

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of	)	Docket Nos. 52-017
Virginia Electric and Power Company	)	
d/b/a Dominion Virginia Power and	)	ASLBP No. 08-863-01-COL
Old Dominion Electric Cooperative	)	
North Anna Unit 3	)	November 4, 2010
Combined License	)	
_____	)	

**INTERVENOR’S REPLY TO DOMINION AND NRC STAFF ANSWERS**

Pursuant to 10 C.F.R. § 2.309(h)(2), the Blue Ridge Environmental Defense League with its chapter Peoples Alliance for Clean Energy (“BREDL” or “Intervenor”) hereby files its reply to “Dominion’s Opposition to BREDL’s New Contentions” [“Dominion Answer”] and the “NRC Staff Answer to Intervenor’s New Contentions” [“NRC Answer”] both submitted on October 28, 2010. The answers addressed matters raised in “Intervenor’s New Contentions” [“New Contentions”] file by the Blue Ridge Environmental Defense League on October 2, 2010.

BREDL seeks admission of two contentions, permissible pursuant to the order of this board. ASLBP Order (Setting Deadline for Filing New Contentions Based on New Information in the Applicant’s June 29, 2010 Revision to the License Application) August 11, 2010. Therefore, we believe opposing counsel’s lengthy expositions of applicable legal standards for new contentions are not worthy of further argument and we will not address them here. We will address Dominion’s and NRC Staff’s substantive disputes of our contentions together and in order.

**CONTENTION ONE: The Environmental Review is Insufficient.  
Consumptive water use intended by the North Anna Unit 3 project requires  
significant additional environmental review.**

NRC Staff Answer states that the dry cooling system alternative for North Anna Unit 3 was before the ASLB during the early site permit proceeding and that “[a]ll reasonable alternatives, [including] system design alternatives, have been identified, considered and evaluated.” NRC Answer at 3.

The Staff noted that the proposed “closed-cycle, dry cooling system” for Unit 4 would use “almost no cooling water.”<sup>49</sup> FEIS at 5-19. Thus, the Staff states that Unit 4 would have “no impact on the lake level or downstream flows.” Staff Exhibit 18 at Slide 3-4.

LBP-07-09, 65 NRC 566. Footnote 49 states “The estimated consumptive loss of water from operating the Unit 4 dry cooling system is less than 1 gpm. FEIS at 3-10.” Indeed, the conclusion of the FEIS was that the dry cooling option would have the smallest environmental impact of all the systems considered.

The Staff concluded that a combination of wet and dry cooling systems for Unit 3 was the best. FEIS at 10-9. It did not expressly consider system design alternatives for Unit 4. The exclusion is more than justified because (a) the universe of design options was discussed and subsumed in the discussion on Unit 3 and (b) the dry cooling system proposed for Unit 4 was obviously the option with the least environmental impact.

LBP-07-09, 65 NRC 613. If in fact the dry cooling system is the best and Dominion has elected to change its plant design, what then could justify the selection by NRC Staff of the wet-dry system for the US-APWR? This is the matter which we have brought to the Licensing Board in Contention One.

The manuscript for the North Anna FEIS, NUREG-1811, was completed in November 2006. At that time, the NRC Staff concluded that Lake Anna could support a wet-dry cooling system for Unit 3. This may no longer be true, both on technical and

legal grounds. The principal factors considered in the FEIS analysis were efficiency and noise. However, with the switch from BWR to PWR, Dominion has increased its output power from 1500 to 1700 MWe; that is, about 13%, which would more than offset the approximately 7% difference in parasitic power<sup>1</sup> needed for the dry cooling system as compared to the wet-dry system. As Intervenors stated in Contention One, the PWR design has a lower thermodynamic efficiency; therefore, a larger and pressurized water reactor (4451 MWt) at North Anna would require a larger amount of water from the lake than previously considered by NRC Staff. *See Gundersen Affidavit at 19.1.* According to the reactor's manufacturer, "[T]he reference plant main cooling complex is of the once-through cooling type." US-APWR Design Control Document, Revision 2, page 1.2–46. Environmental contentions are admissible if they raise issues unresolved by the ESP or for which new information is identified.

NRC Staff states that "A matter need not be actually litigated in order to be resolved in an ESP proceeding." NRC Answer at 4. But the ASLB has stated "Mere excursions by the Staff into issues that need not be resolved at the ESP stage are not sufficient to justify precluding parties from litigating those issues in a COL proceeding." LBP-08-15.

To meet the requirements of the National Environmental Policy Act, all reasonable alternatives must be considered. 10 C.F.R. Part 51, Subpart A.

Further, on October 7, 2009 Dominion-Virginia Power's NPDES Permit for North Anna Units 1 and 2 was remanded to the Virginia Department of Environmental Quality

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<sup>1</sup> NUREG-1811 Section 8.2.3 compares the Unit 3 dry cooling system to the wet-dry system, reporting that Dominion estimates the dry cooling system would use 8 ½ to 11 percent of plant power output and that the wet-dry cooling system would use 1.7 to 4 percent.

by the Circuit Court of Virginia.<sup>2</sup> In 2007 the Virginia State Water Control Board approved a permit for Dominion to discharge hot water from its North Anna nuclear power plant into Lake Anna. The permit does not comply with federal law. Under the Clean Water Act the Commonwealth of Virginia must protect water quality, but the state failed to limit hot water discharges flowing from the North Anna nuclear reactors directly into Lake Anna. At issue in the case was whether the state agency ignored its agreed-to jurisdictional mandate to regulate thermal discharges into “waters of the United States.” North Anna Units 1 and 2 presently have an unregulated discharge of hot water—thermal pollution under the federal Clean Water Act—into Lake Anna. Although reversed in the Court of Appeals, the legal outcome of the ruling is uncertain at this time pending an appeal to the Virginia Supreme Court.

Finally, as stated in Contention One, effluent levels of toxic Tributyltin (TBT) to Lake Anna from North Anna Unit 3 blowdown water would be exceeded. Intervenor’s New Contentions at 5. This is not flyspecking. Regarding NUREG-1917, dry cooling would virtually eliminate this illegal discharge into Lake Anna, rather than explain it away.

**CONTENTION TWO: Unit 3 Seismic Spectra Exceedance  
Dominion has improperly requested a site-specific exemption from the Design Control Document Tier 1 for proposed North Anna Unit 3.**

Tier 1 means the portion of the design-related information contained in the generic design control document, or DCD. The design descriptions, interface requirements, and site parameters are derived from Tier 2 information. Tier 1 information includes *inter alia* site parameters. According to Mitsubishi Heavy

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<sup>2</sup> *Blue Ridge Environmental Defense League v. the Commonwealth of Virginia*, In the Circuit Court for the City of Richmond, Case No. 07-6083

Industries, “The site-specific details of a US-APWR site plan is to be presented in the licensee’s combined license application (COLA).”<sup>3</sup> Contention Two cites Dominion’s COLA: “The site-specific SSE peak ground acceleration (PGA) is greater than the value of 0.3g, as defined in DCD Tier 1, Table 2.1-1.” New Contentions at 7. Dominion alleges this contention is vague and unsupported. However, it is Dominion which provides evidence that earth movements would exceed the regulatory requirements. In their answer, Dominion pleads 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.” Dominion Answer at 31 (emphasis added). *Special circumstances* include cost factors which are unrelated to public safety.

Exemptions from Tier 1 information are governed by the requirements in 10 CFR §52.98(f) which states: “Any modification to, addition to, or deletion from the terms and conditions of a combined license, including any modification to, addition to, or deletion from the inspections, tests, analyses, or related acceptance criteria contained in the license is a proposed amendment to the license. There must be an opportunity for a hearing on the amendment.” The Commission may deny a request for an exemption from Tier 1, if it finds that the design change will result in a significant decrease in the level of safety.

Contention 2 references Regulatory Guide 1.208 regarding seismic studies performed at North Anna by Dominion during the ESP proceeding. Dominion Answer at

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<sup>3</sup> Design Control Document for the US-APWR, Chapter 1, Introduction and General Description of Plant, MUAP–DC001, Revision 2, October 2009, page 1.2-46

35-36. Dominion claims that RG 1.208 is “irrelevant” because it was merely an alternative to Regulatory Guide 1.165 which Dominion actually relied on for meeting regulatory requirements. However, RG 1.165 has been withdrawn. Dominion cites the Federal Register notice, 75 Fed. Reg. 22868, which grandfathers ESPs based upon RG 1.165. *id* footnote 46.

Further, Contention Two raises the question of site suitability, stating: “[I]s North Anna simply an unsuitable site for nuclear power reactors?” New Contentions at 10. The case record in the extant matter includes ASLB Judge Karlin arguing in dissent that the NRC Staff had failed to search for more suitable alternative sites, or require Dominion to do so.

There is no dispute that the NEPA alternatives analysis “is the heart of the environmental impact statement.” Likewise, the law is clear that *all reasonable alternatives* must be considered, and that the “rule of reason” applies. While I do not know whether a NEPA alternatives analysis that seriously searched for the “best” candidate and alternative sites within the ROI, or looked at onsite trade-offs between existing nuclear reactors and new ones, would have produced a different result, it is clear to me that the failure of the Staff to consider such alternatives fails to comply with the requirements of NEPA. (citations omitted)

LBP-07-9, 65 NRC 631, June 29, 2007. Under 10 CFR §52.39, a variance requested by an applicant is grounds for imposing new site characteristics, design parameters, or terms and conditions for a license referencing an early site permit. Only after a construction or operating license is granted are variances prohibited; in other words, the door is still open for the Commission to consider new terms and conditions at North Anna. Nowhere do NRC Staff or Dominion dispute that the applicant has requested a variance. Therefore, under the law the Commission must “apply the same technically relevant criteria applicable to the application for the original or renewed early site permit.” 10 CFR §52.39(d).

## CONCLUSION

Contentions One and Two present significant safety and environmental impact issues to the Board. As detailed in our petition and in this reply, there is a significant and genuine dispute between Intervenor Blue Ridge Environmental Defense League, NRC Staff and Dominion regarding these matters. We respectfully request that both of these contentions be admitted by the Atomic Safety and Licensing Board.

Respectfully submitted,

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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**CERTIFICATE OF SERVICE**

**I hereby certify that copies of the  
INTERVENOR'S REPLY TO DOMINION AND NRC STAFF ANSWERS**  
were served on the following persons via Electronic Information Exchange this 4<sup>th</sup> day of  
November, 2010.

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Signed in Glendale Springs  
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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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