

From: Paul Gunter <paul@beyondnuclear.org>
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Cc: Joe B; Kate Addleson; John Cruickshank; Curran/ Diane
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Attached please find the joint comments of Beyond Nuclear and Sierra Club in the matter of Docket ID NRC-2020-0234.

Thank you,
Paul Gunter

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Paul Gunter, Director
Reactor Oversight Project
Beyond Nuclear
7304 Carroll Avenue #182
Takoma Park, MD 20912
Tel. 301 523-0201 (cell)
www.beyondnuclear.org

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From: Paul Gunter

Created By: paul@beyondnuclear.org

Recipients:

"Joe B" <joebsierra@gmail.com>
Tracking Status: None
"Kate Addleson" <kate.addleson@sierraclub.org>
Tracking Status: None
"John Cruickshank" <jcruickshank4@gmail.com>
Tracking Status: None
"Curran/ Diane" <dcurran@harmoncurran.com>
Tracking Status: None
"NorthAnnaEnvironmental Resource" <NorthAnnaEnvironmental.Resource@nrc.gov>
Tracking Status: None

Post Office: mail.gmail.com

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By Email: NorthAnnaEnvironmental@nrc.gov

Joint Comments of Beyond Nuclear and Sierra Club re: North Anna DSGEIS

To whom it may concern:

On behalf of Beyond Nuclear and Sierra Club, please find our joint comments regarding the Dominion North Anna Nuclear Power Station "Docket ID NRC-2020-0234".

Sierra Club and Beyond Nuclear are challenging the legality of the U.S. Nuclear Regulatory Commission (NRC) and Dominion Energy's misinterpretation and misuse of regulatory law in the extreme Subsequent License Renewal Application (60- to 80-years) for the North Anna Nuclear Power Station in Mineral, VA as now amplified by the August 25, 2021, US Nuclear Regulatory Commission (NRC) "Draft Supplemental Generic Environmental Impact Statement (DSGEIS)."

North Anna nuclear power station is sited near the epicenter of the August 23, 2011, 5.7 magnitude earthquake that exceeded the nuclear power stations' design-basis earthquake limits and safety specifications for the two operating Westinghouse pressurized water reactors. The groups' legal challenge to the relicensing is presently on appeal before the NRC Office of Commissioners.

The NRC is requesting public comment on the supplement and revision of the NRC staffs' "generic approval" of 92 environmental issues determined to be "small" and inconsequential. The "generic" finding nullifies public due process to a site-specific public hearing on these environmental issues expediting the agency's approval process for second 20-year renewals. The federal agency is seeking public comment on its proposed revised generic approval through "NUREG-1437-Draft for Comment - Generic Environmental Impact Statement for License Renewal of Nuclear Plants Supplement 7, Second Renewal Regarding Subsequent License Renewal for North Anna Power Station Units 1 and 2" (350 pp.). The full DSGEIS document is available at: <https://www.regulations.gov/document/NRC-2020-0234-0145>

On September 28, 2021, legal counsel for Beyond Nuclear and Sierra Club in the matter of North Anna's second 20-year license extension filed a motion to reopen the NRC Atomic Safety Licensing Board record on the North Anna proceeding, still pending on appeal, based on the new information revealed by a reading of the NRC revised draft supplemental statement.

In this regard, submitting the requested public comments to the NRC in support of findings of the Sierra Club and Beyond Nuclear is strategically valuable.

JOINT COMMENTS

1. The North Anna DSGEIS is an “Error of Law” To Expedite Reactor Relicensing for 60- to 80-Years

The Nuclear Regulatory Commission’s (NRC) DSGEIS review of severe nuclear accidents and environmental consequence is fatally flawed by its arrogant misuse by misinterpretation of the plain language contained in NRC regulatory law. A simple reading of the NRC Code of Federal Regulation at 10 CFR 51.53(c)(3) “[Post Construction Environmental Reports](#)” reveals that industry’s much sought after “generic approval” and exemption from further environmental review expressly applies only to the (c) “Operating license renewal stage”, and “(3) For those applicants seeking an initial renewed license” [40- to 60-year extension]. [Emphasis added]

Here are examples of the NRC and Dominion’s repeated breaking of the law incorporated in the North Anna DSGEIS for a Subsequent License Renewal [60- to 80-years] of operations. Emphasis added;

a) Excerpt North Anna DSGEIS, Part 3, Affected Environment and Environmental Consequences, Section 3.11.6.4, Environmental Consequences of Postulated Accidents

“The GEIS ([NRC 2013a](#)) evaluates the following two classes of postulated accidents as they relate to license renewal:

- *“Design-Basis Accidents: Postulated accidents that a nuclear facility must be designed and built to withstand without loss to the systems, structures, and components necessary to ensure public health and safety.*
- *“Severe Accidents: Postulated accidents that are more severe than design-basis accidents because they could result in substantial damage to the reactor core.*

“Dominion’s 2001 ER [Environmental Report], submitted as part of its initial license renewal application [the 40- to 60-year extension], included an assessment of SAMAs [Severe Accident Mitigation Alternatives] for North Anna (Dominion 2001). The NRC staff at that time reviewed Dominion’s 2001 ER submitted as part of its initial license renewal application, included an assessment of SAMAs for North Anna (Dominion 2001). The NRC staff at that time reviewed Dominion’s 2001 analysis of SAMAs for North Anna and documented this review in its SEIS [Supplemental Environmental Impact Statement] for the initial license renewal, which the NRC published in 2002, as Supplement 7 to NUREG-1437 (NRC 2002b). Because the NRC staff has previously considered SAMAs for North Anna, Dominion is not required to perform another SAMA analysis for its subsequent license renewal application (10 CFR 51.53(c)(3)(ii)(L)).” [Emphasis added]

b) Excerpt North Anna DSGEIS, Part 3, Affected Environment and Environmental Consequences, Section 3.14, Evaluation of New and Significant Information

“In accordance with 10 CFR 51.53(c), ‘Operating License Renewal Stage,’ the applicant’s ER must analyze the Category 2 (site-specific) issues in Table B-1 of 10 CFR Part 51, Subpart A, Appendix B. Additionally, the applicant’s ER must discuss actions to mitigate any adverse impacts associated with the proposed action and environmental impacts of alternatives to the proposed action. In accordance with 10 CFR 51.53(c)(3), the applicant’s ER does not need to analyze any Category 1 issue unless there is new and significant information on a specific issue. [Emphasis added]

c) Excerpt North Anna DSGEIS, Appendix F.2, Severe Accident Mitigation Alternatives (SAMA),

“The regulation at 10 CFR 51.53(c)(3)(ii)(L), states that each license renewal applicant must submit an environmental report that considers alternatives to mitigate severe accidents “[i]f the staff has not previously considered severe accident mitigation alternatives for the applicant’s plant in an environmental impact statement or related supplement or in an environmental assessment.” [Emphasis added]

d) Excerpt North Anna DSGEIS, Appendix F.2, Severe Accident Mitigation Alternatives (SAMA), F.2.2, Subsequent License Renewal Application and New and Significant Information as It Relates to the Probability-Weighted Consequences of Severe Accidents

“As mentioned above, a license renewal application must include an ER [Environmental Report] that describes SAMAs [Severe Accident Mitigation Alternatives] if the NRC staff has not previously evaluated SAMAs for that plant in an EIS [Environmental Impact Statement], in a related supplement to an EIS, or in an environmental assessment. As also discussed above, the NRC staff performed a site-specific analysis of North Anna SAMAs in NUREG-1437, Supplement 7 (NRC 2002b). Therefore, in accordance with 10 CFR 51.53(c)(3)(ii)(L) and Table B-1 of Appendix B to Subpart A of 10 CFR Part 51, Dominion is not required to provide another SAMA analysis in its ER for the North Anna subsequent license renewal application.” [Emphasis added]

e) Excerpt North Anna DSGEIS, Appendix F.4, Environmental Impacts of Postulated Accident, Other New Information Related to NRC Efforts to Reduce Severe Accident Risk Following Publication of the 1996 GEIS

“The Commission reaffirmed its SAMA-related conclusions in Table B-1 of Appendix B to Subpart A of 10 CFR Part 51 and 10 CFR 51.53(c)(3)(ii)(L), ‘Postconstruction environmental reports,’ in Exelon Generation Co., LLC (Limerick Generating Station, Units 1 and 2), CLI-13-07, October 31, 2013). In addition, the Commission observed that it had promulgated those regulations because it had ‘determined that one SAMA analysis would uncover most cost-beneficial measures to mitigate both risk and the effects of severe accidents, thus satisfying our obligations under NEPA [National Environmental Policy Act] (2013b).’

Misuse by Misinterpretation of 10 CFR 51.53(c)(3) as Argued by Two Dissenting NRC Commissioners

Prior misinterpretation and misuse of 10 CFR 51.53(c)(3) is identified in the Subsequent License Renewal interventions brought by Beyond Nuclear at Pennsylvania’s Peach Bottom nuclear power station and the Natural Resource Defense Council at Florida’s Turkey Point nuclear power station. The recurring “error of law” by the agency, the licensees and the licensing boards is affirmed as unsettled by the strong arguments and repeated dissent of now two seated NRC Commissioners.

In a previous Beyond Nuclear intervention in the Exelon Generation LLC Subsequent License Renewal of Peach Bottom Units 2 and 3, the Commission voted in the majority to dismiss all the Beyond Nuclear contentions and deny their request for a hearing. However, a strong dissenting argument by Commissioners Jeff Baran and Chris Hanson (now NRC Chairman) opposing the majority interpretation to use 10 CFR 51.53(c)(3) for a second license leave the matter unsettled with two open seats on the Commission presently unfilled by President Biden’s nomination and Senate confirmation.

In the Peach Bottom decision, Commissioners Baran and Hanson have argued, “However, we respectfully dissent from the majority’s analysis of Contention 2A because we conclude that applying 10 C.F.R. § 51.53(c)(3) to subsequent license renewals is at odds with the regulation and the agency’s obligations under NEPA. This legal conclusion does not reflect a policy position on the merits of subsequent license renewal or a determination that properly supported generic environmental findings cannot be applied in the subsequent license renewal context.” [Commission Memo and Order, 11.12.2020, [ML20317A110](#)]

The Commissioners go on to say that “reliance on the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (2013 GEIS) to address reactor aging phenomena and design-basis accidents for the subsequent license renewal time period is misplaced and depends on an incorrect reading of 10 C.F.R. § 51.53(c)(3).”

“Beyond Nuclear further argues that this deficient analysis cannot be applied to satisfy the agency’s requirement to take a ‘hard look’ under NEPA because the 2013 GEIS did not analyze the subsequent license renewal time period. We agree.” [Emphasis added]

“Contrary to the majority’s assertions, the plain and unambiguous language of 10 C.F.R. § 51.53(c)(3) legally precludes its application beyond the initial license renewal period, and the GEIS did not evaluate the environmental impacts of subsequent license renewal.” [Emphasis added]

“Section 51.53(c)(1) applies to ‘[e]ach applicant for renewal of a license to operate a nuclear power plant under part 54,’ and section 51.53(c)(2) contains requirements for the environmental report that must be submitted by any such applicant.² By contrast, section 51.53(c)(3) narrows the scope of license renewal applicants to which it applies and speaks only of ‘those applicants seeking an initial renewed license and holding an operating license, construction permit, or combined license as of June 30, 1995.’ The explicit language of the regulation states that the provisions of 51.53(c)(1) and (c)(2) apply to all license renewal applicants, including those for subsequent license renewal, while section 51.53(c)(3) applies only to initial license renewal applicants.” [Emphasis added]

“A basic canon of statutory construction is that the express mention of one thing excludes all others. When the regulatory text of section 51.53(c)(3) specifically addresses ‘those applicants seeking an initial renewed license,’ it is properly read as not addressing applicants seeking other license renewal terms.” [Emphasis added]

“The 2013 GEIS does not address environmental impacts for the subsequent license renewal period. Therefore, incorporation by reference of the GEIS, without additional evaluation of impacts during the subsequent period of renewal, is insufficient to satisfy NEPA.” [Emphasis added]

“Because section 51.53(c)(3) applies only to applicants for initial license renewal and the 2013 GEIS did not actually analyze the subsequent license renewal time period, neither subsequent license renewal applicants nor the NRC Staff may exclusively rely on the GEIS and 10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1 to evaluate environmental impacts of Category 1 issues. Expanding the scope of the 2013 GEIS after the fact not only violates the agency’s obligations under NEPA to evaluate the impacts of its actions, but also effectively eliminates any opportunity for the public to be involved in the agency’s decision-making. We would therefore hold that Beyond Nuclear identified an error of law in the Board’s decision on Contention 2A, which should have been admitted as a contention of omission.” [Emphasis added]

“NUREG-1437-Draft for Comment - Generic Environmental Impact Statement for License Renewal of Nuclear Plants Supplement 7, Second Renewal Regarding Subsequent License Renewal for North Anna Power Station Units 1 and 2” is therefore fatally flawed because it fails comply with NRC regulation and NEPA law.

2. North Anna DSGEIS Redefines “Design-Basis Accidents” Without Comment or Reanalysis

The Mineral, Virginia magnitude 5.7 earthquake that occurred on August 23, 2011 was centered within ten miles of the operating units at North Anna nuclear power station. The recorded earthquake exceeded the design-basis earthquake (DBE) specifications for the nuclear power station’s systems, structures and components originally established by the region’s recording of the 1875 earthquake.

The August 25, 2021 NRC DSGEIS in its discussion of “Design-Basis Accidents” (Section F.1.1), states: *“Design-basis accidents are postulated accidents that a nuclear facility must be designed and built to withstand without loss to the systems, structures, and components necessary to ensure public health and safety. Planning for design-basis accidents ensures that the proposed plant can withstand normal transients (e.g., rapid changes in the reactor coolant system temperature or pressure, or rapid changes in reactor power), as well as a broad spectrum of postulated accidents without undue hazard to the health and safety of the public. Many of these design-basis accidents may occur, but are unlikely to occur, even once during the life of the plant; nevertheless, carefully evaluating each design-basis accident is crucial to establishing the design basis for the preventive and mitigative safety systems of the proposed nuclear power plant. Title 10 of the Code of Federal Regulations (10 CFR) Part 50, “Domestic Licensing of Production and Utilization Facilities,” and 10 CFR Part 100, “Reactor Site Criteria,” describe the NRC’s acceptance criteria for design-basis accidents.”* [Emphasis added]

This is the first time in the history of the agency’s regulatory development and application of the Generic Environmental Impact Statement that the NRC staff has made the assertion that *“Many design-basis accidents may occur”* during the life of a nuclear reactor. This infers by argument that design-basis earthquakes and accidents can be expected and accepted to occur. This claim goes against all previous NRC interpretations of a design-basis accident and the design-basis earthquake. This new interpretation does not appear in any of the previous NRC documentation beginning with the original NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants issued in May 1996 or in any of North Anna’s GEIS supplementation for the initial license renewal in 2002, 2003 and 2013 or licensee’s Environmental Report.

Furthermore, NRC staff does not present this language as a new idea and introduces it without any comment. Rather, the NRC staff attempts to slip in the notion that more than one design-basis earthquake and potential accident was always expected to occur during the operating license period of North Anna nuclear power station without raising any significant environmental concerns despite recurring 20-year license extensions. It appears to be the NRC staff’s attempt at a repair of an identified relicensing review deficiency without the qualifying reanalysis, scientific integrity or transparency of a rulemaking.

The Staff’s unqualified suggestion that in licensing nuclear reactors, the NRC anticipates that a design-basis accident – such as the design-basis earthquake – may occur more than once at a single reactor, without raising safety or environmental concerns, is without any basis. The assertion is inconsistent with the NRC’s basic principles of nuclear reactor licensing and regulation as reflected in NRC Staff guidance

documents. The NRC's Standard Review Plan makes it clear that the NRC does not anticipate that a design-basis accident will occur at all. "Postulated accidents" (i.e., design basis accidents) are defined as "unanticipated occurrences (i.e., they are postulated but not expected to occur during the life of the nuclear power plant."). By contrast, "Anticipated Operational Occurrences" or "AOOs" "are those conditions of normal operation that are expected to occur one or more times during the life of the nuclear power plant." A license application must include a categorization of events as "either an AOO or a postulated accident." As required by the Standard Review Plan, VEPCO categorized the design-basis earthquake as a postulated accident, stating that it "took what was found to be the largest reported shock in the Piedmont Province and postulated its occurrence in the vicinity of the site.

In the North Anna second 20-year license extension, the NRC licensing board reviewing the Beyond Nuclear and Sierra Club contentions and request for a hearing on the Mineral Earthquake characterized the quake as a "*happenstance*" confusing a design basis accident with an anticipated operational occurrence. The licensing board correctly observed that NRC regulation provides that "*a facility's OBE [operating basis earthquake] may be exceeded without causing a severe accident, directing in such a circumstance the actions that must be completed prior to resuming operation after such an incident.*" While an OBE may occur more than once without causing a severe accident, that is not the case for a design-basis earthquake ("DBE", also known as a Safe Shutdown Earthquake ("SSE")). The value of an OBE "typically" is only half the value of the DBE or SSE, as is the case for North Anna. As such, North Anna is not licensed to experience more than one earthquake that met or exceeded its design basis. It therefore remains both a public safety and environmental protection concern that following the 2011 Mineral Earthquake, North Anna is operating in an unanalyzed condition for another earthquake that again exceeds the still retained design basis whether that be in the current licensing basis or the requested 60- to 80-year license extension period. For example, see NUREG/CR-7230, Seismic Design Standards and Computational Methods in the United States and Japan" (May 2017) (ML17131A127)). The Updated Final Safety Analysis Report ("UFSAR") for North Anna Units 1 and 2 represents that Class I piping systems are qualified, by the importance of the reactor safety function to be performed, to withstand "a total of five operational-basis earthquake (OBE) (one-half safeshutdown earthquake) and one design-basis earthquake (DBE)."

The Draft Supplemental GEIS therefore 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 for extending the operation North Anna Units 1 and 2 for 60- to 80 years under the significant risk of another strong earthquake, particularly one more that exceeds the now obsolete earthquake design-basis for the well shaken reactors.

Paul Gunter

Paul Gunter
Beyond Nuclear
7304 Carroll Avenue #182
Takoma Park, MD 20912
paul@beyondnuclear.org

Joe Brancoli

Joe Brancoli
Chair, Virginia Chapter
Sierra Club
100 W. Franklin St.
Richmond, VA 23220
joepsierra@gmail.com