October 28, 2010

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
VIRGINIA ELECTRIC AND POWER CO.	)	
dba DOMINION VIRGINIA POWER,	)	
and OLD DOMINION ELECTRIC	)	Docket No. 52-017
COOPERATIVE	)	
	)	
(North Anna Power Station, Unit 3)	)	

NRC STAFF ANSWER TO "INTERVENOR'S NEW CONTENTIONS"
FILED BY THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(h)(1) and the Atomic Safety and Licensing Board (Board) Order dated August 11, 2010 (Scheduling Order),[1] the staff of the Nuclear Regulatory Commission (NRC staff) hereby answers the "Intervenor's New Contentions" (New Contentions) dated October 2, 2010, filed by the Blue Ridge Environmental Defense League (BREDL) and its chapter People's Alliance for Clean Energy (PACE) (Intervenor). For the reasons set forth below, the NRC staff (Staff) opposes admission of Intervenor's two proposed new contentions.

BACKGROUND

On November 26, 2007, the Virginia Electric and Power Company, doing business as Dominion Virginia Power (Dominion), and the Old Dominion Electric Cooperative (ODEC) (collectively Applicants) filed an application for a combined operating license (COL) for North

[1] *Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), (LBP Aug. 11, 2010) (unpublished order) (Setting Deadline for Filing New Contentions Based on New Information in the Applicant's June 29, 2010 Revision to the License Application).

Anna Unit 3 with the NRC.[2] The application for a COL for North Anna Unit 3 (Application) originally referenced the application for certification of the Economic Simplified Boiling Water Reactor (ESBWR) design submitted on August 24, 2005. Application, Rev. 0, Part 1 at 1. In June 2010, the Applicants revised the Application to reference the application for certification of the U.S. Advance Pressurized Water Reactor (US-APWR) instead of the ESBWR design certification application. Application, Rev. 2, Part 1 at 1. The revision to the Application also references the Early Site Permit (ESP) for the North Anna ESP Site, ESP-003, which the NRC issued on November 27, 2007. *Id*. On August 11, 2010, the Board issued its Scheduling Order, in which it afforded BREDL sixty days, until October 4, 2010, to file new contentions arising from the revisions to the Application. Scheduling Order at 2-3. On October 3, 2010, the Staff received the Intervenor's New Contentions by e-mail.[3]

The Board decision in LBP-08-15 sets forth the procedural background leading up to BREDL's admission as a party to this proceeding, which need not be repeated here except insofar as it is relevant to BREDL's proposed new contentions. *See Virginia Electric and Power Co.* (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 298-302 (2008) (North Anna COL). As relevant to BREDL's proposed new contentions, the North Anna ESP application was submitted on September 25, 2003, and the NRC published a notice of hearing on the ESP application on November 25, 2003. *See* "Dominion Nuclear North Anna, LLC; Notice of Hearing and Opportunity To Petition for Leave To Intervene; Early Site Permit for the North Anna ESP

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[2] Notice of Receipt and Availability of Application for a Combined License Dominion Virginia Power-North Anna Unit 3, 72 Fed. Reg. 70,619 (Dec. 12, 2007). The NRC docketed the application on January 28, 2008. Dominion Virginia Power; Acceptance for Docketing of an Application for Combined License for North Anna Unit 3, 73 Fed. Reg. 6528 (Feb. 4, 2008).

[3] In the October 3 e-mail, BREDL's representative, Mr. Louis Zeller, indicated that problems due to the NRC Electronic Information Exchange (EIE) prevented service of the New Contentions, and that BREDL had contacted NRC technical support to resolve the problem. The Staff notes that 10 C.F.R. § 2.302 requires service through the EIE, but also allows the presiding officer in a proceeding to grant relief from this requirement for good cause shown. *See* 10 C.F.R. § 2.302(a).

Site," 68 Fed. Reg. 67,489 (Dec. 2, 2003) (ESP Notice). BREDL, together with other organizations, petitioned to intervene in the proceeding on the ESP application, and the Atomic Safety and Licensing Board presiding over the proceeding on the North Anna ESP application (ESP Board) granted BREDL party status. *See Dominion Nuclear North Anna, LLC* (North Anna ESP Site), LBP-04-18, 60 NRC 253, 262 (2004) (North Anna ESP I). The ESP Board admitted two contentions, one of which was settled, and the other dismissed on summary disposition. *See Dominion Nuclear North Anna, LLC* (North Anna ESP Site), LBP-07-09, 65 NRC 539, 551 (2007) (North Anna ESP II).

The ESP Board also conducted a mandatory hearing on the uncontested portion of the ESP application. *See id.* at 552. The ESP Board determined that the ESP should be issued after conducting a thorough, probing inquiry into the facts and logic supporting the Staff's conclusions in the NRC Staff review documents on the ESP application, NUREG-1811, Final *Report, Environmental Impact Statement for an [ESP] at the North Anna ESP Site* (Dec. 2006), NUREG-1835, Final Report, *Safety Evaluation Report for an [ESP] at the North Anna ESP Site* (Sept. 2005), and Supplement 1 to NUREG-1835 (Nov. 2006). *See id.* at 552-54; 562-639 (Judge Karlin's dissenting opinion is at 631-639), *aff'd*, CLI-07-27, 66 NRC 215. The ESP Board considered surface water impacts from cooling a reactor in detail in the mandatory hearing. *North Anna ESP II*, LBP-07-09 at 564-69. In particular, the dry cooling system design alternative for North Anna Unit 3 was before the ESP Board (*id*. at 567, 612-13), and the ESP Board explicitly found that "[a]ll reasonable alternatives, [including] system design alternatives, have been identified, considered and evaluated" (*id*. at 613). The ESP Board also considered the safe-shutdown earthquake (SSE) ground motion at the North Anna site, and the seismic sources on which the SSE was based. *Id*. at 594-98.

In particular, the ESP Board heard testimony regarding the fault that traverses the site, *i.e.*, unnamed fault "a." *Id*. at 597. The ESP Board explicitly found that the record supported the

Staff conclusion with respect to unnamed fault "a." *Id*. at 600-01. The portions of the North Anna ESP II decision that discussed dry cooling and seismic sources were necessary for the ESP Board to decide issues set forth in the ESP Notice. *See* ESP Notice, 68 Fed. Reg. at 67,489; *North Anna ESP II*, LBP-07-9, 65 NRC at 557-58. The North Anna ESP is available in the Agencywide Document Management System (ADAMS) at accession number ML073180440.

DISCUSSION

The Intervenors propose two new contentions for admission into this proceeding. The Intervenors assert that: (1) Consumptive water use by North Anna Unit 3 requires significant additional environmental review since the US-APWR could be fitted with an air condenser rather than the typical water tube condenser design, and an air condenser would have no thermal impact on Lake Anna and its aquatic environment (New Contentions at 2-3); and (2) with respect to geologic and seismic criteria in 10 C.F.R. § 100.23, the Applicants have improperly requested a site-specific exemption from the Design Control Document Tier 1 for proposed North Anna Unit 3 (*id*. at 6). As explained in detail below, the NRC staff opposes admission of the Intervenor's proposed new contentions.

I. LEGAL STANDARDS

A. Scope of Issue Preclusion Arising From ESP Proceedings

Under the Commission's regulations, the matters resolved in a proceeding on an ESP application are considered resolved in subsequent proceedings in which the application references the ESP, with specified exceptions. *See* 10 C.F.R. § 52.39(a)(2); *North Anna COL*, LBP-08-15, 68 NRC at 304-05. If an issue was resolved in an ESP proceeding and does not fall within any exception, a Licensing Board may not admit a contention raising that issue into a COL proceeding in which the COL application references the ESP. *North Anna COL*, LBP-08-15, 68 NRC at 305. A matter need not be actually litigated in order to be resolved in an ESP proceeding. *Id*. at 309. If a matter was decided by the Staff in an ESP proceeding,

concerns an issue that the Staff was required to resolve at that stage, and could have been litigated in the ESP proceeding, the matter is deemed resolved by the ESP proceeding even if the issue was not actually litigated. *Id*.

In implementing these principles, this Board laid down a three-pronged test for determining if a proposed BREDL contention was resolved in the proceeding on ESP-003, as follows:

> [W]e will treat BREDL's contentions as resolved during the ESP proceeding for the North Anna site if . . . the subject of the contention, although not actually litigated, was decided by the Staff, was necessary for the Staff to resolve in the ESP proceeding, and was within the scope of that proceeding as defined in the *Federal Register* notice of opportunity for a hearing. We must treat any contention resolved during the ESP proceeding as resolved in this COL proceeding unless one of the exceptions listed in section 52.39 applies.

Id. at 311. This is the law of the case.

The exceptions to which the Board referred that might be relevant to this proceeding are stated in 10 C.F.R. § 52.39(c)(1), as follows: In any proceeding on an application for a COL referencing an early site permit, contentions on the following matters may be litigated in the same manner as other issues material to the proceeding: (i) The nuclear power reactor proposed to be built does not fit within one or more of the site characteristics or design parameters included in the ESP; (ii) One or more of the terms and conditions of the ESP have not been met; (iii) A variance from the ESP requested under 10 C.F.R. § 52.39(d) is unwarranted or should be modified; (iv) New or additional information is provided in the COL application that substantially alters the bases for a previous NRC conclusion or constitutes a sufficient basis for the Commission to modify or impose new terms and conditions related to emergency preparedness; or (v) Any significant environmental issue that was not resolved in the ESP proceeding, or any issue involving the impacts of construction and operation of the

facility that was resolved in the ESP proceeding for which significant new information has been identified. *See* 10 C.F.R. § 52.39(c)(1)(i)-(v); *North Anna COL*, LBP-08-15, 68 NRC at 305 n.45.

In regard to environmental matters, the contents of the final EIS bounds the reach of both issue preclusion and Staff inquiry into new and significant information in a future construction permit or COL proceeding referencing an ESP. *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 259 (2007). A presiding officer in a COL proceeding may not admit any contention proffered by any party on environmental issues that have been accorded issue resolution, or finality, under 10 C.F.R. § 52.39 unless the contention meets one of three criteria. 10 C.F.R. § 51.107(b). First, a contention may be admitted if it demonstrates that the proposed nuclear power reactor does not fit within one or more of the site characteristics or design parameters included in the ESP. 10 C.F.R. § 51.107(b)(1). A licensing board summarized the other two criteria as follows: Environmental contentions raised at the COL stage are generally admissible only if they either raise issues that were not resolved at the ESP stage or raise issues resolved at the ESP stage "for which new and significant information has been identified." *See* 10 C.F.R. § 51.107(b)(2), (3); *Southern Nuclear Operating Co*. (Vogtle Electric Generating Plant, Units 3 and 4), LBP-10-1, 71 NRC __, __ (slip op. at 16 n.12) (Jan. 8, 2010) (quoting 10 C.F.R. § 51.107(b)(3)).

These provisions reflect the Commission's policy for implementing, in the context of 10 C.F.R. Part 52, the requirement in Section 189a. of the Atomic Energy Act of 1954, as amended (AEA) (42 U.S.C. § 2239(a)) that the Commission grant a hearing in a proceeding on an operating license or construction permit application to any person whose interest may be affected. The Commission's policy for implementing this AEA requirement under Part 52 is that members of the public should be afforded an opportunity for a hearing on each genuine issue in dispute that is material to the particular agency action subject to adjudication, but by the same token, applicants for a license should not have to litigate each such issue more than once. *See*

Statement of Policy on Conduct of New Reactor Licensing Proceedings, CLI-08-07, 73 Fed. Reg. 20,963, 20,969 (Apr. 17, 2008).[4]

B. Legal Standards for Admission of New, Amended, or Nontimely Contentions

The admissibility of new and amended contentions is governed by 10 C.F.R. § 2.309(f)(2) and 2.309(f)(1). In accordance with 10 C.F.R. § 2.309(f)(2), new or amended contentions filed after the initial filing period may be admitted only with leave of the presiding officer if the contention meets the following requirements:

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

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

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

10 C.F.R. § 2.309(f)(2)(i)-(iii). Specifically, in this proceeding, the Board required that any new contention based on new information in the revised COL Application be filed within sixty days of its availability on ADAMS. Scheduling Order at 6.

The § 2.309(f)(2) standard for new or amended contentions addresses two situations. The first situation relates to new contentions on the Draft Environmental Impact Statement and is not relevant to this proceeding. The second situation relates to "all other new or amended contentions," and makes clear that the criteria in § 2.309(f)(2)(i) through (iii) must be satisfied for admission of a contention based on new information. Changes to Adjudicatory Process (Final Rule), 69 Fed. Reg. 2182, 2221 (Jan. 14, 2004). A licensing board has recognized the two-fold application of the rule, but has pointed out that no significant difference exists between the

[4] The NRC Staff previously explained the regulatory basis for these matters in detail in this proceeding. *See* "NRC Staff Answer To 'Petition For Intervention And Request For Hearing By The Blue Ridge Environmental Defense League'" at 10-16 (June 3, 2008) (Staff 2008 Answer).

standards for the two situations. *Exelon Generating Company, LLC* (Early Site Permit for Clinton ESP Site), LBP-05-19, 62 NRC 134, 160-64 (2005).

The status of the petitioner is the relevant factor in determining whether 10 C.F.R. § 2.309(f)(2), regarding new or amended petitions, or 10 C.F.R. § 2.309(c), regarding untimely petitions, is applied to determine the admissibility of new, amended, or untimely petitions. A new or amended contention filed by a previously admitted intervenor is considered under the requirements of 10 C.F.R. 2.309(f)(2) rather than the provisions of 10 C.F.R. § 2.309(c). *See Pa'ina Hawaii, LLC* (Material License Application), CLI-10-18, 72 NRC __ (July 8, 2010) (slip op. at 40 n.171). In *Pa'ina*, the Commission stated that "[t]here has been some discussion recently over the application of 10 C.F.R. § 2.309(f)(2) (governing new or amended contentions), and 10 C.F.R. § 2.309(c) (governing untimely petitions). *Id*. (citing *Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), LBP-10-1, 71 NRC ___ (Jan. 8, 2010) (slip op.)). Where the Intervenors have been admitted to a proceeding as parties at the time they file contentions against the DEIS, as in *Pa'ina*, consideration of the admissibility of their DEIS contentions is governed by the provisions of § 2.309(f)(2), as well as the general contention admissibility requirements of § 2.309(f)(1). *Pa'ina*, CLI-10-18, 72 NRC at __ (slip op. at 40 n.171). In either case, the new, amended, or untimely petition must meet the general contention admissibility requirements of 10 C.F.R. § 2.309(f)(1). *Id*.

The legal requirements governing the admissibility of contentions are well established and are currently set forth in 10 C.F.R. § 2.309(f)(1) of the Commission's Rules of Practice (formerly § 2.714(b)). The standards in 10 C.F.R. § 2.309(f)(1) may be summarized as follows: An admissible contention must: (1) provide a specific statement of the legal or factual issue sought to be raised; (2) provide a brief explanation of the basis for the contention; (3) demonstrate that the issue raised is within the scope of the proceeding; (4) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved

in the proceeding; (5) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents that support the petitioner's position and upon which the petitioner intends to rely at the hearing; and (6) provide sufficient information to show that a genuine dispute exists in regard to a material issue of law or fact, including references to specific portions of the application that the petitioner disputes, or if the application is alleged to be deficient, the identification of such deficiencies and supporting reasons for this belief. *See* 10 C.F.R. § 2.309(f)(1).

The purpose of the contention rule is to "focus litigation on concrete issues and result in a clearer and more focused record for decision." 69 Fed. Reg. at 2202; *see also Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553-54 (1978); *BPI v. AEC*, 502 F.2d 424, 428 (D.C. Cir. 1974); *Phila. Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20 (1974). The Commission has stated that it "should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing." 69 Fed. Reg. at 2202. The Commission has emphasized that the rules on contention admissibility are "strict by design." *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001), *pet. for reconsideration denied*, CLI-02-01, 55 NRC 1 (2002).

Finally, the long-recognized purposes for requiring a would-be intervener to establish the basis of each proposed contention are: (1) to assure that the contention raises a matter appropriate for adjudication in a particular proceeding; (2) to establish a sufficient foundation for the contention to warrant further inquiry into the assertion; and (3) to put other parties sufficiently on notice of the issues so that they will know generally what they will have to defend against or oppose. *Peach Bottom*, ALAB-216, 8 AEC at 20-21; *Ariz. Pub. Serv. Co., et al.* (Palo Verde Nuclear Generating Station, Units 1, 2 and 3), LBP-91-19, 33 NRC 397, 400 (1991).

The Board has enunciated and applied these standards in this proceeding, and further explanation is unnecessary.[5] *North Anna COL*, LBP-08-15, 68 NRC at 311-337.

II. INTERVENOR'S PROPOSED NEW CONTENTIONS

The Intervenor proposes two new contentions, which are discussed below. As explained below, the Staff opposes admission of both proposed new contentions. The Staff discusses the proposed contentions in turn as they appear in the Intervenor's filing.

A. PROPOSED NEW CONTENTION 1: The Environmental Review is Insufficient. (New Contentions at 2.)

The Intervenor specifies proposed new Contention 1 by stating that:

> Consumptive water use intended by the North Anna Unit 3 project requires significant additional environmental review. The National Environmental Policy Act requires NRC to evaluate a range of reasonable alternatives and their impacts. 10 CFR § 51.45. Licenses for the construction and operation of nuclear power plants require Federal Consistency reviews if the permitted activity affects land or water uses in the coastal zone under the Coastal Zone Management Act (CZMA). North Anna is within the coastal zone.[6]
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> Pursuant to § 51.45(b)(3), "The discussion of alternatives shall be sufficiently complete to aid the Commission in developing and exploring, pursuant to section 102(2)(E) of NEPA, 'appropriate alternatives to recommended courses of action in an proposal which involves unresolved conflicts concerning alternative uses of available resources.' To the extent practicable, the environmental impacts of the proposal and the alternatives should be presented in comparative form." This contention is supported by the expert affidavit of Arnold Gundersen which is submitted today.

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[5] The Staff previously explained these standards in more detail in this proceeding. *See* NRC Staff 2008 Answer at 7-10.

[6] Intervenor's New Contentions does not mention the CZMA again, nor does the CZMA appear to present any basis for proposed New Contention 1.

Id. at 2-3. The essence of New Contention 1 is that the US-APWR[7] could be fitted with an air condenser rather than a water tube condenser, and this dry cooling system design alternative would eliminate any impact on Lake Anna from the use of a water tube condenser. *Id*. at 3.

The Intervenor asserts three bases for proposed New Contention 1: First, the Intervenor asserts that the originally proposed ESBWR had an electric output of slightly over 1500 MWe (megawatt electric), while the US-APWR now proposed has an electric output of 1700 MWe, and that the US-APWR thermal efficiency is lower than that of the ESBWR. *Id*. at 3-4. The Intervenor complains that operation of North Anna Unit 3 would result in "an inordinately large draw of water from Lake Anna in order to cool the reactor," and that "the lake will face an enormous yearly consumption of water that will be withdrawn and never returned." *Id*. at 4, 5. Second, the Intervenor asserts that operation of a cooling tower as part of North Anna Unit 3 would result in the release of "blowdown" to Lake Anna, and that this blowdown would contain chemical contaminants and would be twenty (20) degrees hotter than the lake to which it is being returned. *Id.* at 4-5. The Intervenor further asserts that the blowdown would contain copper and tributyltin (TBT) in excess of water quality criteria. *Id*. at 3. Third, the Intervenor asserts that all these impacts to Lake Anna (thermal effects, consumptive water use, and chemical contamination) would be eliminated by the installation of air-cooled condensers at North Anna Unit 3, and would involve "inconsequential costs" if done now, when the Intervenor asserts Dominion is in an early stage of the design process. *Id*. at 6. The Staff opposes admission of proposed New Contention 1, as set forth below.

Staff Response: Proposed New Contention 1 is inadmissible for the following three reasons, all of which are further discussed below. First, insofar as proposed New Contention 1

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[7] Intervenor's New Contention 1 appears to contain a typographical error insofar as it refers to the "US-ABWR" here rather than the US-APWR referenced in the Application. *See* New Contentions at 3.

requests consideration of a dry cooling design alternative for cooling North Anna Unit 3, that matter must be considered resolved pursuant to 10 C.F.R. § 52.39. Second, the Intervenor does not attempt to compare the environmental impacts of its suggested alternative to those of the dry cooling tower alternative evaluated in the ESP FEIS to show that new and significant information supports admission of proposed New Contention 1 by, as required by 10 C.F.R. §§ 52.39(c)(v) and 51.107(b)(3). Finally, the Intervenor's complaint about the composition and temperature of the blowdown is impermissibly late, as these matters were described in the original version of the Application and do not arise from the revision to the Application, as required by the Board's August 2010 Scheduling Order.

1. The proposed New Contention 1 must be considered resolved in this proceeding.

As set forth above, 10 C.F.R. § 52.39 requires that a matter resolved in a proceeding on an ESP application be considered as resolved in a subsequent COL proceeding in which the application references the ESP. 10 C.F.R. § 52.39(a)(2); *North Anna COL*, LBP-08-15, 68 NRC at 304-05, 311. Design alternatives related to plant cooling (waste heat rejection), as raised in proposed New Contention 1, should be considered a matter resolved in the proceeding on the application for ESP-003, the ESP for the North Anna ESP site, in accordance with the three-pronged test laid down by this Board in its decision in LBP-08-15. *See North Anna COL*, LBP-08-15, 68 NRC at 311.

With respect to the first prong, *i.e.*, whether the Staff decided in the ESP proceeding the issue the Intervenor now seeks to raise, the NRC staff prepared a final EIS, NUREG-1811, in connection with its review of the ESP application and evaluated dry cooling system design alternatives. The ESP FEIS describes the site surface water hydrology (NUREG-1811, § 2.6.1.1 at 2-20—2-21), current water uses in the region (*id*., § 2.6.2.1 at 2-23—2-24), and water quality in the surface waters near the North Anna site (*id*., § 2.6.3.1 at 2-25—2-26). In ESP FEIS § 3.2, the Staff describes the plant parameter envelope used to assess the suitability

of the North Anna ESP site. *Id*., § 3.2 at 3-3—3-4. Section 3.2 provides a detailed discussion of plant water use, including a description of the normal cooling system for North Anna Unit 3. *Id*., § 3.2.2.1 at 3-10. Section 3.2 also includes a description of dry cooling systems. *Id*., § 3.2.2.2 at 3-12 (description of Unit 4 components). ESP FEIS Section 5.3 discusses the water-related impacts of proposed North Anna Unit 3, and focuses on the combination wet and dry cooling system proposed for Unit 3.[8] *Id*., § 5.3 at 5-4 to 5-13. This evaluation included the thermal effects of operation of the wet/dry system on Lake Anna. *Id*., § 5.3 at 5-12. ESP FEIS Section 8.2 documents the Staff evaluation of cooling system design alternatives, including once through cooling, wet towers, and dry cooling, as compared to the combination wet and dry tower normal cooling system proposed for Unit 3. *Id*., § 8.2 at 8-2 to 8-5.[9] Accordingly, the Staff evaluated the design alternative of dry cooling and reached a conclusion on it in NUREG-1811, satisfying the first prong of the Board test for determining whether an issue was resolved in the ESP proceeding.

The second and third prongs, *i.e.*, whether the Staff conclusion was necessary to resolve in the ESP proceeding and was within the scope of the ESP Notice of Hearing, are also met, as follows. First, the Staff evaluation of cooling system design alternatives was necessary to resolve in the ESP proceeding, inasmuch as the ESP Board explicitly discussed that Staff evaluation in making the findings called for in the *Federal Register* Notice of Hearing on the ESP proceeding. *See North Anna ESP*, LBP-07-9, 65 NRC at 567, 605, 612-13. Specifically, the ESP Board discussed these issues in making its finding on National Environmental Policy Act of 1969 (NEPA) Baseline Issue 1. *See* ESP Notice, 68 Fed. Reg. at 67,489; *North Anna*

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[8] The Intervenor does not mention that the plant would include a combination wet/dry cooling system that would achieve, in part, the benefits of a dry cooling system. *See* NUREG-1811, § 5.3.

[9] In addition, NUREG-1811, Appendix K, presents the Staff's independent review of water budget impacts.

ESP II, LBP-07-9, 65 NRC at 559, 602-04, 612-13. Second, cooling system design alternatives were within the scope of the ESP Notice since the ESP Notice explicitly called for findings on NEPA Baseline Issue 1. *See North Anna ESP II,* LBP-07-9, 65 NRC at 559, 602. Accordingly, all three prongs of the Board test for whether an issue has been resolved in an ESP proceeding have been met for the design alternative of dry cooling, and it should be considered resolved in the proceeding that ended in the issuance of ESP-003.[10]

2. Proposed New Contention 1 does not assert any new and significant information to justify revisiting the Staff evaluation of cooling system design alternatives in the NUREG-1811.

If a COL application references an ESP, as the Application references ESP-003, a licensing board in the COL proceeding must reject contentions proffered by any party on environmental issues that were finally resolved in accordance with § 52.39 unless the contention raises an issue for which new and significant information has been identified. 10 C.F.R. § 51.107(b)(3); *see* 10 C.F.R. § 52.39(c)(v); *North Anna COL*, LBP-08-15, 68 NRC at 305. As set forth below, the Intervenor fails to show that the information it presents is new, nor does it show that the information is significant.

The Intervenor here does not identify any new information. Specifically, the Intervenor cannot now complain in this proceeding that the waste heat load rejected to the environment results in the consumptive use of "inordinately large" amounts of water, since the heat loads analyzed in NUREG-1811 and the revision to the Application are identical. *Compare* NUREG-1811 at 3-10 (maximum heat load of 1.03×10^{10} Btu/hr) *with* Application, Rev. 3, Part 3 at 3-25 (maximum heat load of 1.03×10^{10} Btu/hr). Further, the Intervenor does not assert that an "air condenser" would somehow result in different environmental effects, as compared to the

[10] Since the dry cooling system design alternative was resolved in the ESP proceeding, the matter of cost of any design change is irrelevant to determining whether proposed New Contention 1 should be admitted in this proceeding.

dry cooling system the Staff evaluated in NUREG-1811, so as to warrant further evaluation. Indeed, the Intervenor claims the same benefits for an air condenser as the Staff claimed for a dry cooling tower in NUREG-1811. *Compare* Intervenor's New Contentions at 6 *with* NUREG-1811 at 3-12, 5-4, and 8-4.

The Intervenor offers a declaration in support of proposed New Contention 1. *See* "Declaration of Arnold Gundersen Supporting [BREDL's New Contention 1]," dated July 23, 2010, ¶ 18.1 (Gundersen Declaration). The Gundersen Declaration, however, does not present any new and significant information, as compared to the Staff evaluation of dry cooling system design alternatives in NUREG-1811. Rather, the Gundersen Declaration is silent in regard to NUREG-1811, and does not mention ESP-003 at all. In particular, the Gundersen Declaration describes three types of cooling systems—natural draft towers, forced draft towers, and dry cooling. Gundersen Declaration, ¶¶ 36-37. It ignores the combination wet/dry cooling system proposed for North Anna Unit 3 and discussed in detail in NUREG-1811. See NUREG-1811 at 3-8, 3-10. The Intervenor asserts information that is not new and does not arise from the revision to the Application, and accordingly fails to satisfy 10 C.F.R. §§ 52.39(c)(v) and 51.107(b)(3), as well as the Board's August 2010 Scheduling Order.

Since the information provided by the Intervenor is not new, that information, *per force*, cannot be significantly different from the information evaluated in NUREG-1811. As stated above, the Intervenor makes no attempt to compare the impacts associated with an air condenser with the impacts associated with the dry cooling design alternative evaluated in NUREG-1811. Rather, the Intervenor simply describes the potential benefits of dry cooling by use of an air condenser. Gundersen Declaration, ¶¶ 43-44. Accordingly, proposed New Contention 1 is not supported by new and significant information, as required by §§ 52.39(c)(v) and 51.107(b)(3), and New Contention 1 is inadmissible in this proceeding.

3. Intervenor's complaint about the composition of the blowdown is impermissibly late.

The Intervenor claims that the June 2010 revision to the Application indicates that "two pollutants in the effluent [in the blowdown] from Unit 3 would exceed water quality criteria." New Contentions at 3. These two chemical species are copper and TBT. *Id*. The original version of the Application, however, explicitly states this fact. Application, Rev. 0, Part 3 at 3-56. Further, the Staff evaluated these chemicals in NUREG-1917, "Supplemental Environmental Impact Statement for the Combined License (COL) for North Anna Power Station Unit 3," Final Report at 5-6 (Feb. 2010) (COL FEIS or NUREG-1917). With respect to other chemical constituents of blowdown water, the Intervenor mentions "biocides and algicides," as well as concentration of "contaminants and minerals that already exist[] in the lake." Gundersen Declaration, ¶¶ 39, 40. These blowdown constituents are also discussed in the original version of the Application. Application, Rev. 0, Part 3 at 3-56. The Staff evaluated these blowdown constituents in the COL EIS. NUREG-1917 at 5-6. Any issue with respect to these chemicals arose from the original Application, and not the June 2010 revision to the Application, and under the Board's August 2010 Scheduling Order, the Intervenor is impermissibly late in raising them now.[11]

In addition, the Intervenor makes no attempt to satisfy the standards of 10 C.F.R. § 2.309(f)(2) with respect to these matters, even though the information regarding chemical contamination was available in the original version of the Application, as indicated above.[12] Nor does the Intervenor explain how the information it presents might be new and significant as compared to the information in the Staff evaluation in NUREG-1917, as required by 10 C.F.R.

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[11] The Intervenor quotes the Application to the effect that the increase in concentration of these pollutants is "'immeasurable' (immense, vast)" (New Contentions at 5), but the context of the quotation indicates that the Application is stating the increase in concentration is unmeasurable, or below the limits of detection.

[12] If 10 C.F.R. § 2.309(c) applies in this case, the Intervenor fails to address its requirements.

§ 51.92(a), (b), and (e)(7). The Intervenor should have raised these matters in its initial contentions.

Finally, the Intervenor has not shown why the asserted inadequacy in the Application regarding blowdown chemical constituents is a material omission under § 2.309(f)(1)(vi) (the Intervenor does not mention NUREG-1917). "Our boards do not sit to 'flyspeck' environmental documents or to add details or nuances." *System Energy Resources, Inc.* (Grand Gulf Early Site Permit), CLI-05-04, 61 NRC 10, 13 (2005) (citing *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-04, 53 NRC 31, 71 (2001)). The Staff evaluated the impacts of the identified chemicals in the COL FEIS and determined them to be SMALL, and the Intervenor offers no reason why the information it provides could somehow be material to that conclusion.[13] *See* NUREG-1917 at 5-6. That is, the Intervenor does not explain why the Staff conclusion on the impact level stated in NUREG-1917 for the chemical constituents in the blowdown might change in view of the Intervenor's information.

In view of the foregoing, proposed New Contention 1 is inadmissible and should be rejected.

B. PROPOSED NEW CONTENTION 2: Unit 3 Seismic Spectra Exceedance (New Contentions at 6)

In Contention 2, the Intervenor asserts that:

> Geologic and seismic criteria are found in 10 C.F.R. § 100.23 and detail the requirements for determining whether a proposed site is acceptable for a nuclear power plant. An exemption from NRC regulations must comply inter alia with 10 C.F.R. § 52.7 and 10 C.F.R. § 52.93. Dominion has improperly requested a site-specific exemption from the Design Control Document Tier 1 for proposed North Anna Unit 3.

[13] SMALL impacts are those that are "not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource." NUREG-1917 at xxi.

New Contentions at 6. As a basis for its contention, the Intervenor states that "[p]ursuant to 10 C.F.R. § 52.7, the granting of an exemption request by the [NRC] must meet the minimum criteria for ground motion and certified seismic design response spectra ("CSDRS") spectra in DCD Tier 1." *Id*. at 7. The Intervenor also asserts that exemption requests are subject to challenge in COL hearings. *Id*.

As factual support for Contention 2, the Intervenor cites 10 C.F.R. § 100.23(d)(4), which requires a COL applicant to "evaluate all siting factors and potential causes of failure, such as, the physical properties of the materials underlying the site, ground disruption, and the effects of vibratory ground motion that may affect the design and operation of the proposed nuclear power plant." The Intervenor also asserts that the exemption requested by Dominion indicates that "the proposed Unit 3 cannot meet the standards for safe shutdown during an earthquake" and represents an impermissible "exemption from standards." New Contentions at 7-8.

The Intervenor also makes several remarks related to the seismic source at the North Anna site. The Intervenor cites NRC Regulatory Guide 1.208, A Performance-Based Approach to Define the Site-Specific Earthquake Ground Motion, which states that "any new information related to a seismic source that impacts the hazard calculation must be evaluated and incorporated into the probabilistic seismic hazard analysis (PSHA) as appropriate based on technical information available." *Id*. at 8. According to the Intervenor, this Regulatory Guide also "requires that the uncertainties in estimates of the [Safe Shutdown Earthquake Ground Motion] (SSE) be addressed through an appropriate analysis, such as a probabilistic seismic hazard analysis (PSHA)." *Id*. at 9. The Intervenor also mentions a variance from the ESP that Dominion has also requested, and describes past history related to seismic investigations at the site in the 1960s and 70s. *Id.*

Staff Response: The Intervenor is correct that Dominion has requested an exemption from Tier 1 information related to seismic spectra in the Design Control Document (DCD) for the

APWR. *See* Application, Rev. 3, Part 7: Departures Report (hereinafter Departures Report) at 2-1 to 2-2. However, the Intervenor has not identified any specific flaw in the requested exemption and has advanced no legal or factual argument as to why it is improper.[14] For these reasons, Contention 2 does not meet the pleading standards of 10 C.F.R. § 2.309(f)(1)(iv)-(vi) regarding materiality, support, or a demonstration that a genuine dispute with the Applicant exists.

The Intervenor initially frames the contention in terms of challenging the North Anna site's suitability for construction and operation of a nuclear power plant. The Intervenor cites the seismic siting criteria found in 10 C.F.R. § 100.23, and questions the suitability of the site itself in the Statement of Facts accompanying the contention. New Contentions at 6-7, 10. The Intervenor also refers to Regulatory Guide 1.208, which is related to seismic source issues. *Id*. at 8-9. Because the Intervenor frames the issue in this way, it would appear that at least part of Contention 2 is an attempt to raise another challenge to the suitability of the North Anna site for construction of a nuclear reactor.

A contention raising this challenge at this stage of the proceeding is inadmissible because the issue has already been resolved. Seismic issues were "extensively evaluated and resolved in the ESP proceeding" for North Anna Unit 3, as this Board noted when it rejected a seismic contention that BREDL submitted in the earlier phase of this COL proceeding. *North Anna COL*, LBP-08-15, 68 NRC at 325-28. In the ESP proceeding, the Licensing Board

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[14] Dominion has also included a departure from related Tier 2 information in the DCD. Departures Report at 1-5 to 1-8. The Intervenors do not take issue with this departure, but many of the technical issues related to the exemption are discussed at greater length in the discussion of this Tier 2 material.

The terms "Tier 1" and "Tier 2" are defined in the design certification rules that are published as appendices to 10 C.F.R. Part 52. "Tier 1" refers to "the portion of the design-related information that is approved and certified" by a design certification rulemaking. Tier 1 information is derived from Tier 2 information, but Tier 2 information is not certified by a design certification rulemaking. *See e.g.*, 10 C.F.R. Part 52, Appendix D, Section II.D and E (defining the terms "Tier 1" and "Tier 2," among others).

concluded that the North Anna site satisfied the seismic siting criteria in 10 C.F.R. Part 100. *North Anna ESP II*, LBP-07-9, 65 NRC at 601. The Board in the ESP proceeding noted that the Staff evaluated and resolved the issue as part of its review of the ESP application, and that it was necessary to the ESP Board decision (to rule on AEA Safety Issue 2) and was therefore within the scope of the ESP proceeding. *Id*. at 600-01. *See also* ESP Notice, 68 Fed. Reg. at 67,489; *North Anna COL*, LBP-08-15, 68 NRC at 311. The Intervenor has not suggested that there is any new information that would substantially alter the basis for this conclusion. According to the provisions of 10 C.F.R. § 52.39(a)(2) and this Board's decision in LBP-08-15, the conclusions reached in the ESP proceeding must therefore be considered resolved.

It is important to note that the exemption requested by the Applicant is from a provision of the APWR design, as set forth in the DCD, and not from any specific information related to the North Anna site. For this reason, nothing in the exemption request affects the seismic source analysis of the site that was conducted at the ESP stage. The exemption request itself therefore cannot be considered new information that would reopen the seismic source issue. For the same reason, statements related to seismic source issues cannot be seen as factual or legal arguments as to why the requested exemption from Tier 1 information in the DCD is improper. These portions of Contention 2 therefore fail to provide the demonstrations regarding materiality, support, or a demonstration of a genuine dispute that 10 C.F.R. § 2.309(f)(1)(iv)-(vi) requires.

The Intervenor sounds a second theme throughout the contention involving asserted violations of regulatory requirements. The Intervenor correctly states that COL applicants must meet the seismic siting criteria in 10 C.F.R. § 100.23. New Contentions at 7. However, the Intervenor does not state how the Applicant's exemption request and the related analyses fail to meet the requirements of this regulation or any other generally applicable NRC regulation. The Intervenor does assert that Dominion has requested an "exemption from standards," but neither

specifies the regulation involved nor explains the nature of the standard the Applicant supposedly fails to meet.

This aspect of the contention also fails to provide the support required by 10 C.F.R. § 2.309(f)(1)(iv)-(vi). The primary reason is that Dominion has not, in fact, requested an exemption from any safety regulation in 10 C.F.R. Parts 50, 52, 100, or any other part of the NRC's rules. Rather, Dominion has requested an exemption from Tier 1 information in the DCD for the APWR, which is currently under review by the NRC staff.

At the conclusion of the design certification process, certified designs appear as appendices to Part 52, and the Tier 1 information they contain can be altered by COL applicants only if an exemption is granted. The standards governing such exemptions are set forth in 10 C.F.R. §§ 52.63(b)(1) and 52.93.[15] The Intervenor correctly states that the first of these rules permits exemption requests to be challenged at hearings. New Contentions at 7. However, an exemption request is not in itself procedurally improper, and any such challenge must include a substantive argument as to why the requested exemption is impermissible. A contention raising such an argument must – like all contentions in NRC proceedings – address all the pleading requirements of 10 C.F.R. § 2.309(f)(1). Contention 2 does not.

The Intervenor does attempt to mount a legal argument in the basis for the contention, arguing that "the granting of an exemption request by the [NRC] must meet the minimum criteria for ground motion and certified seismic design response spectra ("CSDRS") specified in DCD Tier 1." *Id*. Although the Intervenor cites 10 C.F.R. § 52.7, it is not clear where this alleged requirement comes from. The rule in 10 C.F.R. § 52.63(b)(1) refers to 10 C.F.R. § 52.7 for further requirements regarding specific exemptions under Part 52. This rule in turn refers to

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[15] The standards governing departures from Tier 2 information are set forth in 10 C.F.R. § 52.63(b)(2).

10 C.F.R. § 50.12, which includes a more extensive discussion of the standards for granting exemptions. Neither of these rules includes the Intervenor's statement.

The forgoing statement, together with other statements in the pleading that relate to an "exemption from standards," suggests that the Intervenor may have reversed the nature of the Applicant's exemption request. The Applicant has requested an exemption from specific Tier 1 information in the DCD for the APWR, and has substituted additional analyses to demonstrate compliance with applicable NRC regulations. The NRC staff will evaluate the new analyses as part of its review of the exemption request and the COL application more generally, rather than relying on the review conducted in relation to the design certification rulemaking for the APWR. The Intervenor appears to argue that the Applicant has requested an exemption from general safety regulations, but is still required to comply with the Tier 1 information in the DCD. This is incorrect.

Because the legal argument in Contention 2 is not supported by the cited regulations, and because no other argument regarding the exemption is presented, this portion of Contention 2 also fails to provide the demonstrations regarding materiality, support, or a demonstration of a genuine dispute that 10 C.F.R. § 2.309(f)(1)(iv)-(vi) requires.

The Intervenor also describes a variance from the ESP that the Applicant has requested, and describes past events related to seismic investigations at the North Anna site in the 1960s and 70s. New Contentions at 9-10. Neither of these items appears in the contention itself or its basis, and neither appears to be intended as factual support for the Intervenor's claim that the requested exemption is improper. The Intervenor does not show how the requested variance is linked to any argument related to the exemption. Nor does the Intervenor present any specific arguments that the requested variance is improper. Similarly, no attempt is made to link the past events described in the contention to the exemption the Applicant has requested.

Arguments related to these past events were a part of an earlier Contention 2, which this Board considered and rejected in the first phase of this proceeding. *See North Anna COL*, LBP-08-15, 68 NRC at 325-28. At that time, the Board interpreted the Intervenor's discussion of these issues as "a general attack on Dominion's credibility." *Id*. at 327. The Board considered "whether BREDL ha[d] established a sufficient relationship between the past misconduct it alleges and the present COL application," and determined that the Intervenor had not done so. *Id*. at 327-28. The Board noted that "[t]o provide the basis for an admissible contention, allegations of management improprieties . . . must be of more than historical interest. They must relate directly to the currently proposed licensing action." *Id*. at 327 (citing *Dominion Nuclear Connecticut, Inc*. (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 365-66 (2001); *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 120 (1995)). The Intervenor has not indicated any such relationship between events in prior decades and the exemption that the Applicant has requested here.

For these reasons, neither the variance mentioned in the pleading nor the historical events that the Intervenor describes at greater length provide the information required by 10 C.F.R. § 2.309(f)(1)(iv)-(vi). And because none of the other information provided in support of Contention 2 does so, the contention fails to meet the pleading requirements of 10 C.F.R. § 2.309(f)(1) and must be rejected.

CONCLUSION

In view of the foregoing, the Staff submits that Intervenor's two proposed new contentions should be rejected.

Respectfully submitted,

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Executed in Accord with 10 CFR § 2.304(d)
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Dated at Rockville, Maryland
this 28th day of October, 2010

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
VIRGINIA ELECTRIC AND POWER CO.,	)	
dba DOMINION VIRGINIA POWER,	)	
and OLD DOMINION ELECTRIC	)	Docket No. 52-017-COL
COOPERATIVE	)	
	)	
(North Anna Power Station, Unit 3)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the NRC STAFF ANSWER TO "INTERVENOR'S NEW CONTENTIONS" FILED BY THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE, have been served upon the following persons by Electronic Information Exchange this 28th day of October, 2010:

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