 2020) (ML19266A616). *See* Restart of a Nuclear Power Plant Shut Down by an Earthquake, 85 Fed. Reg. 10,198, 10,198 (Feb. 21, 2020).

57 *See* Letter from V. McCree, NRC, to D. Heacock, Dominion, "CAL 2-2011-001; Confirmatory Action Letter – North Anna Power Station Unit Nos. 1 and 2, Commitments to Address Exceeding Design Bases Seismic Event (TAC Nos. ME7050 and ME7051)" (Sept. 30, 2011) (ML11273A078) ("Restart CAL").

58 *See* Letter from E. Leeds, NRC, to D. Heacock, Dominion, "North Anna Power Station, Unit Nos. 1 and 2 – Technical Evaluation of Restart Readiness Determination Plan (TAC Nos. ME7254 and ME7255)," at 2 (Nov. 11, 2011) (ML11308B405) ("Restart CAL Closeout").

59 *See* CAL No. NRR-2011-002, Letter from E. Leeds, NRC, to D. Heacock, Dominion, "Confirmatory Action Letter Regarding North Anna Power Station, Unit Nos. 1 and 2, Long-Term Commitments to Address Exceeding Design Bases Seismic Event (TAC Nos. ME7254 and ME7255)" (Nov. 11, 2011) (ML11311A201) ("Long-Term Action CAL").

60 In simplified terms, "seismic margin" refers to the capacity to withstand an earthquake similar to the Mineral Earthquake.

61 *See* Letter from D. Heacock, Dominion, to NRC Document Control Desk, "Virginia Electric and Power Company, North Anna Power Station Units 1 and 2, Response to March 12, 2012 Information Request, Seismic Hazard and Screening Report (CEUS Sites) for Recommendation 2.1," Attach. at 37 (Mar. 31, 2014) (ML14092A416).

effects of the August 23, 2011 earthquake."[62] The NRC confirmed that all of these long-term actions were acceptably completed and closed the Long-Term Action CAL in December 2015.[63] To the extent relevant, these efforts were incorporated into the Updated Final Safety Analysis Report and will continue into the SLR period.[64] The Restart and Long-Term Action CAL closeout letters contain detailed chronologies of the extensive analyses and other actions taken in response to the Mineral Earthquake and are not repeated here.[65]

2. Post-Fukushima Seismic Re-Evaluations

Following the March 2011 Fukushima Dai-ichi nuclear accident in Japan, the NRC issued orders requiring nuclear power plants to take preventative measures to help mitigate against a similar beyond-design-basis event in the United States.[66] It also issued a Request for Information under 10 C.F.R. § 50.54(f) to licensees, requiring them to, among other things, reevaluate the seismic hazards at their sites using updated NRC requirements and perform seismic walkdowns to verify compliance with the plant's CLB.[67] As part of this process, Applicants developed an SPRA for North Anna, which is summarized as follows:

> The SPRA effort included performing a probabilistic seismic hazard analysis (PSHA) to develop seismic hazard and response spectra at the plant using the state-of-the-art seismic source model and attenuation equations;

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62 *Id.*

63 *See* CAL No. NRR-2011-002, Letter from W. Dean, NRC, to D. Heacock, Dominion, "Closure of Confirmatory Action Letter Regarding North Anna Power Station, Unit Nos. 1 and 2 (CAC Nos. MF1807 and MF1808)," Encl. 1 at 2 (Dec. 24, 2015) (ML15015A575) ("Long-Term Action CAL Closeout").

64 *See id*., Encl. 1 at 3.

65 *See generally* Restart CAL Closeout; Long-Term Action CAL Closeout.

66 *See* Letter from R. Bernardo, NRC, to D. Stoddard, Dominion, "North Anna Power Station, Units 1 and 2 – Documentation of the Completion of Required Actions Taken in Response to the Lessons Learned from the Fukushima Dai-ichi Accident," at 3-5 (June 9, 2020) (ML20139A077) ("Fukushima Closeout Letter").

67 *See id.* at 6. *See also* NUREG-2122, Glossary of Risk-Related Terms in Support of Risk-Informed Decisionmaking at 4-50 (Nov. 2013) (ML13311A353) ("A seismic hazard analysis expresses the seismic hazard in terms of the frequency of exceedance for selected ground motion parameters during a specified time interval. The analysis involves identification of earthquake sources, evaluation of the regional earthquake history, and an estimate of the intensity of the earthquake-induced ground motion at the site. As stated in Regulatory Guide 1.200 (Ref. 86): 'at most sites, the objective is to estimate the probability or frequency of exceeding different levels of vibratory ground motion'.").

> site response analyses; dynamic analyses of structures; fragility analyses of structures, systems and components (SSCs); developing a logic model; and performing risk quantification. Each element of the SPRA effort underwent an in-process independent expert review and a final peer review by a team of experts. The comments and suggestions of the reviewers were addressed and incorporated into the SPRA as applicable.
>
> Sensitivity studies were performed to identify critical assumptions, test the sensitivity to quantification parameters and the seismic hazard, and identify potential areas to consider for the reduction of seismic risk. These sensitivity studies demonstrated that the model results are robust with respect to the modeling and assumptions used.[68]

In simple terms, SPRA is the nuclear industry's state-of-the-art approach to understand and quantify seismic risks at a nuclear facility. The North Anna SPRA demonstrates that the mean seismic CDF for North Anna is $6.3 \times 10^{-5}$.[69] Notably, the North Anna SPRA development process explicitly considered the Mineral Earthquake.[70] In particular, an expert panel undertook a specific, peer-reviewed analysis related to the Mineral Earthquake to confirm that the basic data and interpretations used in the regional-scale seismic characterization models (used to determine the seismic hazard input to the SPRA) remained valid, including "systematic data collection and evaluation of geological, seismological, and geophysical data."[71] The NRC reviewed Applicants' SPRA and ultimately concluded that no further response or regulatory actions (*e.g.*, modifications to the plant's seismic design basis) were needed for adequate protection or compliance with existing requirements.[72] A more fulsome history of Applicants'

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68 Letter from D. Stoddard, Dominion, to NRC Document Control Desk, "Virginia Electric and Power Company, North Anna Power Station Units 1 and 2, Response to March 12, 2012 Information Request, Seismic Probabilistic Risk Assessment for Recommendation 2.1," Attach. at 3 (Mar. 28, 2018) (ML18093A445) ("Dominion SPRA Letter").

69 Letter from L. Lund, NRC, to D. Stoddard, Dominion, "North Anna Power Station, Units 1 and 2 – Staff Review of Seismic Probabilistic Risk Assessment Associated with Reevaluated Seismic Hazard Implementation of the Near-Term Task Force Recommendation 2.1: Seismic (EPID No. L-2018-JLD-0003)," Encl. 1 at 34 (Apr. 25, 2019) (ML19052A522) ("NRC SPRA Review Letter").

70 *See* Dominion SPRA Letter, Attach. at 82-84.

71 *Id.*

72 *See* NRC SPRA Review Letter at 2.

and the NRC's extensive actions, entailing thousands of pages of technical analyses performed over the course of the past decade, are detailed in the North Anna Fukushima closeout letter.[73]

## III. THE BOARD SHOULD DENY THE WAIVER REQUEST BECAUSE IT FAILS TO SATISFY THE COMMISSION'S WAIVER STANDARD

The NRC's regulations at 10 C.F.R. § 2.335(a) include a general prohibition that "no rule or regulation of the Commission, or any provision thereof . . . is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding subject to this part."[74] However, Section 2.335(b) also provides that "[a] participant to an adjudicatory proceeding subject to this part may petition that the application of a *specified* Commission rule or regulation or any provision thereof . . . be waived or an exception be made for the particular proceeding."[75] As detailed in Section III.A., below, the Commission's threshold for granting such waivers is "stringent by design."[76]

Petitioners acknowledge that a waiver is "necessary" for admission of their Proposed Contention.[77] Accordingly, they request a waiver of three "specified" regulations—10 C.F.R. §§ 51.53(c)(3)(i), 51.71(d), and 51.95(c)(1).[78] In sum, the first regulation excuses a license renewal applicant from the need to consider Category 1 issues in its ER; and the other two regulations require the NRC Staff to consider the generic Category 1 analyses and conclusions from the GEIS (as codified in Appendix B), among other sources of information, in preparing the draft and final SEIS. As explained below, Petitioners have not satisfied the Commission's "stringent"

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73 *See* Fukushima Closeout Letter.

74 10 C.F.R. § 2.335(a).

75 *Id.* § 2.335(b) (emphasis added).

76 *Limerick*, CLI-13-7, 78 NRC at 207.

77 Petition at 30.

78 *See id*. Notably, the Waiver Request does not include Appendix B among the "specified" regulations for which Petitioners are seeking a waiver. As explained further in Section IV.B., below, the Proposed Contention is inadmissible absent a waiver of Appendix B.

requirements to justify a waiver of these regulations and their Waiver Request must be rejected as a matter of law.

### A. Legal Standard for Waivers

As the Commission has explained, Section 2.335(b) provides only a "limited exception" to the NRC's general prohibition against challenges to NRC rules or regulations in adjudicatory proceedings.[79] As a general matter, when the Commission decides to "carv[e] out issues from adjudication," it does so carefully and deliberately pursuant to its broad statutory discretion to "transact its business broadly, through rulemaking, or case-by-case, through adjudication."[80] Thus, to challenge the generic application of a rule, a petitioner seeking waiver must show that "there is something extraordinary about the subject matter of the proceeding such that the rule should not apply."[81] More specifically, to litigate an issue that otherwise would be outside the scope of an adjudication, a petitioner must show that "special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which . . . [it] was adopted."[82] The waiver petitioner must include an affidavit that states "with particularity" the special circumstances that justify waiver of the rule.[83]

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79 *Limerick*, CLI-13-7, 78 NRC at 206.

80 *Id*. at 207 (citations omitted).

81 *Id.* (citations omitted).

82 *Id.* at 206-07 (quoting 10 C.F.R. § 2.335(b)).

83 *Id.* at 207 (quoting 10 C.F.R. § 2.335(b)).

In 2005, in the *Millstone* license renewal proceeding, the Commission set forth a four-part test that it has "long used" in ruling on waiver petitions.[84] That test requires the petitioner to show that:

> (1) The rule's strict application would not serve the purposes for which it was adopted;
>
> (2) Special circumstances exist that were not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived;
>
> (3) Those circumstances are unique to the facility rather than common to a large class of facilities; and
>
> (4) Waiver of the regulation is necessary to reach a significant safety (or environmental) problem.[85]

All four *Millstone* elements must be met to justify a rule waiver.[86] The Commission has noted that this purposefully places a "substantial burden" on waiver petitioners because the agency "will not set aside a duly-promulgated regulation lightly," and because the Commission's longstanding view is that "in general, challenges to regulations are best evaluated through generic means."[87] In the context of a Part 51 waiver, the Commission has held that a petitioner must present "specific, fact-based claims . . . not mere allegations."[88] In other words, a waiver petition is not an opportunity to embark upon a fishing expedition; rather, waiver petitioners must make the requisite presentation *upfront*.

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84 *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-05-24, 62 NRC 551, 559-60 (2005).

85 *See id.*

86 *See Limerick*, CLI-13-7, 78 NRC at 208.

87 *Id.* (citation omitted).

88 *Interim Storage Partners LLC* (WCS Consolidated Interim Storage Facility), CLI-20-15 (slip op. at 22) n.111 (Dec. 17, 2020) (quoting *Private Fuel Storage, LLC* (Indep. Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 134 (2004)).

## B. Fundamental Factual Errors and Misconceptions In the Petition

As a preliminary matter, there are several fundamental factual errors and misconceptions in both the Waiver Request and the Hearing Request, and accordingly afflict many of the arguments presented throughout the Petition. These defects are representative of the reasons the Petition should be summarily rejected.

### 1. Part 51 NSI Provisions Ensure That NSI Is Considered to the Full Extent Required by NEPA

Petitioners argue that the NRC's regulations "bar consideration"[89] of the Mineral Earthquake in the environmental review for this proceeding. Petitioners' assertion that Part 51 somehow excuses or prohibits the Applicants, the NRC Staff, or both, from considering the potential environmental implications of the Mineral Earthquake to the full extent required by NEPA is factually and legally incorrect.

As noted above in Section II.B.1, the GEIS analyses are not static. The Commission squarely recognized the possibility that circumstances could arise that may materially alter the generic analyses and codified impact conclusions in the GEIS and Appendix B. Accordingly, it also codified the NSI mechanism to require applicants[90] and the NRC Staff[91] to consider "new" information (and determine whether it is "significant"), and also provided an opportunity for the public to raise potential NSI—which the Staff must consider.[92] Far from "barring consideration" of new information material to NEPA compliance, the NRC's existing framework explicitly *requires* it.

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89 Petition at 30.

90 *See* 10 C.F.R. § 51.53(c)(3)(iv).

91 *See id.* §§ 51.95(c)(3)-(4).

92 *See* 1996 Final Rule, 61 Fed. Reg. at 28,470, 28,485.

To the extent Petitioners' repeated assertion that NRC regulations "bar consideration"[93] of the Mineral Earthquake is intended as an acknowledgement that Part 51 bars *adjudicatory challenges* to the Applicants' or Staff's *evaluation* of potential NSI without a waiver, that assertion is correct. However, the discussion in Sections III.B.2 and III.C.-E., below, explains that Petitioners have not identified, with requisite specificity, any circumstances necessitating an opportunity to do so.

2. The GEIS Evaluates the Potential Impacts of Postulated Beyond-Design-Basis Earthquakes

Petitioners claim the NRC's analysis of earthquake impacts, and its conclusion that such impacts are SMALL, relies on an assumption that reactors will only operate within their design bases. Indeed, Petitioners claim this is the "sole basis" for the NRC's evaluation of earthquake impacts.[94] Importantly, this assertion undergirds Petitioners' overarching claim throughout the Petition—namely that, because North Anna experienced a seismic event *beyond* its design basis, the generic GEIS evaluation of earthquake impacts has been rendered invalid.[95]

But, Petitioners' argument is plainly incorrect because it does not acknowledge, as explained in Section II.B.2, above, that the GEIS *also* analyzes beyond-design-basis earthquakes. As the Commission has explained, and contrary to Petitioners' claim, its conclusion that

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93 Petition at 30.

94 *Id.* at 35 ("The sole basis for the conclusion of insignificant impacts is the NRC's assumption that under its Atomic Energy Act-based licensing scheme, nuclear reactors will operate within their design bases.") (citations omitted).

95 *See id.* at 34-35 ("[Applicants] and the NRC lack any rational basis to rely on the 1996 License Renewal GEIS' conclusion that earthquake-related accident impacts during [the SLR] term for North Anna will be small because they are encompassed by the reactors' design basis."); *id* at 33 (claiming the occurrence of "a beyond design basis earthquake fundamentally disproved the assumption" that original seismic design bases are bounding, and raises an issue that "has not been considered in any previous site-specific or generic environmental study.").

earthquake-related environmental impacts are SMALL is not "solely" based on the plant design basis; rather it:

> reflects the Commission's generic determination that the impacts from postulated accidents that might occur during the period of extended operation are small, because nuclear plants are designed and operated to successfully withstand design basis accidents *and the probability of* ***severe accidents*** *is so low*.[96]

In other words, the NRC's analyses and conclusions regarding earthquake impacts span two GEIS issues, Design Basis Accidents and Severe Accidents; and the GEIS reaches SMALL impact conclusions for both, but on separate grounds. As to the latter issue, the GEIS fully recognizes the possibility that a plant could experience external events, such as earthquakes, that exceed its design basis; and the GEIS explicitly evaluates the environmental impacts of that scenario for all plants on a generic basis.

### C. Petitioners Fail to Identify Any "Special Circumstances" Specific to North Anna That Justify a Waiver

The entirety of Petitioners' "special circumstances" argument is as follows:

> This Waiver Petition raises special circumstances that were not previously considered, because no previous environmental impact statement has considered the environmental significance of the actual occurrence of a beyond-design basis earthquake at North Anna Units 1 and 2. Simply put, the NRC has prepared no EIS or GEIS relevant to North Anna Units 1 and 2 since before 2011, when the earthquake occurred.[97]

To the extent Petitioners are claiming that the GEIS does not evaluate beyond-design-basis earthquakes at all, that claim is plainly incorrect for the reasons explained in Section III.B.2, above. The second *Millstone* element requires demonstration of a circumstance that was "not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to

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96 *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 & 3), CLI-15-6, 81 NRC 340, 372 (2015) (emphasis added).

97 Petition at 34.

the rule sought to be waived."[98] The occurrence of a beyond-design-basis earthquake is not such a circumstance; thus, Petitioners' argument fails to satisfy *Millstone*.

Alternatively, to the extent Petitioners' theory of "special circumstances" is that the beyond-design-basis Mineral Earthquake was not *explicitly* evaluated in the GEIS, they offer zero explanation as to why that somehow would be required, or would constitute "special circumstances." Petitioners do not engage with—or even acknowledge—the relevant analyses in either the 1996 GEIS or the 2013 GEIS related to beyond-design-basis earthquakes. For example, the 2013 GEIS considered the probability-weighted consequences of accidents from beyond-design-basis earthquakes by examining seismic CDFs in the range of $1 \times 10^{-5}$ to $1 \times 10^{-4}$.[99] Nor do they acknowledge or challenge the fact that the North Anna seismic CDF (as calculated by the SPRA, which accounts for the Mineral Earthquake) remains squarely within the range considered in the GEIS.[100] Overall, Petitioners disregard the relevant analyses and offer zero explanation for the proposition that the GEIS analyses are in any way challenged by the occurrence of the Mineral Earthquake or need to *explicitly* evaluate the Mineral Earthquake.

A Commission ruling in the *Diablo Canyon* license renewal proceeding considered and rejected a waiver request presenting a very similar claim. The petitioners in that proceeding asserted that "special seismic circumstances," including the "recent discovery" of a seismic fault near the plant, had not been considered in the 1996 GEIS.[101] The Commission explained that the absence of an analysis of that *specific* information in the GEIS "does not, without more, suggest

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98 *Millstone*, CLI-05-24, 62 NRC at 559-60.

99 *See* 2013 GEIS, Vol. 3, App. E at E-17.

100 *See* NRC SPRA Review Letter, Encl. 1 at 34 (noting North Anna's mean seismic CDF is $6.3 \times 10^{-5}$).

101 *Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-11-11, 74 NRC 427, 451 n.133 (2011).

a deficiency in the GEIS."[102] So too here. Petitioners fail to provide anything "more." They provide no expert support and fail to engage with the relevant analyses.

Petitioners clearly have not identified any "special circumstances" that were not considered explicitly or through bounding analyses in the GEIS or the Part 51 rulemaking more broadly. Nor have they demonstrated that such (nonexistent) circumstances are unique to North Anna, rather than common to a large class of facilities.[103] Accordingly, the Waiver Request should be denied for failing to satisfy the second and third *Millstone* elements.

### D. Petitioners Fail to Identify Any Regulation That, If Applied Here, Would Defeat the Commission's Purpose For Enacting It

Petitioners argue that strict application of 10 C.F.R. §§ 51.53(c)(3)(i), 51.71(d), and 51.95(c)(1) would defeat the purposes for which these regulations were adopted. Petitioners quote from the 1996 statement of considerations for the Part 51 rulemaking and conclude that its purposes included "increasing efficiency, saving costs, and improving the quality of both generic and site-specific environmental analyses."[104] However, Petitioners fail to articulate a reasoned explanation as to how application of these regulations, here, would undermine this purpose.

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102 *Id*.

103 Because Petitioners have not demonstrated "special circumstances," as required by *Millstone* element two, they necessarily cannot demonstrate that such non-existent circumstances are specific to North Anna, as required by *Millstone* element three. Nevertheless, Applicants briefly address those arguments here. First, to the extent Petitioners repeat their claim that the "sole basis" for the GEIS conclusion has been "irrefutably disprove[n]," Petition at 34, Applicants have already refuted that claim in Section III.B.2. Second, Petitioners claim that "the seismic design of North Anna Units 1 and 2 is based on an assessment of an earthquake whose impacts are unique to the North Anna site." *Id.* To the extent Petitioners are highlighting the fact that seismic analyses are performed on a site-specific basis, there is no disagreement on that issue. Seismic analyses for *all* sites are site-specific. That is a circumstance "common to a large class of facilities," not something unique to North Anna. Alternatively, to the extent Petitioners are claiming that North Anna's seismic design basis relies on "an earthquake" specific to North Anna, its assertion is unsupported—and incorrect. Seismic analysis models at North Anna (and other plants) employ a regional-scale "catalog" of earthquakes. *See, e.g.*, Dominion SPRA Letter, Attach. at 84.

104 Petition at 32.

The federal courts have approved the NRC's legitimate efficiency[105] goal and acknowledged that requiring such issues to be analyzed "afresh" with each application would be counterproductive to administrative efficiency and consistency of decision.[106] Here, Petitioners argue that application of these regulations would defeat the Commission's purposes "by barring consideration" of the Mineral Earthquake in the context of the SLR environmental review.[107] But, as noted in Section II.B.1., above, that claim is factually and legally incorrect given the NSI requirements in Part 51.

Petitioners' only further argument in this section is that the Mineral Earthquake constitutes NSI and should be used to inform the consideration of mitigation alternatives.[108] However, Petitioners make no attempt to explain how this argument relates to any aspect of *Millstone* element 1. Moreover, this argument suffers from the same fundamental flaws as Petitioners' "special circumstances" argument. More specifically, regardless of whether Petitioners are purporting to claim that the Mineral Earthquake must be considered NSI because the GEIS does not evaluate beyond-design-earthquakes, or because the GEIS analysis allegedly is not bounding, both claims are unsupported and counterfactual, as explained in Section III.C., above. Additionally, this argument fails to acknowledge that the ER's consideration of potential

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105 As the Commission noted in 2013, the purpose of using generic analyses of Category 1 issues was to "improve the efficiency of the license renewal process." Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, Final Rule, 78 Fed. Reg. 37,282, 37,314 (June 20, 2013).

106 The First Circuit has observed that the preparation of an EIS "poses a significant task for the NRC," and noted that the NRC relies on generic analyses of Category 1 issues in order to "streamline the license renewal process" and dispense with the need to analyze broadly-applicable issues "afresh" with each license renewal application. *Massachusetts v. United States*, 522 F.3d 115, 119-120 (1st Cir. 2008). *See also id*. at 127 (quoting *Balt. Gas & Elec. Co.*, 462 U.S. at 101) (noting Supreme Court precedent for the same premise).

107 Petition at 33.

108 *See id.* at 33-34.

NSI as to SAMAs employs the North Anna SPRA—which accounts for the Mineral Earthquake.[109] Petitioners fail to explain what more must be done.

Ultimately, consideration of the Mineral Earthquake within the existing Part 51 framework, as Applicants have done here, is in complete harmony with the Commission's stated purpose in adopting these regulations. Indeed, granting the requested waiver would actually *undermine* the agency's efficiency goal by requiring unnecessary re-analysis of generic issues "afresh" in this proceeding. That is exactly the inefficient result the Commission has sought to avoid. And Petitioners have not demonstrated why such a result is warranted here. Accordingly, the first *Millstone* element remains unsatisfied.

### E. Petitioners Fail to Identify a "Significant Environmental Problem"

Petitioners' theory that a waiver is necessary to address a "significant environmental problem" is based on their erroneous claim that the "*sole basis*" for the NRC's SMALL impact conclusion for potential environmental impacts from earthquakes "is the NRC's assumption that under its Atomic Energy Act-based licensing scheme, nuclear reactors will operate within their design bases."[110] As noted above, Petitioners' assertion ignores the NRC's *separate* and fulsome evaluation of *beyond*-design-basis accidents, and its *separate* conclusion (which Petitioners neither acknowledge nor challenge) that the impacts from Severe Accidents are still SMALL, given their low likelihood.[111]

Petitioners' discussion of *Millstone* element 4 also meanders into various CLB issues for the proposition that the NRC's safety review is a "very significant component of the NRC's

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109 ER at E-4-89.

110 Petition at 35 (citing 1996 GEIS at xliii-xliv) (emphasis added).

111 *See supra*, Section III.B.2

environmental analysis."[112] Although the NRC's generic evaluation of Design Basis Accidents in the GEIS obviously considers plant design bases, Petitioners do not otherwise explain how the Mineral Earthquake—a *beyond*-design-basis event—is relevant to the Design Basis Accidents issue, which clearly does not purport to analyze such events. Furthermore, Petitioners fail to articulate any connection between CLB matters and the Severe Accidents issue. Contrary to Petitioners' apparent belief otherwise, the GEIS evaluation of Severe Accidents *does not* rely on an assumption that a plant's design basis will bound all of the external events a plant may experience. Quite the opposite—the GEIS affirmatively assumes beyond-design-basis accidents *could* occur—and it fully evaluates that possibility.

Overall, Petitioners argue that "[t]he NRC must evaluate the probability . . . as well as the environmental consequences" of beyond-design-basis earthquakes.[113] But that is precisely what the NRC did in the GEIS.[114] Petitioners simply disregard the relevant analysis, and certainly do not engage with it or articulate any "specific, fact-based claims"[115] as to how it allegedly is inadequate,[116] or somehow identifies a "significant environmental problem."

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112 Petition at 35. For example, Petitioners conclude (without basis) that the North Anna seismic design basis is "inadequa[te]." *Id*. at 37. Notwithstanding this conclusory assertion, Applicants' and the NRC's opposite conclusion is supported by thousands of pages of detailed technical analyses performed over the course of the past decade. *See, e.g.*, NRC SPRA Review Letter at 2 (concluding that North Anna's existing design basis requires no modification and continues to provide adequate protection and comply with all existing requirements); *see also generally supra*, Section II.D. Petitioners neither acknowledge nor dispute any specific aspect of the robust technical basis for this conclusion.

113 Petition at 37.

114 *See, e.g.*, 2013 GEIS, Vol. 3, App. E.

115 *WCS Consolidated Interim Storage Facility*, CLI-20-15 (slip op. at 22) n.111 (citation omitted).

116 Petitioners also repeat their assertion that the NRC "must evaluate the cost-effectiveness of measures to avoid or mitigate" severe accidents caused by earthquakes (*i.e*., "SAMAs"). Petition at 37. As noted above, such an analysis was undertaken as part of the North Anna initial license renewal. *See* ER at E-4-87. Furthermore, Applicants considered potential NSI as to SAMAs using the North Anna SPRA—which accounts for the Mineral Earthquake. *See id.* at E-4-89. As noted in Section III.D., above, Petitioners fail to articulate, with specificity, and deficiency in this analysis.

Ultimately, Petitioners have not satisfied any—much less, all four—of the *Millstone* elements. Thus, the Waiver Request should be denied.

## IV. THE BOARD SHOULD DENY THE HEARING REQUEST BECAUSE IT DOES NOT PROPOSE AN ADMISSIBLE CONTENTION

Petitioners' sole Proposed Contention is stated as follows:

> Dominion's Environmental Report fails to satisfy NEPA or NRC implementing regulations 10 C.F.R. §§ 51.53(c)(2) and 51.45(a), because it does not address the environmental impacts of operating North Anna Units 1 and 2 during the extended SLR term under the significant risk of an earthquake that exceeds the design basis for the reactors.[117]

As a preliminary matter, Petitioners correctly note that their Proposed Contention cannot be admitted absent a waiver.[118] Because Petitioners have not satisfied the Commission's "stringent" waiver requirements, the Proposed Contention is inadmissible on its face. But even if the Waiver Request is granted, the Proposed Contention still falls short of satisfying all six admissibility criteria in 10 C.F.R. § 2.309(f)(1), as detailed in Section IV.C., below. Because Petitioners failed to propose at least one admissible contention, the Hearing Request must be denied.

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117 Petition at 13.

118 *See id.* at 30. Petitioners also challenge the controlling case law regarding the need for a waiver here and purport to incorporate by reference the dissenting opinions in LBP-19-3, CLI-20-3, and CLI-20-11. *See* Petition at 26-27. Accordingly, Applicants rely on and incorporate by reference: the majority opinions in those cases; all pleadings from the applicants and NRC Staff cited in those opinions; and all pleadings of the United States and intervenor Florida Power & Light Company in the matter of *Friends of the Earth v. NRC*, Case No. 20-1026, currently pending before the U.S. Court of Appeals for the District of Columbia Circuit. Petitioners claim the latter case pertains to a "petition for review of []CLI-20-03." *Id.* at 27 n.8. But that statement is untrue; the pending petition does not seek review of CLI-20-3, or any other adjudicatory decision of the NRC. Indeed, that petition was filed well before CLI-20-3 was even issued, and has never been amended.

### A. Legal Requirements for Hearing Requests and Petitions to Intervene

Under 10 C.F.R. § 2.309(f)(1), a hearing request "must set forth with particularity the contentions sought to be raised." In addition, 10 C.F.R. § 2.309(f)(1) states that each contention must:

(i) Provide a **specific statement** of the issue of law or fact to be raised or controverted;

(ii) Provide a brief explanation of the **basis** for the contention;

(iii) Demonstrate that the issue raised is within the **scope** of the proceeding;

(iv) Demonstrate that the issue raised is **material** to the findings the NRC must make to support the action that is involved in the proceeding;

(v) Provide a concise statement of the alleged **facts or expert opinions**, including references to the specific sources and documents that support the petitioner's position and upon which the petitioner intends to rely; and

(vi) Provide sufficient information to show that a **genuine dispute** exists with the applicant on a material issue of law or fact.

Failure to comply with any one of these six admissibility requirements is grounds for rejecting a proposed contention.[119] Indeed, these requirements are "strict by design."[120] The rules were "toughened…in 1989 because in prior years 'licensing boards had admitted and litigated numerous contentions that appeared to be based on little more than speculation.'"[121] The purpose of the six criteria is to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[122] The Commission has explained that it "should not have to

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119 *See* Changes to Adjudicatory Process; Final Rule, 69 Fed. Reg. 2,182, 2,221 (Jan. 14, 2004); *see also Private Fuel Storage, LLC* (Indep. Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

120 *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001).

121 *Id.* (quoting *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, & 3), CLI-99-11, 49 NRC 328, 334 (1999)).

122 Changes to Adjudicatory Process, 69 Fed. Reg. at 2,202; *see also Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 & 3), LBP-08-13, 68 NRC 43, 61 (2008).

expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing."[123]

The petitioner alone bears the burden to meet the standards of contention admissibility.[124] Thus, where a petitioner neglects to provide the requisite support for its contentions, the Board may not cure the deficiency by supplying the information that is lacking or making factual assumptions that favor the petitioner to fill the gap.[125]

At the most basic level, a contention must articulate the specific legal or regulatory requirement that it claims to be unsatisfied, and explain the basis for that claim because the parties are "entitled to be told at the outset, *with clarity and precision*, what arguments are being advanced and what relief is being" sought.[126] The Board and the parties "cannot be faulted for not having searched for a needle that may be in a haystack."[127] A contention that merely states a conclusion, without reasonably explaining why the application is inadequate, cannot provide a basis for the contention.[128] A "material issue" is one that would "make a difference in the outcome of the licensing proceeding."[129] The petitioner must demonstrate that "the subject matter of the contention would impact the grant or denial of a pending license application."[130]

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123 Changes to Adjudicatory Process, 69 Fed. Reg. at 2,202.

124 *See Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), CLI-15-23, 82 NRC 321, 325, 329 (2015) (stating "[t]he proponent of a contention is responsible for formulating the contention and providing the necessary support to satisfy the contention admissibility requirements" and "it is Petitioners' responsibility, not the Board's, to formulate contentions and to provide 'the necessary information to satisfy the basis requirement' for admission") (citation omitted); *see also DTE Elec. Co.* (Fermi Nuclear Power Plant, Unit 2), CLI-15-18, 82 NRC 135, 149 (2015) ("the Board may not substitute its own support for a contention or make arguments for the litigants that were never made by the litigants themselves.") (citation omitted).

125 *See id.*

126 *Kansas Gas & Elec. Co.* (Wolf Creek Generating Station, Unit No. 1), ALAB-279, 1 NRC 559, 576 (1975) (emphasis added).

127 *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-89-3, 29 NRC 234, 241 (1989).

128 *See USEC, Inc.* (Am. Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006).

129 *Oconee*, CLI-99-11, 49 NRC at 333-34 (citation omitted).

130 *Indian Point*, LBP-08-13, 68 NRC at 62 (citation omitted).

Furthermore, as noted above, a contention that challenges an NRC rule is outside the scope of the proceeding because, absent a waiver, "no rule or regulation of the Commission…is subject to attack…in any adjudicatory proceeding."[131]

With respect to the requirement to provide adequate support, a licensing board should examine documents to confirm that they support the proposed contention(s).[132] A petitioner's imprecise reading of a document cannot be the basis for a litigable contention.[133] Likewise, a contention "will be ruled inadmissible if the petitioner 'has offered no tangible information, no experts, no substantive affidavits,' but instead only 'bare assertions and speculation.'"[134]

Equally important, the Commission has stated further that the petitioner must "read the pertinent portions of the license application . . . state the applicant's position and the petitioner's opposing view," and explain why it disagrees with the applicant.[135] If a petitioner believes the license application fails to adequately address a relevant issue, then the petitioner is to "explain why the application is deficient."[136] A contention that does not directly controvert a position taken by the applicant in the application is subject to dismissal.[137] For example, if a petitioner

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131 10 C.F.R. § 2.335(a).

132 *See Vt. Yankee Nuclear Power Corp.* (Vt. Yankee Nuclear Power Station), ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-4, 31 NRC 333 (1990).

133 *See Ga. Inst. of Tech.* (Ga. Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 300 (1995).

134 *Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003) (quoting *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 208 (2000)).

135 Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process; Final Rule, 54 Fed. Reg. 33,168, 33,170 (Aug. 11, 1989); *see also Millstone*, CLI-01-24, 54 NRC at 358.

136 Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, & 3), CLI-91-12, 34 NRC 149, 156 (1991).

137 *See S.C. Elec. & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 & 3), CLI-10-1, 71 NRC 1, 21-22 (2010); *Tex. Utils. Elec. Co.* (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 NRC 370, 384 (1992), *vacated as moot*, CLI-93-10, 37 NRC 192 (1993).

submits a contention of omission, but the allegedly missing information is indeed in the license application, then the contention does not raise a genuine dispute.[138]

### B. The Proposed Contention Is Inadmissible Absent a Waiver of Appendix B

The Proposed Contention purports to challenge the ER's consideration of Category 1 issues, which are codified in Appendix B. However, the Commission has squarely held that Appendix B must be waived for a petitioner to challenge Category 1 findings, including claims alleging a failure to consider NSI.[139] Petitioners, here, did not request a waiver of Appendix B.[140] Instead, they only requested a waiver of 10 C.F.R. §§ 51.53(c)(3)(i), 51.71(d), and 51.95(c)(1).[141] Accordingly, because the Proposed Contention seeks to challenge Appendix B, and Petitioners lack a waiver to do so, the challenge is impermissible pursuant to 10 C.F.R. § 2.335(a). Therefore, the Proposed Contention also is inadmissible as immaterial and beyond the scope of the proceeding, and for failing to raise a genuine dispute with the ER, contrary to 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi).

### C. The Proposed Contention Is Inadmissible Even If a Waiver is Granted

Even if the Board grants a waiver, the Proposed Contention must be rejected as inadmissible on multiple grounds. Petitioners' sole contention is that the ER does not satisfy

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138 *See Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), LBP-04-15, 60 NRC 81, 95 (2004).

139 *See Limerick*, CLI-13-7, 78 NRC at 203 ("Challenges to Category 1 findings based on new and significant information require a waiver of 10 C.F.R. Part 51, Subpart A, Appendix B, in order to be litigated in a license renewal adjudication.") (citation omitted). *See also supra*, note 78.

140 Petitioners are represented by experienced nuclear counsel, and thus clearly could have included this regulatory provision in their Waiver Request. But they did not. The Board cannot cure this defect. *See Diablo Canyon*, CLI-11-11, 74 NRC at 447 n.113 (cautioning licensing Boards against adding additional regulatory provisions to a waiver request *sua sponte*). And Petitioners cannot amend their Waiver Request via reply pleading. *See USEC, Inc.* (Am. Centrifuge Plant), CLI-06-9, 63 NRC 433, 439 (2006) (prohibiting new legal arguments in reply pleadings) (citation omitted).

141 *See* Petition at 30 (Section V., "Petition for Waiver of 10 C.F.R. §§ 51.53(c)(3)(i), 51.71(d), and 51.95(c)(1)"); *id*. ("Pursuant to 10 C.F.R. § 2.335(b), Petitioners request a waiver of 10 C.F.R. §§ 51.53(c)(3)(i), 51.71(d), and 51.95(c)(1) . . . .").

10 C.F.R. §§ 51.53(c)(2) and 51.45(a) because it "does not address" the environmental impacts of a possible beyond-design-basis earthquake during the SLR term.[142] However, contentions of omission such as this must be rejected as inadmissible if the allegedly-missing information is, in fact, provided in the application.[143] That is precisely the case here. The analysis that Petitioners allege to be missing is, in fact, included in the ER. Accordingly, the Proposed Contention lacks the support required by 10 C.F.R. § 2.309(f)(1)(vi), and fails to demonstrate a genuine dispute with the SLRA on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi).

Furthermore, even if the Proposed Contention somehow is construed as a challenge to the *sufficiency* of that (allegedly-missing) analysis, Petitioners' assorted claims are variously unsupported, immaterial, and fail to dispute the ER on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi)-(vi).

Finally, the Petition contains a series of vague statements and conclusory assertions on the topic of cumulative impacts and documents discussing ongoing studies related to aging management. To the extent these references collectively could be viewed as presenting an additional challenge to the ER, they do not remotely satisfy all six admissibility criteria in 10 C.F.R. § 2.309(f)(1), and likewise should be rejected.

1. <u>The Proposed Contention Is Inadmissible Because the Allegedly-Omitted Analysis Is Presented in the GEIS and Incorporated by Reference in the ER</u>

The crux of the Proposed Contention appears to be Petitioners' demonstrably incorrect assertion that the Applicants' ER "contains no discussion of earthquake or other accident impacts."[144] Similar statements are found throughout the Petition, such as one claiming that

142 *Id.* at 13.

143 *See Millstone*, LBP-04-15, 60 NRC at 95.

144 Petition at 18.

Applicants "completely failed to address" the impacts of a beyond-design-basis earthquake.[145] But elsewhere in the Petition, Petitioners seemingly contradict their own claim, noting that "Dominion incorporates by reference all applicable Category 1 findings in [Appendix B], including accident impacts," as well as its findings regarding "beyond-design-basis earthquakes and other accidents."[146]

Petitioners do not reconcile these contradictory statements. But the parties are "entitled to be told at the outset, *with clarity and precision*, what arguments are being advanced and what relief is being" sought.[147] The Board and the parties "cannot be faulted for not having searched for a needle that may be in a haystack."[148] Nevertheless, while not their burden, Applicants have made reasonable efforts to construe these contradictory claims, and considered three possible theories of the contention. As explained below, the Proposed Contention is inadmissible under any or all of these theories.

First, Petitioners' claim could be viewed as an implied challenge to Applicants' procedural compliance with the requirements for incorporation by reference in 10 C.F.R. § 51.53(a). However, the Petition does not expressly raise this claim.[149] Nevertheless, if that is Petitioners' theory of the contention, it is inadmissible. Applicants fully complied with the requirements for incorporation by reference in 10 C.F.R. § 51.53(a). Moreover, the Petition is entirely devoid of any support for a claim to the contrary, as required by 10 C.F.R. §

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145 *Id.* at 28.

146 *Id.* at 18.

147 *Wolf Creek*, ALAB-279, 1 NRC at 576 (emphasis added).

148 *Seabrook*, CLI-89-3, 29 NRC at 241 .

149 Given that Petitioners and their counsel are well aware that such an argument is possible (because they raised it very recently in a separate SLR proceeding), *see Exelon Generation Co., LLC* (Peach Bottom Atomic Power Station, Units 2 & 3), CLI-20-11 (slip op. at 4-5, 11-13) (Nov. 12, 2020), their decision not to advance such an argument here should be viewed as intentional.

2.309(f)(1)(v), and fails to identify any specific defect in the ER, as required by 10 C.F.R. § 2.309(f)(1)(vi). Accordingly, the Proposed Contention would be inadmissible under this theory.

Second, if Petitioners' theory is that Applicants' incorporation by reference is somehow invalid because 10 C.F.R. § 51.53(c)(3)(i) (which excuses license renewal applicants from the need to include analyses of Category 1 issues in an ER) either is inapplicable to SLR applicants, or is waived in this proceeding, that theory is unsupported. In fact, as the licensing board in the *Peach Bottom* SLR proceeding recently held,[150] and the Commission recently affirmed,[151] SLR applicants can still incorporate by reference the GEIS and Part 51 discussions of Category 1 issues regardless of the applicability of 10 C.F.R. § 51.53(c)(3)(i). Accordingly, the Proposed Contention would be inadmissible under this theory as well.

Finally, to the extent the Proposed Contention rests on the faulty premise that the GEIS *does not* analyze the potential environmental impacts of beyond-design-basis accidents caused by earthquakes, such a claim is unsupported and incorrect. As explained in Section III.B.2, above, the GEIS squarely analyzes this precise topic under the "Severe Accidents" issue.[152] Thus, to the extent Petitioners' theory of the Proposed Contention is based on their own misreading of the GEIS, it is inadmissible.[153]

More importantly, under all three theories of the contention,[154] Petitioners' claim that the ER "does not address" the environmental impacts of beyond-design-basis earthquakes is plainly

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150 *See Exelon Generation Co., LLC* (Peach Bottom Atomic Power Station, Units 2 & 3), LBP-19-5, 89 NRC 483, 501-02 (2019).

151 *See Peach Bottom*, CLI-20-11 (slip op. at 12-13) ("We find no error in the Board's conclusion").

152 *See, e.g.*, 2013 GEIS, Vol. 3, App. E § E.3.2, "Impact of Accidents Initiated by External Events."

153 *See NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 312 (2012) (noting a petitioner's "ironclad obligation" to review application materials thoroughly) (citation omitted); *Ga. Tech Research Reactor*, LBP-95-6, 41 NRC at 300 (holding that a petitioner's "imprecise reading" of a document "cannot serve to generate an issue suitable for litigation").

154 If Petitioners' reply pleading presents a different theory of the Proposed Contention, then it should be rejected as an untimely amendment of a poorly-pled initial contention that failed to satisfy the basis and specificity

incorrect, unsupported, and fails to dispute the application on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(v) and (vi), and should be rejected.[155]

2. To the Extent the Proposed Contention Is Viewed as a Contention of Sufficiency, It Still Is Inadmissible As Unsupported and for Failing to Dispute the ER

As noted above, Petitioners chose to frame their Proposed Contention as a claim of omission. As that claim is demonstrably untrue, the Proposed Contention is inadmissible on its face. Nevertheless, even if the Board evaluates the Proposed Contention as a sufficiency challenge, it still would be inadmissible.

More specifically, to the extent the Proposed Contention is interpreted to claim that the (allegedly-missing) GEIS analyses of potential environmental impacts of design-basis and beyond-design-basis accidents caused by earthquakes are inadequate because they do not account for (or do not bound) the Mineral Earthquake, it still would be inadmissible. As explained in Section III.D., above, the Petition fails to provide adequate factual or expert support for such claims. Moreover, the Petition fails to demonstrate the materiality of these claims and fails to raise a genuine dispute with the ER on a material issue of law or fact.

As noted above, the GEIS evaluation of Severe Accidents *does not* rely on an assumption that a plant's design basis is somehow *bounding* of the external events a plant may experience. The GEIS assumes, and fully analyzes, the possibility of beyond-design-basis accidents. Petitioners argue that "[t]he NRC must evaluate the probability . . . as well as the environmental consequences" of beyond-design-basis earthquakes.[156] The GEIS—which Applicants

requirements in 10 C.F.R. § 2.309(f)(1)(i)-(ii). Alternatively, the Board should issue a supplemental briefing schedule to provide the Applicant and the Staff an opportunity to respond to the different theory.

155 *See Millstone*, LBP-04-15, 60 NRC at 95.

156 Petition at 37.

incorporate by reference—does precisely that. Petitioners simply disregard the relevant analysis. And they certainly have not identified, with requisite specificity, any insufficiency in that analysis.

To the extent the Proposed Contention claims that the GEIS analysis of earthquake impacts is not sufficiently bounding (so as to encompass the Mineral Earthquake), Petitioners offer nothing more than mere speculation. While Petitioners need not prove their case at the admissibility stage of the proceeding, they must provide a modicum of support—something beyond mere speculation—to support their claim.[157] As the Commission has long held, a contention "will be ruled inadmissible if the petitioner 'has offered no tangible information, no experts, no substantive affidavits', but instead only 'bare assertions and speculation.'"[158] That is precisely the case here.

Moreover, as noted above, Petitioners' argument is completely lacking the necessary bases to support its admissibility. For example, the GEIS considered the probability and consequences of beyond-design-basis accidents caused by earthquakes; and the corresponding analysis for North Anna, calculated using the plant's state-of-the-art SPRA (which accounts for the Mineral Earthquake), remains squarely within the range of probability-weighted consequences evaluated in the GEIS.[159] Petitioners neither acknowledge nor dispute these analyses. Nor do they challenge, with the requisite basis and specificity, any other discussion in the GEIS or the ER and explain their contrary view. Thus, Petitioners fail to establish that the GEIS is somehow insufficient, or that this alleged insufficiency somehow renders Applicants'

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157 *See* 10 C.F.R. § 2.309(f)(1)(v).

158 *Fansteel*, CLI-03-13, 58 NRC at 203 (citation omitted).

159 *Compare* 2013 GEIS, Vol. 3, App. E at E-17 (analyzing beyond-design-basis seismic CDFs in the range of $1 \times 10^{-5}$ to $1 \times 10^{-4}$) *with* NRC SPRA Review Letter, Encl. 1 at 34 (noting North Anna's is $6.3 \times 10^{-5}$).

evaluation of NSI inadequate. Notably, Applicants used the North Anna SPRA (which takes into account the Mineral Earthquake) to screen the significance of potential NSI for SAMAs.[160] Petitioners fail to explain what more must be done. At bottom, their speculative, conclusory, and objectively incorrect claims are unsupported, immaterial, and fail to demonstrate a genuine dispute with the ER, contrary to the requirements of 10 C.F.R. § 2.309(f)(1)(iv)-(vi).

3. Petitioners' Other References to Cumulative Impacts and Aging Management Research Do Not Raise an Admissible Issue

Petitioners cite various documents discussing aging management research—specifically, SECY-14-0016,[161] the five-volume EMDA report,[162] and two slide decks on the topic of reactor component harvesting[163] (collectively, "Documents")—for the proposition that the NRC has identified certain "uncertainties and knowledge gaps" related to long-term aging effects.[164] Petitioners then make a vague and conclusory assertion that "[t]hese uncertainties must also be addressed."[165]

As a general matter, Petitioners fail to explain how these documents provide support for an environmental challenge. To the extent they suggest SECY-14-0016 or the EMDA supports a conclusion that the GEIS is somehow inadequate, they fail to disclose that SECY-14-0016, itself, says precisely the *opposite*; it explicitly concludes that nothing discussed therein casts doubt on the adequacy of the 2013 GEIS.[166]

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160 *See* ER at E-4-87.

161 *See* Petition at 14.

162 *See id.*

163 *See id.* at 23-24 (citing M. Hiser et al., Slides, "Harvesting of Aged Materials from Operating and Decommissioning Nuclear Power Plants" at 5 (undated attachment to Oct. 16, 2017 email) (PDF page 82 of ML17285A484) & M. Hiser & A. Hull, Slides, "Strategic Approach for Obtaining Material and Component Aging Information" at 3 (June 2-4, 2015) (PDF page 130 of ML20332A097)).

164 *Id.* at 29 (referencing Section IV.B.2.a. of the Petition).

165 *Id*.

166 *See* SECY-14-0016 at 3.

Additionally, the Commission responded to SECY-14-0016 by directing Staff to address relevant *safety* considerations through guidance updates.[167] Accordingly, Staff subsequently issued several new and updated guidance documents reflecting the agency's up-to-date views on aging management, based on its reasoned consideration of extensive data, operating experience, and expert analysis. Most notably, in 2017, Staff issued the "Generic Aging Lessons Learned for Subsequent License Renewal (GALL-SLR) Report," NUREG-2192, explicitly noting that it had considered the issues raised in SECY-14-0016 and the EMDA.[168] Petitioners fail to acknowledge this substantial effort and entirely disregard the more recent state of knowledge reflected in the GALL-SLR Report, upon which Applicants' SLRA relies.

Furthermore, Petitioners' vague and unsupported demands:

- do not specify where these purported uncertainties must be, but allegedly are not, addressed (*i.e*., the safety portion of the SLRA or the ER);
- do not identify any NRC regulation (or other authority) that requires the analysis they demand *in an environmental document*, but that purportedly is unmet here; and
- do not challenge the adequacy of any specific AMP or demonstrate any genuine material dispute with the robust process described in the SLRA for reviewing operating experience and maintaining the effectiveness of the AMPs to address long-term aging effects.[169]

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167 *See* Memorandum from A. Vietti-Cook to M. Satorius, "Staff Requirements – SECY-14-0016 – Ongoing Staff Activities to Assess Regulatory Considerations for Power Reactor Subsequent License Renewal," at 1 (Aug. 29, 2014) (ML14241A578).

168 *See* NUREG-2191 at xxvii.

169 As explained in ER § E2.4 (at E-2-52), "[t]he programs for managing the effects of aging on certain structures and components within the scope of license renewal at the site are described in the body of the SLRA (see Appendix B of the NAPS SLRA)." That document presents 45 issue-specific AMPs (SLRA, App. B §§ B2.1.1 to B2.1.45 (at B-15 to B-277), and describes Applicants' systematic process for reviewing and addressing, as appropriate, plant-specific and industry operating experience concerning aging management and age-related degradation (*see id*., App B § B1.4 (at B-4 to B-9). Petitioners neither acknowledge nor allege any specific deficiency in any of this material, much less explain how that unspecified deficiency somehow challenges specific analyses or information in the ER at issue in this proceeding.

To the extent Petitioners' vague assertions could be construed as alleging some omission or inadequacy in the SLRA, it must be rejected as inadmissible. These collective claims fail to satisfy essentially all of the Commission's admissibility criteria in 10 C.F.R. § 2.309(f)(1). Moreover, Petitioners have framed their Proposed Contention as an environmental contention—not a safety challenge. As Petitioners are fully aware, and indeed acknowledge in the Petition, they are prohibited from challenging the CLB in this proceeding.[170] Thus, to the extent Petitioners are attempting to bootstrap a safety issue into an environmental contention, the Board should soundly reject that obvious maneuvering.

Notably, Beyond Nuclear raised a very similar challenge in the *Peach Bottom* proceeding, alleging the applicants' ER failed to evaluate the Documents.[171] Beyond Nuclear argued in that proceeding that CEQ regulations at 40 C.F.R. § 1502.22 (which provides "guidance" to federal agencies regarding the treatment of incomplete or unavailable information in an EIS) compelled such an analysis.[172] But the *Peach Bottom* licensing board disagreed, concluding that this argument was inadmissible for failing to specify a legal basis requiring the ER to include such an analysis (and noting that the board, itself, could not find one).[173] The Commission affirmed that decision, further noting that Beyond Nuclear failed to link the allegedly "missing" information to any specific, unconsidered environmental consequences during the SLR term.[174]

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170 *See* Petition at 37.

171 *See Peach Bottom*, CLI-20-11 (slip op. at 5-6); *Peach Bottom*, LBP-19-5, 89 NRC at 496-97 (granting a motion to amend the contention to include discussion of component harvesting).

172 *See id*.

173 *See Peach Bottom*, LBP-19-5, 89 NRC at 504-05 & n.107.

174 *See Peach Bottom*, CLI-20-11 (slip op. at 14).

The Board should reach the same conclusion—and should find Petitioners' argument inadmissible for *additional* reasons—here. For example, Beyond Nuclear's challenge in the *Peach Bottom* proceeding, unlike the one here, was at least accompanied by an expert report.[175] No such support was supplied by Petitioners here. Thus, Petitioners' vague and speculative claims also are unsupported. Furthermore, unlike *Peach Bottom*, Petitioners here do not cite *any* specific law or regulation that allegedly has not been satisfied. Thus, the argument here additionally fails to satisfy even the most basic requirements of basis and specificity in 10 C.F.R. § 2.309(f)(1)(i)9(ii).[176]

Nevertheless, it seems that Petitioners are attempting to recast the previously-rejected argument, this time under the heading of "cumulative impacts."[177] More specifically, the Petition:

- includes passing assertions that the ER "should include a discussion of the cumulative effects of operation during the SLR term";[178]
- suggests that "[c]umulative impacts reasonably include the effects of earthquakes on SSCs whose reliability to prevent or mitigate earthquake effects may be compromised by long-term aging effects"; and
- demands that the issues raised in the Documents "be addressed."[179]

This argument fares no better. First, Petitioners cite no legal authority or expert opinion for their view of "cumulative impacts." This term historically has been defined as "[t]he impact on the environment that results from the incremental impact of an action when added to *other* past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or

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175 *See id* at 6.

176 *See* 10 C.F.R. § 2.309(f)(1)(i)-(ii); *Wolf Creek*, ALAB-279, 1 NRC at 576.

177 Petition at 28-29.

178 *Id.* at 14.

179 *Id.* at 29.

non-Federal) or person undertakes such *other* actions."[180] Petitioners' statement about what cumulative impacts "reasonably include" merely references potential impacts from earthquakes during the period of extended operation (*i.e.*, the *proposed* action)—which are already addressed in the GEIS—but, it fails to specify what "other actions" must be considered. To the extent Petitioners are attempting to characterize the Documents as an "other action," they provide no support for such a claim. At bottom, Petitioners' ill-defined view of "cumulative impacts" is unsupported and fails to supply the basis for an admissible issue.

Ultimately, the NRC's regulations at 10 C.F.R. § 51.53(c)(3)(ii)(O) detail the "cumulative effects" analysis required to be presented in a license renewal ER, and Applicants fully satisfy that requirement in Section E4.12, which Petitioners neither acknowledge nor dispute.[181] To the extent Petitioners' ambiguous references to cumulative impacts and the Documents could be construed as a claim that the ER fails to satisfy some unidentified requirement, they do not remotely satisfy all six criteria in 10 C.F.R. § 2.309(f)(1), and therefore fail to raise an admissible issue.

## V. CONCLUSION

As established above, Petitioners have not satisfied the Commission's "stringent" waiver standard. Accordingly, the Board should DENY the Waiver Request. Additionally, regardless of whether the Waiver Request is granted, Petitioners have not proposed an admissible contention. Therefore, the Board also should DENY the Hearing Request.

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[180] *See* 2013 GEIS at 4-243 (quoting the former Council on Environmental Quality definition at 40 C.F.R. § 1508.7) (emphasis added).

[181] *See* ER at E-4-62 to E-4-79.

Respectfully submitted,

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Dated in Washington, DC
this 8th day of January 2021

**UNITED STATES OF AMERICA**
**NUCLEAR REGULATORY COMMISSION**

**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

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| In the Matter of: | ) | |
| VIRGINIA ELECTRIC AND POWER COMPANY and OLD DOMINION ELECTRIC COOPERATIVE | ) | Docket Nos. 50-338-SLR and 50-339-SLR |
| (North Anna Power Station, Units 1 and 2) | ) | January 8, 2021 |

## CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 2.305, I certify that, on this date, a copy of the foregoing "Applicants' Answer Opposing Request for Hearing, Petition to Intervene, and Petition for Waiver Submitted by Beyond Nuclear, Sierra Club, and Alliance for Progressive Virginia" was served upon the Electronic Information Exchange (the NRC's E-Filing System), in the above-captioned docket.

*Signed (electronically) by Ryan K. Lighty*
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