

**From:** "Harry Ruth" <HC.RUTH@LOUISA.NET>  
**To:** "Ellie Irons (VDEQ)" <elirons@deq.virginia.gov>, "Jack Cushing" <JXC9@nrc.gov>, "North\_Anna\_Comments@nrc.gov" <North\_Anna\_Comments@nrc.gov>, "Andrew Kugler" <AJK1@nrc.gov>, "Chris Nolan" <MCN@nrc.gov>, "Nitin Patel" <NXP1@nrc.gov>  
**Date:** 7/24/2006 4:28:30 PM  
**Subject:** Lake Anna partial list (3) of North Anna ESP concerns  
**cc:** "Senator R. Edward Houck" <ehouck@adelphia.net>, "Senator Charles Colgan" <cjcolgan@aol.com>, "Tony Banks (Dominion)" <TONY\_BANKS@DOM.COM>, "Delegate Bill Janis (56th Dist)" <Del\_Janis@house.state.va.us>, "Sr (54th Dist). Delegate Robert Orrock" <delborrock@house.state.va.us>, "Delegate Clifford Athey (18th Dist)" <DelCAthey@house.state.va.us>, "Delegate Chris Peace (97th Dist)" <delcpeace@house.state.va.us>, "Delegate Edward Scott (30th Dist)" <delescott@house.state.va.us>, "Representative Eric Cantor (7th District)" <lloyd.lenhart@mail.house.gov>, "Senator Ryan McDougle" <district04@sov.state.va.us>, "Senator Russell Potts (27th Dist)" <district27@sov.state.va.us>, "Senator Charles Colgan-2" <district29@sov.state.va.us>

Dear Ms. Irons and Mr. Cushing,

Attached please two (2) documents for both the NRC and VDEQ review re the North Anna Early Site Permit (ESP) public comments.

Document 1 is a letter to the VDEQ and NRC that identifies a partial list (#3) re concerns with the water temperature, noise, heat dissipation, etc. (Msword document) as a result of Dominion's application for the ESP for a 3rd and 4th nuclear reactor at the North Anna site.

Document 2 is an example picture of an inexpensive heat dissipation system (in adobe format) that could easily be employed during peak water temperature conditions.

We will forward additional concerns with the ESP after we have had sufficient time to the review the large volume of material.

Please do not hesitate to call if you have any questions. We will look forward to your responses to the questions we posed in the attached memo.

Sincerely,

Harry Ruth  
For the Friends of Lake Anna  
C/O 230 Heather Drive, Bumpass, Va. 23024  
Phone 540-872-3632

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| Heat Dissipation System (Inexpensive) - 24Jul06.pdf   |             | 72502                  |
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| VDEQ & NRC letter - Partial Concerns- (3) re Water Temperature, Noise, Heat Dissipation - 24 Jul 06.doc | 57856       | 7/25/2006 6:44:28 PM   |
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Dear Ms. Irons and Mr. Cushing,

Attached please two (2) documents for both the NRC and VDEQ review re the North Anna Early Site Permit (ESP) public comments.

Document 1 is a letter to the VDEQ and NRC that identifies a partial list (#3) re concerns with the water temperature, noise, heat dissipation, etc. (Msword document) as a result of Dominion's application for the ESP for a 3rd and 4th nuclear reactor at the North Anna site.

Document 2 is an example picture of an inexpensive heat dissipation system (in adobe format) that could easily be employed during peak water temperature conditions.

We will forward additional concerns with the ESP after we have had sufficient time to the review the large volume of material.

Please do not hesitate to call if you have any questions. We will look forward to your responses to the questions we posed in the attached memo.

Sincerely,

Harry Ruth  
For the Friends of Lake Anna  
C/O 230 Heather Drive, Bumpass, Va. 23024  
Phone 540-872-3632



24 July 2006

Ms. Ellie Irons, Environmental Impact Review Program Manager  
Virginia Department of Environmental Quality (VDEQ)  
629 East Main Street, Richmond, Va. 23219  
Via email to [elirons@deq.virginia.gov](mailto:elirons@deq.virginia.gov)

Mr. Jack Cushing, Environmental Project Manager for North Anna ESP Site Application,  
U.S. Nuclear Regulatory Commission (NRC), Washington D.C. 20555  
Via email to [JXC9@NRC.GOV](mailto:JXC9@NRC.GOV) & [North\\_Anna\\_Comments@NRC.GOV](mailto:North_Anna_Comments@NRC.GOV)

- Reference:**
- (1) Friends of Lake Anna letter dated 14 June 2006: Subject Lake Anna Cooling Lagoon concerns with the North Anna ESP. *(Note this was resent on 24 Jul 06).*
  - (2) Friends of Lake Anna letter dated 15 June 2006: Subject Concerns with the data contained in the Dominion Letter dated April 13, 2006 in response to NRC Questions and also the North Anna ESP Application part 3 – Environmental Report Revision 6 dated April 2006 *(Note this was resent on 24 Jul 06)*
  - (3) Friends of Lake Anna letter dated 15 June 2006 – Subject: Partial concerns #2 with the data contained in Dominion’s Application for the North Anna ESP 6 dated April 2006 and the related NRC Safety Report dated Sep 2005. *(Note this was resent on 24 Jul 06)*
  - (4) Friends of Lake Anna letter dated 24 Jul 06, Subject Request for extension of NRC Public Comment time.

**Subject: Partial Concerns #3 with the data contained in Dominion’s Application for the North Anna ESP 6 dated April 2006.**

Dear Ms. Irons and Mr. Cushing,

On behalf of the 2,650 persons represented by the Friends of Lake Anna, it is requested that the following concerns with the data contained in the Dominion North Anna ESP Applications Revision 6 and the NRC Safety Report dated Sep 2005 be addressed in the U.S. Coastal Zone Management Act Federal Consistency Review and also by the Nuclear Regulatory Commission. Also please forward the concerns to the appropriate Commonwealth of Virginia department for comment if they do not come under the purview of the U.S. Coastal Zone Management Act.

These are only a partial list of concerns/comments identified thus far as a result of a brief and cursory look at the large volume of materials available to us for review. In addition, we have researched other related public documents that may have an impact on this ESP review. We thought it prudent to bring these concerns/comments to your attention soonest so both the NRC and VDEQ has adequate time to review them. Please see below for a description of each concern.

Our group, “The Friends of Lake Anna” is a citizen group whose mission is to protect Lake Anna (both main reservoir and cooling lagoons) and its surrounding landscape, together with any related concerns, within Louisa, Spotsylvania, and Orange Counties for the health, safety and welfare of current residents/users and for future generations. We are not anti-nuclear, nor do we have “not in my backyard” sentiments, but do support a wise and safe use of nuclear energy. Our goal is simply to protect Lake Anna for the 500,000 annual users and insure compliance with the law.

### **Additional Concerns**

**1. Par 5.3.2.1 page 3-5-55** When discussion is made relative to “extreme summer months” by Dominion, the blowdown should be based on 100% reactor operations and not 96% as implied. We do not agree with Dominion’s statement “blowdown discharges etc of Unit 3 would have very small, if not imperceptible, physical, chemical, biological or ecological impacts to Lake Anna”.

*We believe the small impounded (not free flowing river) reservoir of Lake Anna will be affected by the additional water consumption due to “blowdown” **which will add to the thermal heating of the water.** Dominion plans to add chemicals to the water, which would affect the biological and ecological character of the water. **Recreational use of the lake will also be affected which is in violation of the U.S. Clean Water Act. Please see our 14 June 06 letter (resent 24 Jul 06) re limiting the water temperatures at the end of the discharge canal to no more than 104 degrees F.** A very inexpensive method to accomplish this is via sprayers in the discharge canal that would be activated during high water temperature times only (see adobe attachment to this email for picture and also refer to comment 7 below).*

**2. Par 5.3.2.2.2 page 3-5-60** Under a. **Physical effects**, we do not agree that as stated by Dominion the “1,905,565 gpm (units 1, 2 and 3) would have no impact at the Dike 3 discharge, the current VPDES point of compliance.” “Impacts to aquatic organisms would be negligible. Mitigation would not be warranted”.

*The recent Supreme Court decision (No 04-1527 S.D. Warren Company, Petitioner, v. Maine Board of Environmental Protection et al) makes “Mitigation warranted”. It includes protections for not only limitations on aquatic but also recreational uses of the water also. The current VPDES point of compliance should be moved from the Dike # 3 to the end of the discharge canal. Dominion and VDEQ will need to revisit both the current and any future VPDES discharge permit. Please see our 14 June 06 letter for additional data.*

**3. Par 5.3.4 page 3-5-69 Impacts to Members of the Public**, Dominion added a sentence in the Revision 6 ESP application in this paragraph just to solidify their point in dealing with the public. Dominion states “Virginia Power considers the WHTF (Cooling Lagoons) to be an integral part of the power station, and as such it has never been operated as an extension of the North Anna Reservoir for the purposes of public recreational use.”

*This is directly opposite to the Virginia Power public document from 1970 where they promoted the shoreline construction and recreational use of the entire lake both warm and cold sides. (Please refer to our 14 June 06 letter and attachments, which were resent on 24 Jul 06). With the fact that Dominion/Virginia Power allows homeowners of the shoreline to have access to both sides of the lake and also the fact that public waters from a minimum of 8 public streams flow into the cooling lagoons, buoys are installed, fishing laws are enforced, etc.; it is imperative that the cooling lagoons should be considered “quasi-public waters”. These facts, coupled with the actual data that only about 50% of the cooling actually occurs in the cooling lagoons, while about 25% cooling occurs in the Discharge Canal and the other 25% occurs in the North Anna River after the waters re-enter at Dike 3. Privatization of public waters in the cooling lagoons violates the recent U.S. Supreme Court decision referenced above. How can the NRC, Environmental Protection Agency, National Oceanic Administration and Dominion not consider the cooling lagoons as quasi public waters? What is the North Anna River which provides about 25% of the water cooling for the power plant and the water eventually feeds into the Atlantic Ocean? We do not understand the difference, please explain.*

**4. Par 5.3.4 page 3-5-69 a - With the addition of the new units 3 and 4, Cooling Lagoon residences are stated by Dominion as being “one of the areas possibly affected by the noise from the new cooling systems”.** As stated in par 5.8.1.5 page 3-5-183 “the current turbine building is 100 feet tall and the containment buildings are 130 feet tall. Dominion states the new turbine building for units 3 and 4 would be 230 feet tall with the associated cooling towers at 180 feet tall. On Jan 6, 2006, Dominion V.P Eugene Grecheck briefed the public, the press, and VDEQ reps at a stakeholders meeting at the power plant, that the new towers would not exceed 75 feet tall for wet/dry towers and 50 feet tall for dry units only. Now in this revised application Dominion states no decision on the height of the containment buildings but under the current units they are the tallest buildings. Dominion does not state the noise contributions of the turbine building. What is the noise that can be expected from the turbine building?

*(a) Why is the building 100 feet taller than the current one? The buildings should not be higher than the current tree lines surrounding the property. The new designs should employ visual and noise abatement solutions incorporated in designs with lower heights.*

*(b) Dominion states “Public use of the lake is transient and is less sensitive to noise impacts.” We do not agree with this statement, since we have approximately 10,000 residential lots surrounding the lake in 3 different counties. Over the water there is no noise abatement and noise levels travel unimpeded. Lake residences, campground users, state park users, wildlife and the over 500,000 recreational users of the lake should be protected against excessive noise. Please refer to Concern 5 in our 15 June 2006(resent on 24 July 06) memo for additional comments on noise.*

*Also please note that Louisa County has noise ordinances (Chapter 51 of the County Code) that prohibits disturbing noise, where it should be unlawful to create any unreasonable loud, disturbing and unnecessary noise in the county, and noise of such character, intensity and duration as to be detrimental to the life or health of any person or to unreasonably disturb or annoy the quiet, comfort or repose of any person is hereby prohibited.*

**5. Par 5.3.4.1 page 3-5-71 a)With discussion to PAM (Primary Amoebic Meningoencephalitis),** Dominion states the “highest temperatures recorded are summarized in Table 5.3-9.

*(a) Once again the table is misleading due to the fact that no data is used after year 2002. In fact Dominion’s data shows that on August 15, 2005, a temperature of 103.6 deg F. was recorded at the Discharge canal. The current data should be included.*

*(b) Dominion suggests postal mail, signage, or Internet for Virginia agencies to inform the public. Since Dominion's power plants are the cause of the increased temperature that can cause the PAM problem, they solely hold responsibility and liability and not Virginia agencies. If Dominion causes the proliferation of PAM in the cooling lagoons and main reservoir, then they should be held responsible for the proactive corrective actions to resolve any future problems with PAM.*

**6. Table 5.3-11 page 3-5-78 We feel this table is misleading due to the fact that all available data for temperature was not used.** If data is used from 6/1/2005 to 8/31/2005, the following results are seen:

*Table 5.3-11 Table Reconstructed using all current data through August 2005*

**Surface Temperatures at Monitoring Stations in WHTF and North Anna Reservoir.**

| MAXIMUM DAILY TEMPERATURES                 |                         |               |                         |               |                         |
|--|-------------------------|---------------|-------------------------|---------------|-------------------------|
| Discharge                                  |                         | Dike 3        |                         | Intake        |                         |
| <i>Actual</i>                              | <i>Dominion's value</i> | <i>Actual</i> | <i>Dominion's value</i> | <i>Actual</i> | <i>Dominion's value</i> |
| <b>103.6</b>                               | 102.4                   | <b>96.5</b>   | 95.0                    | <b>92.2</b>   | 90.1                    |
| AVERAGE DAILY TEMPERATURES (July – August) |                         |               |                         |               |                         |
| <b>100.5</b>                               | 95.0                    | <b>92.7</b>   | 88.9                    | <b>87.1</b>   | 83.8                    |

*These actual temperatures are up to 5 degrees F hotter than reported by Dominion in the table. Why wasn't current data included? Is it possible that the heating of the North Anna River reservoir waters by Dominion has exceeded the standards for the U.S. Clean Water Act at the intake which is about 6.7 miles from Dike 3 and they have not been in compliance with their NPDES or VPDES permit?*

**7. Par 9.4.1 page 3-9-13 Heat Dissipation Systems.** The screening of Unit 3 Alternative Heat Dissipation Systems by Dominion for Spray Ponds (Alternative 5) is flawed.

*It appears that a fair analysis was not performed and the analysis presented was in support of the decision, which already was made. Spray ponds could be used as a supplemental peak load solution (not a stand-alone system for all the heat dissipation) to the heat problem in the hot summer months. These sprayers could be located in the discharge canal and would not affect the open area of the cooling lagoons or in the Ultimate Heat Sink (UHS) location or new ponds on site.*

*A photo is attached (in adobe format) which shows the use of such sprayers around Lake Anna already in place. Spray pond construction would not involve substantial earthwork as outlined by Dominion. The sprayers would not require large volumes of water as they use the current water systems in place and do not require off site sources of water. No additional land would be required and no additional state and local permits would be required as outlined by Dominion.*

*Dominion's conclusion that thermal impacts would be small is used to support their decision only and does not take into consideration the public's use of the lake. No data is presented which supports their conclusion. Sprayers were never intended to be the only source of heat dissipation for unit 3. They could be used to support peak periods of high water temperature dissipation without the need to reduce plant output. The same reasons apply to the sprayer on unit 4 in Alternative 11.*



**FRIENDS OF LAKE ANNA, VIRGINIA**

*Dominion appears to forget that they promoted the recreational use and residential development around the entire lake (both main reservoir and cooling lagoons) in the 1960's/1970's when they proposed this nuclear power project. Now that their promotion (Lake Anna) has come to being 35 years later, they do not appear willing to protect the public with minimal peak load heat dissipation systems. Please see our 14 June 06 (resent on 24 July 06) memo for further details re limiting the water temperatures to no greater than 104 degrees F at the end of the discharge canal.*

**8. Summary.** Thank you in advance for your kind consideration of our concerns/comments. We will continue to review the voluminous documents (Draft Environmental Impact Statement – supplement 1 to NUREG-1811) and the revised new or supplemental Safety Report once we receive it and provide comments/concerns as we find them. Additional concerns with the water temperature, water quality, consideration of spent nuclear fuel, etc. are still under review. Each of these items and others will be addressed in separate correspondence after we have had sufficient time to review each. If you have any questions, please do not hesitate to call. I'll look forward to your response.

Sincerely,

Harry Ruth  
For the Friends of Lake Anna  
C/O 230 Heather Drive, Bumpass, Va. 23024  
Phone 540-872-3632

CC: U.S. Representative Eric Cantor (7<sup>th</sup> District) (via email – [Lloyd.Lenhart@mail.house.gov](mailto:Lloyd.Lenhart@mail.house.gov))  
Senator R. Edward Houck, 17<sup>th</sup> District of Virginia (via email – [ehouck@adelphia.net](mailto:ehouck@adelphia.net))  
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Tony Banks – Dominion ESP Project Manager (via email – [tony\\_banks@dom.com](mailto:tony_banks@dom.com))