

If leave is granted by the ASLB in this matter,
BREDL would substitute this corrected copy of the brief filed September 22, 2011.
The sole changes are the dates indicated with strike-outs on pages 3, 5 and 11.
We submit that the meaning and the context are unchanged.
Respectfully, Louis A. Zeller
October 1, 2011

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

Ronald M. Spritzer, Chairman
Dr. Richard F. Cole
Dr. Alice C. Mignerey

In the Matter of Virginia Electric and Power Company d/b/a Dominion Virginia Power and Old Dominion Electric Cooperative North Anna Unit 3 Combined License
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Docket Nos. 52-017
ASLBP No. 08-863-01-COL
September 22, 2011

REQUEST TO ADMIT INTERVENOR'S NEW CONTENTION

Pursuant to 10 C.F.R. § 2.309, and in accord with the Atomic Safety and Licensing Board (ASLB) order issued September 1, 2011,¹ the Blue Ridge Environmental Defense League with its chapter Peoples Alliance for Clean Energy (BREDL or Intervenor) hereby seeks leave from the presiding officer to file a new contention based on new information. The central precipitating event for this contention is the Virginia earthquake of August 23, 2011; the contention is based upon supporting documentation available to the Intervenor and the Applicant and issued by the Commission. This request also outlines particularities regarding the proposed new contention. Intervenor has representational standing, through its members, to make this request. The ASLB,

¹ LBP-11-22 states: [W]e have already found that BREDL demonstrated standing pursuant to 10 C.F.R. § 2.309(d), and that it proffered one admissible contention as required by 10 C.F.R. § 2.309(f). Therefore, BREDL met the criteria for intervention and, as explained in the Commission's hearing notice, it became a party to the licensing proceeding and entitled to participate fully in the conduct of the hearing. This necessarily entails the right to propose contentions that have a bearing on the licensing decision, including those based on the SER and the new SEIS when they are issued, or on the Fukushima accident.

pursuant to the Commission's fifty-mile proximity presumption, has determined that BREDL has standing to intervene in this proceeding. See LBP-08-15.

Background

This proceeding concerns the application for a combined license ("COL") filed pursuant to 10 CFR Part 52 Subpart C by Virginia Electric and Power Company (d/b/a Dominion Virginia Power) ("Dominion" or "Applicant") on November 26, 2007. On May 18, 2010 Dominion informed the Nuclear Regulatory Commission that it had altered the basis for its application and selected a Mitsubishi Heavy Industries US Advanced Pressurized Water Reactor ("APWR") design as the basis for its Combined License for proposed North Anna Unit 3. On October 2, 2010 Blue Ridge Environmental Defense League filed two new contentions which the ASLB declined to admit, including one regarding earthquake factors at North Anna.² LBP-11-10. On March 2, 2011, the NRC updated the schedule for review of the Unit 3 COLA, proposing issuance of the final Supplemental Environmental Impact Statement in October 2012 and the Final Safety Evaluation Report (FSER) in July 2013. On August 23, 2011, an alert was declared under Emergency Action Level EAL HA6.1 at the North Anna Power Station which was caused by seismic activity onsite. Both units underwent automatic reactor trips of 100% power and all offsite electrical power to the site was lost.

Discussion

The Blue Ridge Environmental Defense League seeks to bring this contention because recent events at the North Anna nuclear power site have overtaken predictions

² In Contention 13, "Unit 3 Seismic Spectra Exceedance," Intervenor argued that Dominion improperly requested a site-specific exemption from the APWR Design Control Document for proposed North Anna Unit 3. in violation of 10 C.F.R. §§ 52.7, 52.93, and 100.23.

and assurances, indicating that it is unsuitable for a third reactor. We know that the ~~April~~ 23rd quake registered 5.8 Richter; caused 115-ton steel casks storing highly radioactive nuclear waste to shift 4½ inches on concrete storage pads; and was felt by residents from Georgia to Maine and Illinois. Plainly, the early site permit and other licensing proceedings for Unit 3 under NEPA and the Atomic Energy Act were completed before these events. Intervenor's contentions regarding the scandalous history of the approval process for North Anna Units 1 and 2 is on record, and will not be repeated here. Now, further review of the ~~April~~ 23rd quake has begun and additional safety reports and environmental impact assessments will be generated. But the fundamental problems of building nuclear reactors in the Central Virginia Seismic Zone³ are such that additional reviews and probability calculations would merely reestablish false assurances to the people of this region. Probability is at bottom a gamble. Earthquake prediction here has foundered on the rocks of reality. This fact was made clear by the Fukushima disaster which occurred in an area with a known seismic history and to a society well adapted to living on the fault line. But modern science and nuclear engineering are no match for tectonic movement:

An earthquake results from sudden slip on a geological fault. Such fracture and failure problems are notoriously intractable. The heterogeneous state of the Earth and the inaccessibility of the fault zone to direct measurement impose further difficulties. Except during a brief period in the 1970s, the leading seismological authorities of each era have generally concluded that earthquake prediction is not feasible. Richter, developer of the eponymous magnitude scale, commented as follows in 1977: "Journalists and the general public rush to any suggestion of earthquake prediction like hogs toward a full trough... [Prediction] provides a happy hunting ground for amateurs, cranks, and outright publicity-seeking fakers"⁴

³ Virginia's Department of Mines Minerals and Energy identifies Louisa County, the location of the North Anna power plant, in the seven-county Central Virginia Seismic Zone.

⁴ Geller RJ et al, "Earthquakes Cannot Be Predicted," Volume 275, Number 5306, pp. 1616, 1996, The American Association for the Advancement of Science, <http://scec.ess.ucla.edu/~ykagan/perspective.html>

Intervenor's contention is that the applicant and the NRC have not presented a sound probabilistic basis for the magnitude of the possible adverse consequences and the likelihood of occurrence of each consequence for issuing a license to construct and operate North Anna Unit 3. It is time to stop gambling with the future of this region.

Admissibility: Satisfaction of 10 C.F.R. § 2.309(f)(1)

Case Law Cited

Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-0603, 63 NRC 19, 24 (2006). Intervenor moved to allow litigation of a new version of a previously rejected contention.

In general, a new contention must satisfy the timeliness requirement of either 10 C.F.R. §§ 2.309(f)(2) or 2.309(c), and the admissibility requirements of Section 2.309(f)(1). See Entergy Nuclear Vermont Yankee, LLC & Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), LBP-06-14, 63 NRC 568, 571-76 (2006).

BREDL has established its right to a hearing on all material factors bearing on the licensing decision. LBP-11-22 at 13, f.n. 58, citing *Union of Concerned Scientists*, 735 F.2d at 1443.

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

Geologic and seismic criteria are found in 10 CFR § 100.23 and detail the requirements for determining whether a proposed site is acceptable for a nuclear power plant. The rule states that geological, seismological, and engineering characteristics of a site and its surrounding area environs must be investigated in sufficient detail to provide sufficient information to arrive at estimates of the Safe Shutdown Earthquake Ground

Motion. The area to be investigated must be based on the nature of the region
August
surrounding the proposed site. The ~~April~~ 23, 2011 earthquake is now, according to this
rule, part of the nature of the site which must be investigated.

Under in 10 CFR § 100.23, this data would include vibratory ground motion,
tectonic surface deformation, nontectonic deformation, earthquake recurrence rates, fault
geometry and slip rates, site foundation material, and seismically induced floods and
water waves. At present, all documents submitted by the applicant are based on
August
knowledge of pre-~~April~~ 23rd conditions. Gathering of these data may have been
August
hampered. For example, the ~~April~~ 23rd quake apparently generated horizontal
acceleration 100% over the existing North Anna standard, causing numerous problems
such as an electronic sensor failure of eight seconds before power was restored. Ongoing
investigations may reveal other failures and data gaps. In order to comply with 10 CFR §
100.23, these data are now essential to the determination of the geological, seismological,
and engineering characteristics of the North Anna Unit 3 site.

It should be noted that MHI [Misubishi Heavy Industries] made structural changes to its design, which required performing a new seismic analysis. MHI has submitted the new seismic re-analysis technical reports, which are currently under NRC staff review. Dominion has adopted the revised methodology used by MHI in its site specific analysis. The NRC staff was also informed that Dominion is planning to revise its seismic analysis, which will require changes in the final safety analysis report (FSAR). The North Anna, Unit 3, COLA safety review schedule may be impacted depending on the timing and scope of the revised analysis and the FSAR update.⁵

⁵ NAPS Unit 3, COLA Revised Review Schedule, Letter from David Matthews, Director, Division of New Reactor Licensing to Mr. Eugene S. Grecheck, Vice President - Nuclear Development, Dominion Virginia Power, March 2, 2011, ML110310169

Pursuant to 10 CFR §52.47, Contents of applications, the COL application must contain a level of design information sufficient to enable the Commission to reach a conclusion on all safety questions. Specifically, the North Anna Unit 3 COLA must contain a final safety analysis report (FSAR) that describes the facility, presents the design bases and the limits on its operation, and presents a safety analysis of the structures, systems, and components and of the facility as a whole. This includes an assessment of site itself.

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

The principal objective of the Nuclear Regulatory Commission's adjudicatory process is to produce an informed record which supports sound decision making for the protection of public health and safety and the environment. *Hydro Resources Inc. CLI-01-4*, 52 NRC 31, 38 (2001). Before a COL may be issued, the new information triggered by the central precipitating events of August 23, 2011 and developed and revealed in subsequent investigations must be assessed and integrated into the FSAR, ER, FEIS and other required documents.

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

Before licensing the proposed North Anna nuclear power plant, the NRC must make a determination under the Atomic Energy Act that it has a reasonable assurance that the facility will be constructed and will operate in conformity with the provisions of the Act and the Commission's rules and regulations. Under NEPA, the NRC must also evaluate the environmental impacts of the plant. The contention is within the scope of

this proceeding and material to the findings the NRC must make to support Dominion's request to build and operate a third reactor at North Anna.

Each reactor is designed for a different ground motion that is determined on a site-specific basis:

New reactors are designed using probabilistic techniques that characterize both the ground motion levels and uncertainty at the proposed site. These probabilistic techniques account for the ground motions that may result from all potential seismic sources in the region around the site. Technically speaking, this is the ground motion with an annual frequency of occurrence of 1×10^{-4} /year, but this can be thought of as the ground motion that occurs every 10,000 years on average.⁶

The contention is within the scope of the extant proceeding because it seeks compliance with AEA, NEPA and NRC implementing regulations.

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

NRC must show that licensing of North Anna 3 reactors would not be inimical to public health and safety. 42 U.S.C. § 2133. Further, the technical issues raised by the August 23rd quake are central to the safety determinations which NRC must make:

Under Section 182a of the Atomic Energy Act, technical specifications have the statutory function of allowing the Commission to make its operational safety finding. Section 182a also requires the issued license to include technical specifications. Section 185b of the Atomic Energy Act governs the issuance of combined licenses and requires the Commission to find, before issuing the license that "the facility will be constructed and will operate in conformity with the license, the provisions of this Act, and the Commission's rules and regulations."⁷

⁶ NRC frequently asked questions related to the March 11, 2011 Japanese Earthquake and Tsunami, available at <http://www.nrc.gov/japan/faqs-related-to-japan.pdf>

⁷ SECY-08-0142, September 25, 2008

Technical specifications include *inter alia* SCDF: Seismic core damage frequency. SCDF is the probability of damage to the core resulting from a seismic initiating event. In nuclear power plant seismic risk assessment, the site earthquake-induced vibratory ground motion is usually expressed in terms of the peak ground acceleration (PGA). Appendix A Seismic Core-Damage Frequency Estimates.

The National Environmental Policy Act requires federal agencies to supplement environmental documents when "there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1509(c)(1)(ii). As a federal agency, it is clearly the NRC's continuing duty to assess environmental impacts of their actions, to determine the significance of the new data and prepare supplemental documentation. *Warm Springs Task Force v. Gribble*, 621 F.2d at 1023-24; *Stop H-3 Association v. Dole*, 740 F.2d 1442, 1463-64 (9th Cir. 1984).

A materially different result can be based on different conclusions of the EIS; e.g., environmental impacts identified as SMALL would instead be classified as MODERATE or LARGE. A supplemental EIS is required when "there are substantial changes in the proposed action that are relevant to environmental concerns; or there are new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 10 C.F.R. § 51.92

(v) Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing, together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue;

First, in 2010, the NRC itself updated estimates of earthquake risks at all 104 nuclear reactors in the U.S., rating the North Anna plant as the seventh riskiest.

Second, in a seismic hazard analysis conducted for Generic Issue 199, in four ESP submittals— North Anna, Grand Gulf, Vogtle, and Clinton— the seismic hazard was found to be higher over most frequency ranges compared to an earlier Electric Power Research Institute/Seismicity Owners Group (EPRI-SOG) study.⁸

Third, probabilistic risk assessments conducted for the North Anna 3 COLA and other documents do not account for unexpected failure modes:

The lesson from the Fukushima, Chernobyl, and Three Mile Island accidents is simply that nuclear power comes with the inevitability of catastrophic accidents. While these may not be frequent in an absolute sense, there are good reasons to believe that they will be far more frequent than quantitative tools such as probabilistic risk assessments predict. Any discussion about the future of nuclear power ought to start with that realization.⁹

Also,

[A]s a 1978 Risk Assessment Review Group Report to the NRC pointed out, it is "conceptually impossible to be complete in a mathematical sense in the construction of event-trees and fault-trees." This inherent limitation means that any calculation using this methodology is always subject to revision and to doubt as to its completeness.¹⁰

Further,

When it comes to future safety, nuclear designers and operators often assume that they know what is likely to happen, which is what allows them to assert that they have planned for all possible contingencies. Yet there is one weakness of the probabilistic risk assessment method that has been emphatically demonstrated with the Fukushima I nuclear accidents -- the difficulty of modeling common-cause or common-mode failures.¹¹

(vi) provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact.;

⁸ GI-199 Implications of Updates Probabilistic Seismic Hazard Estimates in Central and Eastern United States on Existing Plants, August 2010, <http://pbadupws.nrc.gov/docs/ML1002/ML100270639.pdf>

⁹ Ramana, NV, "Beyond our imagination: Fukushima and the problem of assessing risk," *Bulletin of the Atomic Scientists*, April 19, 2011. M. V. Ramana, a physicist, is currently appointed jointly with the Nuclear Futures Laboratory and the Program on Science and Global Security, both at Princeton University, and works on the future of nuclear energy in the context of climate change and nuclear disarmament. He is the author of *The Power of Promise: Examining Nuclear Energy in India*, to be published later this year by Penguin Books. Ramana is a member of the Bulletin of Atomic Scientists Science and Security Board.

¹⁰ *Id.*

¹¹ *Id.*

Intervenor has raised contentions regarding seismicity factors, environmental impacts and plant safety issues at North Anna since 2010, and for almost that long DVP and NRC staff have opposed them. For example, in Intervenor's Contention 13, not admitted, Dominion alleged the contention was vague and unsupported. However, it was Dominion which provided evidence that earth movements would exceed the regulatory requirements. Dominion said that it is the Commission which determines if a requested exemption is granted and whether *special circumstances* outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption. Intervenor's Reply to Dominion and NRC Staff Answers, November 4, 2010. (unpublished)

Intervenor's new contention is that the geology of the North Anna site renders it unsuitable for construction of a new nuclear power reactor.

Timeliness: Satisfaction of 10 C.F.R. § 2.309(f)(2)

(i) The information upon which the amended or new contention is based was not previously available;

August 23, 2011, Event No. 47181: 10 CFR 50.72(a)(1)(i) Emergency Declared

August 25, 2011, Event No. 47196: 10 CFR 50.72(a)(1)(i) Unusual Event

August 29, 2011, Event No. 47201: 10 CFR 50.72(b)(3)(ii)(B) Unanalyzed Condition

(ii) The information upon which the amended or new contention is based is materially different than information previously available.

The Event Reports listed above were published subsequent to the August 23, 2011 earthquake. The information is material to the issue being considered, having the

potential to affect the finding or conclusions of the NRC. 72 Fed. Reg. 49352 (Aug. 28, 2007)

(iii) The new contention has been submitted in a timely fashion based on the availability of the subsequent information.

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This request for leave to submit a new contention is filed on September ~~30~~, 2011, 30 days after the central precipitating event. To be "new," the information must not have been (1) considered in the preparation of the EIS, or (2) generally known and available during the preparation of the EIS. Similarly, to be "significant," information must present a "seriously different picture" of the environmental impact of the proposed project from what was previously considered. *Wisconsin v. Weinberger*, 745 F.2d 412, 420 (7th Cir. 1984).

Conclusion

For the foregoing reasons, Intervenors request to have these contentions admitted by the Atomic Safety and Licensing Board.

Respectfully submitted,



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UNITED STATES OF AMERICA
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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

_____)	
In the Matter of)	Docket Nos. 52-017
Dominion Virginia Power)	
North Anna Unit 3)	ASLBP No. 08-863-01-COL
Combined License)	
_____)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the
REQUEST TO ADMIT INTERVENOR'S NEW CONTENTION
were served on the following persons via Electronic Information Exchange this 22nd day
of September, 2011.

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Signed in Glendale Springs
this day, September 22, 2011

A handwritten signature in black ink that reads "Louis A. Zeller". The signature is written in a cursive style and is followed by a horizontal line.

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