**From:** <Tony_Banks@Dom.com>
**To:** "Jack Cushing" <JXC9@nrc.gov>, "Nitin Patel" <NXP1@nrc.gov>
**Date:** Tue, Sep 12, 2006 6:12 PM
**Subject:** SDEIS comments from Dominion

Attached is a pdf of our comment letter on the SDEIS. Within the letter note our comment table and an attached letter of CZMA consistency review comments that was sent to the Commonwealth of VA.

The draft report we had prepared for transmittal to SHPO is being finalized. I have discussed with SHPO and they are expecting it. I will copy you.

Let me know if you have any questions. I will be at North Anna to support soil boring work and NRC visit 9/13 pm and 9/14 am. I will have my cell.

Thanks -

Tony Banks
Dominion
ESP/COL Project

----- Forwarded by Tony Banks/NUC/VANCPOWER on 09/12/2006 06:08 PM -----

Charles Richardson/NUC/VANCPOWER
09/12/2006 06:03 PM

To: Tony Banks/NUC/VANCPOWER@VANCPOWER
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Subject: Letter(Document link: Tony Banks)

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**CC:** "Parkhurst, Mary Ann" <maryann.parkhurst@pnl.gov>, <Joseph_Hegner@Dom.com>, <Tony_Banks@Dom.com>

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Dominion Nuclear North Anna, LLC
5000 Dominion Boulevard, Glen Allen, VA 23060

Dominion®

September 12, 2006

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 06-566
ESP/LTB
Docket No. 52-008

**DOMINION NUCLEAR NORTH ANNA, LLC**
**NORTH ANNA EARLY SITE PERMIT APPLICATION**
**COMMENTS ON NUREG-1811, SUPPLEMENT 1**
**DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR AN EARLY SITE PERMIT (ESP) AT THE NORTH ANNA ESP SITE**

This letter provides Dominion's comments on the NRC staff's Draft Environmental Impact Statement, NUREG-1811, Supplement 1 (SDEIS), for the Dominion Nuclear North Anna, LLC's North Anna Early Site Permit (ESP) application. Comments are provided in the enclosed table.

A number of comments are the result of the different approaches in strategy or methodology used by Dominion and the NRC staff when evaluating certain issues. Typically, the NRC used a conservative, bounding approach as part of its confirmatory analysis while Dominion presented information based on a detailed analysis of the topic. Although both approaches are appropriate, the difference in methodologies can result in differences in numerical values for the same parameter. The comments are offered to help explain such differences.

Also enclosed is a copy of a September 8, 2006 letter from Dominion to the Commonwealth of Virginia related to the Coastal Zone Management Act consistency review. This letter is enclosed for NRC's consideration because it substantially addresses some of the same issues raised by consulting agencies in the Commonwealth of Virginia's September 8, 2006 comments on the SDEIS.

If you have any questions or require additional information, please contact Mr. Tony Banks at 804-273-2170.

Very truly yours,

Eugene S. Grecheck
Vice President-Nuclear Support Services

Enclosures: 1. Dominion Comments on NUREG-1811, Supplement 1 "Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site"

2. Dominion's Responses to Comments on the Federal Consistency Certification for the North Anna Early Site Permit Application

Commitments made in this letter: None

cc: U. S. Nuclear Regulatory Commission, Region II
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**Enclosure 1**

**Dominion Comments on NUREG-1811, Supplement 1**
**"Draft Environmental Impact Statement for an**
**Early Site Permit (ESP) at the North Anna ESP Site"**

| North Anna Early Site Permit<br>Comments on NUREG-1811, Supplement 1<br>"Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site" | | | |
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| **No.** | **SDEIS Page, Location, Section** | **SDEIS Wording** | **Comment** |
| 1 | 3-8, line 6, 3.2.1.1 | These demands could increase up to a maximum of 21-L/s (3340 gpm) when the fire protection system is operating at full capacity. | The SDEIS stated flowrate of 3340 gpm would only occur if potable water, demineralized water and fire protection water maximum demands occurred simultaneously, not just fire protection. Table 3.3-1 lists maximum supply rates for potable water (120 gpm), demineralized water (720 gpm) and fire protection (2500 gpm). |
| 2 | 3-9, line 16, 3.2.2 | The cooling water passes through the dry cooling tower and, in the MWC mode, transfers one third of the heat to the atmosphere. | During Maximum Water Conservation (MWC), a minimum of one-third of the heat would be removed by the dry towers. The remainder would be removed, as required, by the wet towers. The SDEIS statement could be qualified to add the term "minimum" in describing the percentage of cooling which is proposed to be achieved by the dry cooling towers in the MWC mode. As site dry bulb ambient temperature decreases from the design maximum ambient condition, the dry cooling towers will transfer increasing percentages of the condenser heat to the atmosphere. |
| 3 | 3-12, Line 35, 3.2.2.2 | As previously proposed, the cofferdam would still be removed to allow water access from Lake Anna. | As the water supply required for the closed loop cooling system proposed for Unit 3 is significantly lower than required for a once through cooling system which the existing intake channel was designed, Dominion may only remove a portion of the full cofferdam expanse through tunneling or dam removal. See ER section 3.4.2.1. See also comment number 7 below. |
| 4 | 3-13, Line 4, 3.2.2.2 | The licensee may combine the blowdown from Unit 3 with the discharge from the existing NAPS units and use the current Unit 1 and 2 discharge structure, or construct a | No statement is made in the ER that a separate discharge structure would be constructed. It is possible that the partially completed discharge structure for Units |

| North Anna Early Site Permit<br>Comments on NUREG-1811, Supplement 1<br>"Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site" | | | |
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| **No.** | **SDEIS Page, Location, Section** | **SDEIS Wording** | **Comment** |
| | | separate discharge structure in the vicinity of the partially completed discharge structures planned for the two additional power reactors proposed at the time NAPS Units 1 and 2 were licensed (see Figure 3-1). | 3 and 4 would be utilized as the "new outfall structure". |
| 5 | 4-5, Line 10, 4.3 | The potential impact on water resources expected to result from constructing proposed Unit 3 are primarily from construction of the intake structures. No intake structure is required for Unit 4. | It would be more appropriate to state, "No separate intake structure is required for Unit 4". Although the Unit 4 normal plant cooling towers would require little to no make-up from Lake Anna, a water supply from the lake would be required for UHS make-up (if required by the COL-selected reactor technology), fire protection, and demineralized water make-up. The Unit 4 water supply demands would be significantly less than for Unit 3 and would therefore be accommodated in the Unit 3 intake structure. See ER Section 3.4.2.1. This is acknowledged in SDEIS Section 3.2.2.2, Component Descriptions-Intake System, which states, "Any makeup water required for Unit 4 could be obtained from the Unit 3 intakes." |
| 6 | 4-6, Line 21, 4.3.1 | Dominion expects no modifications to the shoreline or the existing intake channel. As previously proposed, the existing cofferdam would still be removed to allow water access from Lake Anna. | ER Section 3.4.2.1 states that to bring water from the reservoir to the new intake structure via the approach channel, the cofferdam, or a portion of it, would be removed. Because of the limited quantity of water to be supplied from the North Anna Reservoir, no major modification to the existing shoreline or dredging in the approach channel would be necessary. See also comment number 4 above. |
| 7 | 4-15, Line 21, 4.5.1.4 | The new combination wet and dry cooling towers for Units 3 and 4 are expected to be approximately 46 m (150 ft) tall, which is less than the 71 m (234 ft) PPE height value | As stated in Revision 7, combination wet and dry towers would be used for Unit 3 only. Dry towers would be used for Unit 4. The dry tower proposed for Unit 4 would be an |

| North Anna Early Site Permit<br>Comments on NUREG-1811, Supplement 1<br>"Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site" | | | |
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| | | for the tallest potential containment building. | expected 150 ft (46 m) tall. However, the combination wet and dry cooling towers for Unit 3 would have an expected maximum height of 180 ft (55 m). |
| 8 | 5-3, Line 28, 5.2 | There would also be the potential for fogging and icing at ground level as the plume loses buoyancy and for drift deposition on the local surroundings. In addition, there is the potential for ice buildup on the transmission lines and other structures within the plant boundary. | As stated in ER section 5.3.3.1, steam-fog-induced icing conditions are very infrequent at the site. Consequently, ice buildup on transmission lines, switchyard, insulators and structures due to steam fog would not be anticipated. |
| 9 | 5-7, Line 26, 5.3 | The staff found that relatively small errors in the pool elevation measurements using this model can result in significant errors in the precipitation, groundwater, and tributary inflow estimate. For example, an error of only 2.5 cm (1 in.) between daily lake elevation measurements translates into an error of about 14 m3/s (500 cfs); this can also result in negative inflow estimates that are inconsistent with conservation of mass principles. The occurrence of negative inflow estimates was reduced by Dominion by smoothing (i.e., using weekly averages instead of daily values). | The SDEIS could note that despite the potential negative inflow estimate in the reversed routing method that Dominion used in the water budget model, any potential uncertainties would be cancelled out in the model prediction for the new Unit 3 based on the methodology adopted by Dominion. |
| 10 | 5-8, Line 41, 5.3.1 | The staff's independent water budget analysis assumed the NAPS Units 1 and 2 and the proposed Unit 3 would operate continuously. In non-drought years, the projected incremental decline of the lake level attributable to Unit 3 was relatively minor. The staff determined that the operation of Unit 3 would decrease the fraction of time that the lake level elevation was above 75.6 m (248 ft) MSL by 5 percent, from 94 percent to 89 percent of the time. With the operation of Unit 3, the fraction of time the lake would | The SDEIS could note that the difference is caused by a difference in Dominion's approach of performing a detailed analysis, whereas the NRC staff performed a conservative, bounding analysis. For example, the staff assumed the average evaporative loss from Unit 3 was a constant value of 8707 gpm which is conservative and bounding and which leads to an overestimation of Unit 3's impact on lake level and dam outflow during times when the lake falls below 250 ft msl. |

| North Anna Early Site Permit<br>Comments on NUREG-1811, Supplement 1<br>"Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site" | | | |
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| | | be at or below elevation 75.0 m (246 ft) MSL would increase by 0.9 percent, from 1.1 percent to 2.0 percent. The staff also analyzed the differences in lake level elevation between the baseline (Units 1 and 2 in operation) and proposed (addition of the ESP Unit 3) scenarios to examine the impacts of Unit 3 on downstream flows. Considering the entire simulation period, including the critical drought period, the incremental decline in lake level elevation resulting from the operation of Unit 3 was<br>less than 7.6 cm (3 in.) 70 percent of the time, less than 15 cm (6 in.) 86 percent of the time, and less than 30 cm (1 ft) 94 percent of the time.<br>The lowest lake level elevations and greatest incremental decrease are projected to occur during the month of October. When modeling lake level elevations during the critical period of record, specifically targeting the minimum elevation occurring during early October 2002, the staff analyzed the minimum lake level elevations for the following scenarios: Units 1 and 2 (baseline conditions): 74.74 m (245.2 ft)<br>Units 1 and 2 plus Unit 3 (proposed conditions): 74.22 m (243.5 ft) | |
| | 5-11, Line 2, 5.3.2 | Because the North Anna Dam discharge rate is directly related to the Lake Anna surface level elevation, the lake level elevation analysis discussed above was used to estimate the impact on downstream flows in the North | The SDEIS could note that the difference is caused by a difference in Dominion's approach of performing a detailed analysis, whereas the NRC staff performed a |

| North Anna Early Site Permit<br>Comments on NUREG-1811, Supplement 1<br>"Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site" | | | |
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| | | Anna River. The net total discharge from North Anna Dam would be reduced if Unit 3 operates as proposed. The staff determined that the fraction of time the dam would discharge 0.57 m3/s (20 cfs) increased from approximately 6 percent (Units 1and 2 only) to 11 percent. Because water supply generally exceeds demand, as indicated above, the staff concludes that the water supply provided by Lake Anna is adequate to meet Unit 3 and current downstream water demands except during periods of severe drought. Operation of Unit 3 would approximately double the duration of periods during drought conditions when the Lake Level Contingency Plan would be applied (i.e., when the lake level elevation would be below 75.6 m [248 ft] MSL). | conservative, bounding analysis. |
| | 5-31, Line 20, 5.4.2.6 | The results in Table 5.5 indicate that the fraction of time that the lake would be below 248 ft would increase from about 6 percent for NAPS Units 1 and 2 (baseline) to 11 percent for NAPS Units 1 and 2 plus Unit 3 (proposal). | The SDEIS reflects the NRC confirmatory analysis and, while the results do not exactly match those stated in the ER, the conclusion of SMALL IMPACT is unaffected by the difference. The SDEIS could note that the difference is caused by a difference in Dominion's approach of performing a detailed analysis, whereas the NRC staff performed a conservative, bounding analysis. |
| | 5-39, Line 40, 5.5.1.4 | The minimum water level with Unit 3 operating was estimated at 243.5 ft versus 245.2 ft with only NAPS Units 1 and 2. | The SDEIS reflects the NRC confirmatory analysis and, while the results do not exactly match those stated in the ER, the conclusion of SMALL IMPACT is unaffected by the difference. The SDEIS could note that the difference is caused by ia difference in Dominion's approach of |

| North Anna Early Site Permit<br>Comments on NUREG-1811, Supplement 1<br>"Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site" | | | |
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| | | | performing a detailed analysis, whereas the NRC staff performed a conservative, bounding analysis. |
| | 8-4, Line 30, 8.2.2 | The results of the water balance calculations suggest that the use of an [sic] wet cooling tower system for the 2001 through 2003 critical water period would have resulted in an additional 3.4 ft. drawdown of the lake in September 2002. | The SDEIS indicates that the additional drawdown would be 3.4 ft, while the North Anna Closed Cooling Evaluation indicates that the additional drawdown would be 2.5 ft. The SDEIS reflects the NRC confirmatory analysis and, while the results do not exactly match those stated in the Anna Closed Cooling Evaluation, the conclusion of SMALL IMPACT is unaffected by the difference. The SDEIS could note that the difference is caused by a difference in Dominion's approach of performing a detailed analysis, whereas the NRC staff performed a conservative, bounding analysis. |
| | 8-4, Line 32, 8.2.2 | In comparison, use of the proposed combination wet and dry cooling would only have drawn down the lake by an additional 1.6 ft. | The SDEIS indicates that the additional drawdown would be 1.6 ft, while the ER indicates that the additional drawdown would be 0.9 ft. The SDEIS reflects the NRC confirmatory analysis and, while the results do not exactly match those stated in the ER, the conclusion of SMALL IMPACT is unaffected by the difference. The SDEIS could note that the difference is caused by a difference in Dominion's approach of performing a detailed analysis, whereas the NRC staff performed a conservative, bounding analysis. |
| | | Constant evaporation rates for the proposed Unit 3, based | |

| North Anna Early Site Permit<br>Comments on NUREG-1811, Supplement 1<br>"Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site" | | | |
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| | K-10, Line 4, Appendix K, K.7 | on PPE values, were applied and the volumetric water balance was computed. | ER section 5.2.2.1.2 describes in detailed the methodology used by Dominion to assess lake levels under various operational scenarios. The SDEIS could note that bounding assumptions used by the staff lead to a conservative, bounding analysis. |
| | K-10, Line 20, Appendix K, K.8 | Existing Units plus Unit 3 scenario includes a constant loss rate of 8707 gpm from the lake, which represents the long-term average PPE evaporative loss rate from the proposed use of a wet cooling tower system for Unit 3. | ER section 5.2.2.1.2 describes in detailed the methodology used by Dominion to assess lake levels under various operational scenarios. The SDEIS could note that bounding assumptions used by the staff lead to a conservative, bounding analysis. |
| | K-10, Line 31, Appendix K, K.8 | Simulation results indicate that the percent of time the reservoir was at or below elevation 248 ft MSL and North Anna Dam was discharging 20 cfs would have increased from 6 percent with only the existing Units 1 and 2 operating to 11 percent if the proposed Unit 3 was also operating. | ER section 5.2.2.1.2 describes in detailed the methodology used by Dominion to assess lake levels under various operational scenarios. The SDEIS could note that bounding assumptions used by the staff lead to a conservative, bounding analysis. |
| 11 | 5-9, Line 30, 5.3.1 | Dominion also evaluated the impacts of raising normal operating lake level 15 to 30 cm (6 to 12 in.) above 76.2 m (250 ft) MSL on shoreline areas, if VDEQ elects to consider such actions to mitigate impacts on down-river flows. | Dominion did not propose raising the normal operating lake level above 250 ft msl. The SDEIS should clarify that this was evaluated by Dominion at the request of the Commonwealth of Virginia, but is not proposed by either at this time. |
| 12 | 5-17, Line 13, 5.4.1.4 | If the lake level were raised 15 to 30 cm (6 to 12 in.) it could impact dock owners and could affect near-shore wetlands, especially the upper reaches of the lake where | Last sentence cited should state, "In the area above the State Road 208..." |

| North Anna Early Site Permit<br>Comments on NUREG-1811, Supplement 1<br>"Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site" | | | |
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| | | the tributary streams are [sic] enter the North Anna river and in the areas uplake of the North Anna Dam. In areas of relatively steep banks, there would be little affect on wetlands. In the area below the State Road 208 bridge, the change to the wetlands would be most evident due to the gradual slope of the shoreline. | |
| 13 | 5-20, Line 33, 5.4.2.1 | Assessments of impact described in this SDEIS assume that Unit 3 withdraws water from a new intake structure and that the maximum water withdrawal associated with Unit 3 would be 1400 L/s (49.6 cfs). | Impingement and entrainment calculations for Unit 3 were based on intake flows of 27,309 gpm or 60.8 cfs; NRC staff used correct flow rates in the entrainment section 5.4.2.3 of the Draft EIS, but referenced lower flows in the impingements section. |
| 14 | 5-60, Line 20, 5.10.1, Table 5-14 | Feedwater System Pipe Break Dose at EAB: TEDE = 6.85 x $10^{-3}$ Sv | The SDEIS table shows the results of NRC's confirmatory calculations. Although it is not a quote from the ER, the exponent of the dose value is incorrect. The dose should be 6.85 x $10^{-8}$ Sv. |
| 15 | H-2, Line 23, Appendix H, H.1.3, Table H-1 | Discharge flow rate $m^3/s$ ($ft^3/s$) = 0.62 (22)<br>Dilution factor = 10 | The SDEIS table shows the parameters used by the NRC in its confirmatory calculation of liquid effluent doses using LADTAP II. In accordance with Application Rev 7 and earlier, it shows a discharge flow of 10,000 gpm (22 cfs) and a dilution factor of 10. These two parameters change in Rev 8 but, as indicated in Dominion's letter to the NRC transmitting Rev 8, the LADTAP II results are unaffected. |
| 16 | I-2, Line 19, Appendix I, Table I-1 | Gaseous Effluents Dispersion Ground Deposition (D/Q) for Vegetable Garden<br>= 6.0 x $10^{-8}$ $/m^2$. | The D/Q exponent is incorrect. It should be 6.0 x $10^{-9}$. |
| 17 | I-8, Line 10, Appendix I, Table I-2 | Source Term:<br>Atmospheric (Design Basis Accidents) – | This is not a discrepancy with respect to Application Rev 6 and associated RAI responses (as referenced in SDEIS) but the tables were revised in Rev 7. |

| North Anna Early Site Permit<br>Comments on NUREG-1811, Supplement 1<br>"Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site" | | | |
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| | | Ci as indicated in<br>RAI Table 1-1 - ESBWR Failure of Small Lines Carrying Primary Coolant Outside Containment<br>ER Table 7.1-20 - ESBWR Main Steam Line Break<br>RAI Table 1-2 - ESBWR Loss-of-Coolant (0 to 8 hr)<br>ER Table 7.1-24a - ESBWR Loss-of-Coolant (8 to 720 hr)<br>RAI Table 7.1-29 - ESBWR Fuel Handling Accident<br>RAI Table 15.4-5a - ABWR Cleanup Water Line Break | |
| 18 | I-9, Line 2, Appendix I, Table I-2 | Liquid Radwaste System:<br>Release Point Dilution Factor = 10 | This is not a discrepancy with respect to Application Rev 6 (as referenced in SDEIS) but the value changed in Rev 8. |
| 19 | K-3, Line 10, Appendix K, K.1 | The quantity of water consumed by the Unit 3 wet cooling tower system would reduce the net discharge from North Anna Dam. | NRC staff could clarify that the statement only applies when water level in Lake Anna is greater than or equal to 250ft MSL. Below this level the net discharge would be the same as pre-Unit 3 as the discharge is a controlled flow. When Lake level elevation is below 250 ft MSL, but at or above 248 ft MSL, discharge from the Lake is typically controlled to 40 cfs. Below 248 ft MSL, discharge from the Lake is controlled to 20 cfs. Depending on net inflow to the lake, the addition of Unit 3 could cause more frequent reduction of net outflow to 20 cfs from 40 cfs. |
| 20 | K-4, Line 10, Appendix K, K.2 | Dominion stated that the average evaporation rate is 8303 gpm with an associated 96 percent plant capacity factor with wet tower cooling. | In Dominion letter to NRC, Serial No. 06-273, Response to NRC Questions/ESP Application Rev. 6 (Item 10b response), Dominion noted that, in order to account for the evaporation rate contribution of 404 gpm from the Service Water System cooling tower, the average evaporation rate from all normal plant cooling wet towers |

| North Anna Early Site Permit<br>Comments on NUREG-1811, Supplement 1<br>"Draft Environmental Impact Statement for an Early Site Permit (ESP) at the North Anna ESP Site" | | | |
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| | | | is revised from 8303 gpm to 8707 gpm. The 8707 gpm (19.4 cfs) value was included in the ESP Application Rev. 6 and later submittals. |

**Enclosure 2**

Dominion's Responses to Comments on the Federal Consistency Certification for the North Anna Early Site Permit Application

Pamela F. Faggert
Vice President and Chief Environmental Officer
5000 Dominion Boulevard, Glen Allen, VA 23060
Phone: 804-273-3457

Dominion

September 8, 2006

Ms. Ellie Irons
Office of Environmental Impact Review
Department of Environmental Quality
629 East Main Street, 6th Floor
Richmond, Virginia 23219

Re: Dominion's Responses to Comments on the Federal Consistency Certification for The North Anna Early Site Permit Application

Dear Ms. Irons:

Dominion appreciates the opportunity to submit these responses to the comments received by DEQ on Dominion's application for Consistency Certification for the North Anna Early Site Permit (ESP) project. As you know, over the last three years, Dominion has submitted voluminous, detailed information in support of the application and in response to questions from DEQ and other Virginia agencies. Dominion believes this information fully supports a finding by DEQ that the ESP application, including all revisions to the application submitted by Dominion to the Nuclear Regulatory Commission (NRC), is consistent with the Virginia Coastal Zone Management Program as approved under the federal Coastal Zone Management Act. However, comments received by DEQ indicate that some members of the public remain concerned about the impacts of adding new units at North Anna. Dominion submits the following for the purpose of demonstrating that these concerns either are unfounded or can be addressed with additional clarification and should not affect DEQ's decision to issue the consistency certification.

## I. SCOPE OF CONSISTENCY REVIEW

At the outset, we wish to point out that many of the comments relate to matters that are outside the proper scope of a consistency review and determination under the Virginia Coastal Zone Management Program. Those comments involve concerns about potential impacts outside the State's designated coastal zone, requests to impose specific conditions on the project that should be addressed during licensing and permitting in the event Dominion decided to proceed with construction, local land use issues, and concerns about impacts from the operation of the existing nuclear reactors.

It is important to remember that the consistency certification is required for Dominion's application for an ESP to determine whether the North Anna site is a suitable location for up to two additional reactors. The site is located in Louisa County and is

adjacent to Spotslyvania County, which is in the coastal management area. Lake Anna[1] borders both counties. The focus of this consistency certification is on whether, based on the proposed conceptual design, the construction and operation of two reactors at this site would be consistent with the State's enforceable policies governing protection of the natural resources of its coastal zone. In other words, the consistency certification should be issued so long as there is no coastal impact associated with the proposed project at this particular site that would prevent it from being permitted at some time in the future under any condition. A good example of the kinds of issues that should be addressed in this proceeding is the conceptual design for the cooling systems for the proposed reactors. Dominion originally proposed a once through cooling system for Unit 3. When issues were raised about future permitting to address the water consumption and water quality concerns expressed about this system, we changed to a conceptual design for a new system that could address these concerns with appropriate permit conditions if and when Dominion decided to build Unit 3.

The above example stands in sharp contrast to many of the comments submitted on Dominion's application for consistency certification. For example, comments asking the State to impose a temperature limit at the end of the discharge canal to the Waste Heat Treatment Facility (WHTF) are outside the proper scope of the consistency review in a number of respects. First, the comments are directed at the operation of the existing units rather than the proposed units[2]. Second, the WHTF is not in the coastal zone and the absence of a temperature limit at the end of the discharge canal has no potential to impact the coastal zone. Finally, consideration of temperature limits on discharges from both the existing units and proposed new units is properly the subject of the VPDES permit program established for that specific purpose. Most other comments are not so far removed from the proper scope of the State's consistency review, but nevertheless, are appropriately addressed if and when Dominion seeks the federal, state and local licenses, permits and approvals required before it can begin construction.

We wish to emphasize that the foregoing is not intended to suggest in any way that Dominion seeks to avoid addressing the legitimate concerns of those who have submitted comments. To the contrary, if and when it decides to build the new units, Dominion will work with the federal, state, and local permitting agencies, interested resource agencies, local landowner associations, landowners, and the public to ensure that the units are designed, constructed, and operated to minimize any potential impacts. Unlike the present consistency proceeding, these licensing and permitting processes will occur after the project has progressed to the detailed design stage which will afford the

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[1] "Lake Anna", "Lake", and "Reservoir" are used interchangeably and refer to the approximately 9600 acre reservoir created to provide cooling water to the North Anna Power Station. "Lake level" refers to the water level in the Reservoir. "Waste Heat Treatment Facility" or "WHTF" refers to the three cooling ponds totaling about 3400 additional acres located adjacent to Lake Anna that were created to cool the water before releasing it back into Lake Anna.

[2] As discussed below, unlike the existing units, with the new proposed cooling system for Unit 3, the new units would add virtually no heat to the WHTF.

agencies and interested persons the opportunity to determine and comment on whether and to what extent specific designs and operating parameters should be established as conditions of the approvals.

## II. OVERVIEW OF PROPOSED COOLING SYSTEM FOR UNIT 3

Since most of the concerns relate to the proposed combination wet/dry cooling system for Unit 3, we thought it would be helpful to provide an overview of that system before responding to the comments.[3] You will recall that our ESP application initially called for Unit 3 to use the same once through cooling system now used by Units 1 and 2. However, in response to concerns expressed by several Virginia regulatory agencies and the public, Dominion changed the cooling system for Unit 3 last fall to the currently proposed combination wet/dry cooling system. This new closed cycle cooling system would add well over $200 million to the cost of Unit 3.

### A. How Would the System Operate?

The system would consist of dry and wet cooling sections. In the dry section, the water would be cooled as it passes through finned tubes with forced air flowing over the tubes removing the heat. In other words, it would operate in much the same way as does a car radiator. In the wet section, most of the cooling would be accomplished by evaporation as the water stream is sprayed into the air stream and flows over internal surfaces of the cooling tower. The cooling system would use the dry cooling and wet cooling sections in series in the Maximum Water Conservation mode of operation so that the warmer water first passes through the dry tower and gives up at least one-third of its heat before passing to the wet tower section. As described below, the system would be designed so that the dry cooling section could be bypassed during times of adequate water supply in the Energy Conservation mode of operation. In the Maximum Water Conservation mode of operation, evaporation would be reduced by operating the dry tower while the wet tower is modulated or bypassed, depending on ambient air temperature. The specific conditions for utilizing the different modes of operation would be established as a result of the permitting process for the construction and operation of Unit 3.

### B. Would the System Affect Lake Levels and River Flows?

As discussed below, the system is projected to have only small impacts on water levels in Lake Anna and river flows in the North Anna River downstream of the North Anna Dam. In fact, to the extent there would be impacts on lake levels and river flows, they would occur only infrequently during periods of drought. During all other times, normal lake levels and dam releases would remain largely unchanged.

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[3] To our knowledge, no concerns have been expressed about the proposed dry cooling system for Unit 4. Accordingly, the overview is limited to the proposed cooling system for Unit 3.

### C. Would the System Increase Water Temperatures?

There would be a small discharge of not more than 100 degree F water to the WHTF from blowdown associated with operation of the wet cooling section; however, as discussed below, this discharge would be so small compared to the total volume of water in the WHTF that it would not be noticeable in the first lagoon of the WHTF.

## III. RESPONSES TO COMMENTS

### A. Wet/Dry Cooling Would Consume Significantly Less Water Than Once Through Cooling

Comments during the public hearing suggest that some believe that the proposed wet/dry cooling system for Unit 3 would actually consume more water than the current once through cooling system now used for Units 1 and 2. This is incorrect. The commenters appear to be relying in part on a 1978 USGS report which stated that mechanical draft towers consume more water than once through cooling systems. First, this statement refers to once through systems that do not use cooling ponds, unlike those at North Anna. Cooling ponds increase the amount of evaporation associated with once through systems. Further, the USGS report is almost 30-years old and does not reflect technology advancements and operational enhancements since that time. Current technologies and operating practices have significantly reduced the amount of water consumed by wet/dry cooling systems.

It also appears that the commenters were drawing the wrong conclusions because they were comparing maximum water consumption figures for the wet/dry system as reported in the ESP application and long-term water consumption figures for the once through cooling system. Maximum water consumption values reflect worst case conditions using only wet cooling, while the long-term average uses historical temperature and humidity values and estimated lake levels to determine the proportion of wet and dry cooling in service and the resulting water use over an extended period of time. The commenters would have observed a substantial reduction in the water needs of Unit 3 with the new wet/dry cooling system if they had compared the projected long-term water use for the wet/dry system with the projected long-term water use of the originally proposed once through cooling system as reported in the ESP application.

Finally, some commenters used the NRC staff's analysis of the impact of the wet/dry cooling system on downstream discharges to conclude that the new cooling system would use only slightly less water than the once through system. The NRC staff used a very conservative, bounding method to confirm the evaluation performed by Dominion in order to assess whether the impact of the new cooling system on downstream flows would be "small". The NRC staff's analysis used the long-term (24 year) average evaporation rate reported by Dominion, which included a large portion of time when the Lake was at or above 250 ft. MSL when there would be sufficient water to

support the evaporative process. However, when applied to the time periods when the Lake was below 250 ft. MSL, this approach over estimates the evaporative loss caused by wet cooling and does not give enough credit for the use of dry cooling, which has no evaporative loss. Dominion's analysis was more precise because it modeled the higher consumptive use that would occur when the lake level is above 250 ft. MSL and the decreased consumptive use that would result from the Maximum Water Conservation mode when the lake level is below 250 ft. MSL. The NRC staff was able to independently conclude that the water use impact of Unit 3 was small using conservatively high values for evaporation, so a more precise method was not required. Also, the NRC staff was mindful that the specific operating conditions for the wet/dry cooling system would be established during the permitting process for Unit 3 and did not want to suggest a particular operating protocol by using a more rigorous approach to its analysis. Dominion, on the other hand, needed to use a more precise evaluation in order to provide additional information to the Virginia environmental agencies in support of the consistency review and to demonstrate that the substantial investment in dry cooling capacity was justified by a significant reduction in water use.

**B. Lake Levels**

Some commenters expressed concern that the proposed new units would adversely affect the recreational, aquatic life and other beneficial uses of the Lake by lowering water levels. This issue was thoroughly addressed in Dominion's earlier submittals.[4]

*1. The Impact of the Proposed New Units on Lake Levels Would be Small*

Dominion's and the NRC staff's evaluations carefully considered the design of the wet/dry cooling system and its ability to conserve water and minimize lake level changes during periods of limited water availability. These evaluations included the impact associated with the rare, record drought of October 2001 to December 2002. The evaluations concluded that when lake elevation was above 250 ft. MSL, no change in lake level would be observed as the surplus water available for the cooling system would have otherwise been discharged from the North Anna Dam. During times of limited water availability, the Unit 3 cooling system would operate in the Maximum Water Conservation mode by employing a combination of wet/dry cooling towers or dry cooling towers alone. For the vast majority of time in non-drought years, whether operating under the current two-unit scenario or with the addition of Unit 3, the observed change in lake levels would be less than 2 feet, as is now the case. For example, under the current baseline two-unit scenario, lake level elevation would remain at or above 248 ft. MSL for more than 95% of the time. Under the proposed operating scenario to include the addition of Unit 3, lake level elevation would remain at or above 248 ft. MSL for approximately

[4] January 13, 2006 - Supplement to Address a Modified Approach to Unit 3 Cooling; March 31, 2006 - Response to Questions in DEQ's January 31, 2006 Letter to Dominion; April 13, 2006 - Response to NRC Questions and Revision 6.

93% of the time. Also, under the current two-unit operation, lake level elevation is at or below 246 ft. MSL for approximately 1.1% of the time. With the addition of Unit 3, lake level elevation would be at or below 246 ft. MSL for approximately 1.4% of the time, an increase of only about 0.3%.[5]

2. *The New Units Would Not Have Any Adverse Impact on Aquatic Life Due to Small Changes in Lake Levels*

It is undisputed that the WHTF and the Lake support an abundant and diverse population of aquatic life. Aquatic life has thrived in the WHTF and the Lake since Units 1 and 2 began operating, and there is absolutely no evidence that small changes in lake levels associated with the operation of Unit 3 would have any adverse impact on aquatic life.

### C. North Anna River Flows

Some commenters also were concerned that the proposed new units would reduce downstream releases from the North Anna Dam and that these reduced releases would adversely affect aquatic life in the North Anna River below the Dam. We have also addressed these issues in detail in our earlier submittals.[6]

1. *The Impact of the Proposed New Units on Downstream Releases From the North Anna Dam Would be Small*

The Unit 4 cooling system would utilize dry cooling towers operating on only one gallon per minute (gpm) or less of water, and, therefore, would have negligible water-related impacts on downstream flows to the North Anna River. As further explained in our earlier submittals, consumptive use by the Unit 3 wet/dry cooling system, partially offset by blowdown returned to the WHTF, would result in a slight increase in the duration of the 40 cfs (when the lake level is between 248 ft. and 250 ft. MSL) and 20 cfs (when the lake level is below 248 ft. MSL) releases to the North Anna River. Consistent with the lake level analysis discussed above, reduced flow scenarios are drought dependent and would occur infrequently. Dominion's analysis concluded that the fraction of time the Dam would discharge 20 cfs would increase from approximately 5.2% (Units 1 and 2 only) to 7.2% with the addition of Unit 3.[7] In almost all cases, these

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[5] These evaluations were performed with the units at 96% of operating capacity, which reflects the long-term average water usage modeled in the evaluations. Although the units operate at 100% of capacity for periods of up to 18 months, offline conditions are reflected in the analysis to account for periods when no water is used. Dominion uses 100% capacity when calculating maximum water use values.

[6] January 13, 2006 - Supplement to Address a Modified Approach to Unit 3 Cooling; March 31, 2006 - Response to Questions in DEQ's January 31, 2006 Letter to Dominion; April 13, 2006 - Response to NRC Questions and Revision 6.

[7] It should be noted that the NRC staff determined in its Supplemental Draft EIS that the fraction of time that the dam would discharge 20 cfs would increase from 6% with Units 1 and 2 to 11% with the addition of Unit 3. As discussed above, NRC staff's analysis used a conservatively less rigorous approach

outflow conditions commenced in October, lasted for approximately two weeks to several months, and then returned to higher outflow levels by the end of January. NRC staff concluded that the impact of proposed Unit 3 operations on downstream users would be small for most years and temporarily moderate during drought years. In the interest of protecting lake and downstream uses alike during these drought conditions, Dominion will continue to adhere to the Lake Level Contingency Plan which requires close monitoring of lake levels and downstream dissolved oxygen, benthic macro-invertebrates, fishes and their habitat.

*2. The New Units Would Not Have Any Adverse Impact on Aquatic Life in the North Anna River Due to Their Small Impact on River Flows*

As discussed above, Unit 3 would affect river flows only during periods of drought and these impacts would be so small that they are not projected to have any adverse impact on aquatic life in the river.

Long-term fish community studies on the North Anna River below the Lake have been conducted by Dominion biologists. These studies were initiated in the late 1970s and continue to the present. Because of the extended time period of the studies, they have incorporated a wide variety of flow and temperature conditions. The sample collection methods for these studies have remained basically the same over the years but the number of stations sampled and the sampling events per year have changed to some extent.

The most consistent sampling period in terms of methods, location and frequency began in 1986 following completion of the successful 316(a) demonstration and a subsequent letter of agreement between State Water Control Board and Dominion to continue selected studies including electrofishing at four river stations in May, July, and September of each year. These data are summarized and reported in annual reports submitted to DEQ with copies to the Virginia Department of Game and Inland Fisheries (DGIF). The studies have shown for the period 1986-2005 a range of average numbers of fishes collected per sample from a low of 51 to a high of 145, and a range in species of 18 to 32. These results indicate both stability and diversity of the North Anna River fisheries community over the years inclusive of annual differences in flow and temperature. In addition, low flow studies (i.e. 20 cfs) conducted during the 2001/2002 drought in accordance with the required Lake Level Contingency Plan suggest no obvious impacts to aquatic biota in the river that could be attributed to reduced flow.

Direct visual observation studies were initiated in 1987 by Dominion biologists to address concerns over largemouth bass and smallmouth bass distribution and habitat preferences in the river. Annual summaries of these findings are likewise included in the annual reports to DEQ and DGIF. The findings basically state that largemouth are more

than the analysis performed by Dominion, and, therefore, is believed to be an over estimate of the impact of Unit 3 on downstream discharges.

prevalent in the upper, less-gradient portions of the River below the Dam while the smallmouth are more prevalent in the lower, higher-gradient portions of the River.

The impoundment of the North Anna River by the creation of Lake Anna has mitigated acid mine drainage issues from old mining sites and resulted in a healthy river system downstream of the dam supporting a diverse, balanced and sustaining fishery and improved recreational opportunities.

**D. Virginia Department of Game and Inland Fisheries' Recommendations**

DGIF has made specific recommendations with regard to (1) the operating rules for the wet/dry cooling system and raising the lake level to minimize hydrologic alterations from the operation of Unit 3, and (2) design and operation of the water intake system to reduce impingement and entrainment. Dominion will work closely with DGIF and other federal and state agencies with an interest in these issues to ensure that potential impacts to aquatic life are minimized. However, given the conceptual nature of the design information currently available, we believe these design and operating issues should be addressed by DEQ in the permitting phase of the project rather than in the ESP phase. By then, project design will have progressed to the point where the information needed to arrive at a technically sound resolution of these issues will be available.

We think that using the consistency certification to establish specific design and operating conditions could set the stage for conflicts if and when Dominion applies for other necessary permits to build Unit 3. The additional information available at that time could provide the basis for permit conditions requiring design and operating parameters different from those conditions that might be established now. The consequences of conflicting conditions in the certification and future permits could be significant. Further, the public's opportunity to comment on future permit conditions could be compromised. The public would not have had an opportunity to comment on any conditions established in the certification and could be precluded from having a meaningful opportunity to comment on future permit conditions to the extent these conditions were dictated by the certification. Accordingly, we propose that resolution of the design and operating issues raised by DGIF be deferred and addressed if and when Dominion applies for the water-related permits required to support construction and operation of any new units.

**E. Water Quality**

*1. Any Increase in Water Temperature From the New Units Would be of Small Significance*

As explained in our earlier submittals[8], there is simply no basis for concerns expressed by some commenters that the new units would increase water temperatures in the WHTF or the Lake. As noted above, Unit 4 would use a dry tower cooling system that would not discharge any heat to Lake Anna and Unit 3's wet/dry cooling system would not produce any measurable temperature increase or flow to the WHTF and the Lake. There would be some blowdown of no greater than 12.4 cfs at temperatures not exceeding 100 degrees F from the wet/dry system, which would mix in the discharge canal with 4246 cfs of circulating water from Units 1 and 2. This would result in a very small temperature increase in the discharge canal that would be imperceptible within a short distance of travel in the WHTF. Therefore, contribution from blowdown would have no noticeable impact on water temperatures in the WHTF and no impact on water temperatures in Lake Anna.

Dominion has also performed an analysis for the purpose of determining whether the small reductions in lake levels attributable to Unit 3 would increase water temperature. This analysis showed that during periods of prolonged drought when the lake level would be below 248 ft. MSL, the additional evaporative loss from operation of Unit 3 would result in a negligible warming of the Lake due to a small reduction in lake volume. On average, the temperature increase would be less than 0.1 degree F for about three weeks over a 24-year period. The NRC has determined that this effect on temperature would be of small significance.

Given NRC's finding of small impact on water temperature in the Lake from the operation of Unit 3, it follows that operation of Unit 3 would also have a small impact (or less) on water temperature in the North Anna River below the Dam.[9]

2. *A Limit on Water Temperature is Not Necessary, and, in Any Event, is Not Within the Scope of this Proceeding*

Aside from the fact that they are not within the proper scope of this proceeding, comments demanding that a 104 degree F temperature limit be imposed at the end of the discharge canal are misplaced for several reasons.

First, there is no scientific basis for such a limit. The source of the 104 degree figure appears to be a 1979 bulletin published by the U.S. Consumer Product Safety Commission warning against the dangers associated with the consumption of alcoholic beverages and soaking in hot tubs and swimming pools with water temperatures at or above 104 degrees F. While there is fishing and boating at and near the end of the

[8] January 13, 2006 - Supplement to Address a Modified Approach to Unit 3 Cooling; March 31, 2006 - Response to Questions in DEQ's January 31, 2006 Letter to Dominion; April 13, 2006 - Response to NRC Questions and Revision 6.

[9] Several comments raised questions about possible discharges of chemicals in the blowdown from the operation of Unit 3. Small amounts of chemicals would be used to maintain the towers; however, they would be in very low and permissible concentrations and would be mixed to a point of "below detectable levels" in the WHTF.

discharge canal, to our knowledge, this area is not used for the kinds of activities that led to the warning in the Consumer Product Safety Commission's bulletin. Of course, people do swim in the WHTF; however, there is no evidence that they would experience the kinds of exposures warned against in the bulletin.

Second, the proposed temperature limit would not serve the public interest even if it did have a valid scientific basis. The highest water temperatures at the end of the discharge canal occur in the summer months during periods of hot weather. In the event of water temperatures at or approaching 104 degrees F, Dominion would not be able to comply with the limit unless it reduced energy production at a time of greatest demand.

Suggestions by some commenters that it would be feasible for Dominion to add treatment technology to comply with a temperature limit are pure speculation.[10] It is important to remember that on average almost two million gallons of water pass through the discharge canal every minute. Technology designed to meet a specified numeric temperature limit at the end of the canal would have to treat most, if not all of this water. At the very least, the cost would be in the tens, if not hundreds of millions of dollars to meet a temperature limit with no scientific basis, that might be exceeded only a few days each year, and that is designed to protect against exposures that are unlikely to occur at all.[11]

3. *Charges That Dominion is in Violation of its Temperature Limit are Not True, And, in Any Event, are Not Within the Scope of this Proceeding*

During the August 16 public hearing, one commenter asserted that Dominion is in violation of the temperature limit established in the variance granted a number of years ago pursuant to Section 316(a) of the Clean Water Act. This charge is not true and appears to be based on the mistaken belief that the variance only covers the area at Dike 3 where the water flows from the WHTF into the Lake. In reality, the variance, which is based on extensive studies, covers the entire Lake and extends downriver of the Dam. Monitoring data in the DEQ's files show that Dominion is in full compliance with the terms of the variance and that the Lake and River have and continue to provide for the protection and propagation of a balanced, indigenous population of fish and wildlife.

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[10] As discussed above, the only heat that would be discharged to the canal by Unit 3 would be a small amount of blowdown at a temperature that would not exceed 100 degrees F. Consequently, any controls that Dominion might employ to meet a 104 degree F temperature limit would be solely for the existing units, which are not even the subject of this proceeding.

[11] The demand for a temperature limit does not appear to be directly related to concerns that have been expressed about the presence of the amoeba Naegleria fowleri (N fowleri). N fowleri is a thermophilic micro-organism that is ubiquitous in the environment and is known to cause primary amebic meningoencephalitis (PAM). It is worth mentioning that no case of PAM associated with swimming in Lake Anna or the WHTF has ever been reported. The risk of contracting PAM from swimming in Lake Anna or the WHTF is less than the risk of drowning.

Finally, it should be remembered that this proceeding is about the consistency certification for the proposed new units. Therefore, comments related to operation of the existing units are outside the scope of this proceeding and should not be considered in the consistency determination.

### F. Dry Cooling is Not Feasible for Unit 3 With Existing Technologies

Several comments questioned why an all dry cooling system was proposed for Unit 4, but not for Unit 3. As presented above and demonstrated in Dominion's environmental report and the NRC's analysis, the proposed wet/dry combination cooling system has essentially no thermal impacts on the WHTF or Lake Anna and a small impact on downstream flows.

Aside from the minimal environmental impacts of wet/dry cooling for Unit 3, the reason is that an all dry system would not be practical with today's technologies. Unit 4 would not be built unless and until advancements in reactor and cooling system technologies make an all dry cooling system economically feasible. An all dry system for Unit 3 would result in a substantial reduction in plant capacity and reliability especially during hot summer days because the cooling system must provide water to the plant that is cool enough to operate the plant's processes. With current reactor and cooling system technology, high ambient air temperatures would reduce dry tower efficiencies to the point where the towers would not be able to produce the water temperatures needed to operate the plant.

With current reactor and cooling system technologies, an all dry cooling system for Unit 3 would cost well over two and one half times that of the proposed wet/dry system and would not support reliable plant operation during periods of hot weather when energy demand is high. An all dry cooling system with existing technology would require over 500 large fans using about 80 MW of energy compared to the 24 MW projected for the proposed wet/dry cooling system. This is energy that would otherwise have been available to meet customer demand for electricity and would need to be provided using other more costly energy sources.

### G. Cooling Tower Plume and Noise-Related Issues

*There Would be Little or No Off-site Visible Emission Plumes, Fogging, Roadway Ice, or Noise Associated with the Proposed Cooling Towers*

Some commenters expressed concerns about possible visible emission plumes, fogging, roadway ice, and noise from the proposed cooling towers. The towers would be designed and operated to minimize, and possibly eliminate, the potential for impacts of this kind. The cooling towers under consideration are of two configurations: low profile water saving towers and higher profile hybrid towers. The low profile towers were used

to evaluate the effects of visible plumes, fogging, roadway ice, and noise, so as to conservatively bound any expected impacts. Use of the low profile towers would involve multiple towers covering about 40 acres of land, and be lower in height than other Unit 3 buildings, while the single hybrid tower would cover about five acres and be about the height of the other buildings associated with Unit 3. The results from our modeling are consistent with NRC findings, that impacts from fogging, icing and noise would be small and further mitigation would not be warranted. A major benefit of the hybrid tower is its design, which would virtually eliminate any plume emission from the tower. The hybrid tower incorporates wet and dry cooling sections with the dry section above the wet section. The warm dry air from the dry coolers would be mixed with the moist wet air from the wet section before leaving the tower, resulting in very little, if any, plume.

There would be some plume emission from the lower profile towers. Mathematical air quality modeling of the unabated plume from the lower profile towers indicates that the plume would, at times, extend above the cooling towers and be visible offsite. The modeling also indicates that cooling tower-related fogging would occur during all seasons, except summer, for a maximum yearly total of 70 hours; however, the majority of the fogging would occur about 300 meters from the towers within the site boundary. Some of the fogging may occur about 1600 meters from the towers, predominantly during the winter in the direction of the site's discharge canal for a yearly total of about 17 hours. If the lower profile towers are utilized, water saving features would be incorporated that would tend to reduce, but not eliminate, the plume and associated fogging noted above.

No icing is predicted to occur in conjunction with the operation of either cooling tower configuration. In addition, noise emissions from either tower configuration would be less than 65 dB[A] at the site boundary, which would meet regulatory and public health guidance.

The specific tower design would be selected if and when Dominion undertakes detailed design of Unit 3 at which time Dominion will work with interested agencies and individuals to address concerns about plumes, fogging, ice and noise in the selection and design of the towers and in the development of operating protocols for the towers.

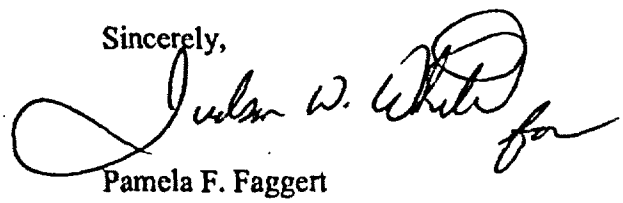
### H. Concerns Related to Highways, Schools, and Local Infrastructure Needed to Accommodate Construction and Operation of the New Units

We ask DEQ to consider four points when evaluating those comments that express concerns about the added local infrastructure that would be needed to accommodate construction and operation of the new units. First, the numbers of construction workers that would be on the site at any given time would not be as high as apparently assumed by the commenters. Multiple shifts and single unit construction over a period of several years would limit peak construction traffic. Second, if these new units are constructed, they would contribute substantially to the state and local revenues

needed to fund any additional infrastructure needs. Third, the issues raised by these comments are largely land use related issues that are more appropriately addressed by Louisa County rather than DEQ and the State's coastal resource agencies. Fourth, any impacts on local infrastructure would occur largely in Louisa County, which is not within Virginia's coastal zone.

In closing, we ask that DEQ complete its review and issue the consistency certification at the earliest possible date so that we may conclude the ESP application process as soon as possible. Again, thank you for the opportunity to submit these responses to comments, and please do not hesitate to call Jud White (804-273-2948) if you have any questions or need additional information.

Sincerely,



Pamela F. Faggert

Cc: Mike Murphy – DEQ