

**From:** "Harry Ruth" <HC.RUTH@LOUISA.NET>  
**To:** "North Anna ESP Comments" <North\_Anna\_Comments@NRC.GOV>, "Jack Cushing (NRC)" <JXC9@NRC.GOV>, "Andrew Kugler (NRC)" <AJK1@NRC.GOV>, "Nitini Patel (NRC)" <NXP1@NRC.GOV>  
**Date:** Mon, Jul 24, 2006 10:45 AM  
**Subject:** Lake Anna Cooling Lagoon concerns with the North Anna ESP

Dear Ms. Irons (VDEQ) and Mr. Cushing (NRC),

I am resending the attached VDEQ & NRC letter - Cooling Lagoon Concerns with the North Anna ESP Rev 6 dated 14 June 06, so it is entered into the official Nuclear Regulatory Commission data base within the NRC public comment period for the North Anna ESP. Both Ms. Irons VDEQ and Mr. Cushing from the NRC have both of the other ADOBE attachments previously sent which were the (1) The North Anna Power Station proposed and (2) Lake Anna Map w-cooling lagoon streams. See below for initial 14 June 06 email.

14 June 06

Attached please find three documents (1) Lake Anna Cooling Lagoon concerns with the North Anna ESP (Msword), (2) The North Anna Power Station proposed (Adobe), and (3) A Lake Anna Map w-cooling lagoon streams (Adobe). that we are submitting to identify our initial concerns and supporting documentation with the North Anna Early Site Permit (ESP) (Revision 6). We will forward additional concerns with the ESP after we have had sufficient time to review the material.

Please do not hesitate to call if you have any questions.

Sincerely,

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

**CC:** "Ellie Irons (VDEQ)" <elirons@deq.virginia.gov>

**Mail Envelope Properties** (44C4DD13.9B0 : 2 : 63920)

**Subject:** Lake Anna Cooling Lagoon concerns with the North Anna ESP  
**Creation Date** Mon, Jul 24, 2006 10:44 AM  
**From:** "Harry Ruth" <HC.RUTH@LOUISA.NET>  
**Created By:** HC.RUTH@LOUISA.NET

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elirons CC (Ellie Irons (VDEQ))

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**FRIENDS OF LAKE ANNA, VIRGINIA**

( Resubmitted to NRC during NRC.Public Comment period – 24 July 2006)

14 June 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)

**Reference:** (1) Friends of Lake Anna letter dated 12 Jun 06, Subject Request for extension of Public Comment period re the Federal Consistency Certification of the Dominion Nuclear North Anna Application for the Early Site Permit (ESP) Review and other related items

(2) Lake Anna Observer newspaper – June 1, 2006 Public Notice for the Environmental Project Comment Period re the Federal Consistency Certification of the North Anna ESP re the Federal Coastal Zone Management Act.

**Subject:** Lake Anna Cooling Lagoon concerns with the North Anna ESP

Dear Ms. Irons and Mr. Cushing,

On behalf of the 2,650 persons represented by the Friends of Lake Anna, it is requested that following three items be addressed in the U.S. Coastal Zone Management Act Federal Consistency Review and also it is requested that the re-designation of terms, limitations of water temperatures and changes in the point of compliance should be reflected in all NRC documents that are created. See below for details of each item together with the two attached references.

(1). The Waste Heat Treatment Facility (WHTF) is an erroneous designation (not supported by state law) that is used throughout the ESP to describe the cooling lagoon portion of Lake Anna and its usage should be stopped. The cooling lagoons should simply be referred to as the "Cooling Lagoons".

(2). Limiting the Water Temperatures at the end of the Discharge Canal to no more than 104 degrees F.

(3). Changing the "Point of Compliance" from Dike 3 to the End of the Discharge Canal and re-designating the cooling lagoons as "quasi public waters".

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.

## FRIENDS OF LAKE ANNA, VIRGINIA

(1). The Waste Heat Treatment Facility (WHTF) is an erroneous designation (not supported by state law) that is used throughout the ESP to describe the cooling lagoon portion of Lake Anna and its usage should be stopped. The cooling lagoons should simply be referred to as the "Cooling Lagoons". This WHTF designation has caused the cooling lagoons to be viewed and treated similar to a sewage treatment facility by many state agencies and as a result are viewed as private waters and not afforded the protections or other amenities afforded public waters. Please see below for details supporting this request.

a. Attachment 1 – "The North Anna Power Station – Lake Anna, Va. produced by Virginia Electric Power Company (VEPCO) in approximately 1970 denotes in part "The cooling lagoons and reservoir will be able to accommodate up to four million kilowatts of generating capability. Early in 1972, construction crews will put the finishing touches on a dam across the North Anna River in Louisa County. Slowly, over a period of many months, the water level will begin to rise higher and higher until a 13,000 acre lake is formed. When VEPCO's 17 mile long lake with more than 200 miles of shoreline is complete, experts believe the lake can be developed into a major recreational attraction. VEPCO is cooperating with the Virginia Commission on Outdoor Recreation in the preparation of a detailed development plan for the recreational use of the lake. The report which was later produced by the Theodore J. Wirth and Associates indicates the potential use of the lake could be in excess of two million visitors annually by the year 2000. The report also defines some potential commercial locations and the remainder would be private development of all lakeshore property, including the cooling lagoons.

*Note: This 1970 VEPCO (which is the predecessor to Dominion Power) publication does not mention a WHTF, nor does it imply that the cooling lagoons will be treated any differently then the reservoir*

b. Attachment 2 is a map showing Lake Anna as it exists today that was produced by Lake Anna Realty, a local real estate firm. The map has been enhanced by highlighting (1) the 3 dikes separating the reservoir from the cooling lagoons, (2) the ½ mile long Dominion Discharge Canal (3) The thermally heated discharge water circulation pattern going from the power plant through the discharge canal into the cooling lagoons;(4) then through Dike 3 and (5) then traveling back upstream to the power plant and (6) then repeating the cycle. Apparently with units 1 & 2 operating, 1.9 million gallons per minute are returned to the reservoir through Dike 3 when the lake is at a full water level of 250 Mean Sea Level (MSL) and only 18,000 gallons per minute are released over the dam. This is less then 1 % of the water flowing out of the reservoir from this small watershed and 99% going back upstream in the North Anna River.

The map also shows the 8 public streams that feed the cooling lagoons, where the public water flows through the cooling lagoons; then through Dike 3 into the North Anna River, which then eventually flows into the Atlantic Ocean by way of the Pamunkey River and the Chesapeake Bay.

Approximately 25% of the water cooling occurs in the North Anna Power Station Discharge Canal on Dominion property, about 50% of the water cooling occurs in the cooling lagoons waters and about 25% of the water cooling occurs in the North Anna River as a major portion of the water is circulated back upstream to the North Anna Power station. ***There is no "Treatment Facility" that processes the water in any fashion in the cooling lagoons.*** The water simply circulates at a rate of approximately 2 million gallons a minute as result of the North Anna Power station (unit 1 & 2) pumps, with only approximately 50% of the cooling actually occurring in the cooling lagoons.

c. The recent Supreme Court decision (No 04-1527 S.D. Warren Company, Petitioner, v. Maine Board of Environmental Protection et al) defines that ***state/public waters should not be privatized and used for private purposes.*** This decision also defines that there are two purposes of the clean water act (1) The protection and propagation of fish, shellfish, and wildlife and (2) providing for recreation in and on the water.

Note that our research indicates the cooling lagoons currently have approximately 2,000 landowners and 8,000 persons using the waters on a typical summer weekend day. The lagoons also have a minimum of 8 public streams feeding them. The lagoons are currently being treated as private by various state agencies (The fisheries part of Fish & Game does not investigate fish kills, but the law enforcement part does enforce boating and buoy placement laws; the Dept of Health does not monitor the cooling lagoons for any health risks; Va. Dept of Environmental Quality (VDEQ) water monitoring does not enforce the Clean Water Act within the cooling lagoons and also does not enforce the Clean Water Act at Dike 3 because of discharge permit waivers that have been previously granted to Dominion Likewise there does not appear to be any state agency providing public protection for recreation in and on the cooling lagoon waters (as required by the Clean Water Act). Lake Anna has over 500,000 annual users.

**FRIENDS OF LAKE ANNA, VIRGINIA**

d. Over the past 8 months, the Friends of Lake Anna has requested from various state personnel that they provide the Virginia state law that defines that the cooling lagoons should be designated a WHTF and treated similar to a sewage treatment facility (with no protections to the general public as afforded by the Clean Water Act and clearly defined in the recent Supreme Court decision). We have never received it, because apparently it does not exist.

**(2). Limiting the Water Temperatures at the end of the Dominion Discharge Canal to no more then 104 degrees F.** The U.S. Consumer Product Safety Commission and the Virginia State Health Commission (Dr. Robert Stroube), and Hot Tub Manufacturers have identified that water in excess of 104 degrees F is dangerous to human health. Dominion has stated that they have never exceeded 103.6 degrees F at the end of the discharge canal for the past 35 years. There are many options (spray in the discharge canal, design of cooling towers, location of cooling towers, design of 3rd reactor complex, reducing thermal heat discharge with current reactors) that Dominion can use to maintain the 104 degrees F limit (if and when it would become necessary, which it has not for past 35 years, even in extreme drought conditions). Since Dominion has designated in the ESP that they are running their current reactors (units 1 & 2) at 93% capacity, maintaining the less then 104 degrees F temperature at the end of the discharge canal in the future should not be a problem. As described in the Supreme Court decision, Congress passed the Clean Water Act to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters, with the national goal being to achieve "water quality which provides for (1) the protection and propagation of fish, shellfish, and wildlife and (2) provides for recreation in and on the water"

In order to comply with the U.S. Clean Water Act of providing for recreation in and on the water and the recent Supreme Court decision, it is requested that any federal or state permits issued to Dominion limits the water at the end of the ½ mile discharge canal (before it enters the cooling lagoons) to no more then 104 degrees Fahrenheit.

**(3). Changing the "Point of compliance" from Dike 3 to the End of the Discharge Canal and re-designating the cooling lagoons as "quasi public waters".** Dominion currently has a discharge permit waiver from the Clean Water Act so they do not have to comply with water temperature limitations at Dike 3 of 89.6 degrees F. Changing the point of compliance to the end of the ½ mile long discharge canal and providing Dominion with a variance that they cannot exceed 104 degrees F with real time monitoring available to the public, together with Dominion providing a real-time corrective action if they approached 104 degrees F, would achieve the same result.

The "quasi public water" designation would recognize that Lake Anna is unique for thermal cooling, unlike other power plants that discharge heated waters into ocean's or major free flowing rivers. It would also permit the state to treat the cooling lagoons as public waters and be afforded all the same protections as other public waters unless there is a nuclear disaster. This would also permit compliance with the recent Supreme Court Decision. If there is a nuclear disaster at the North Anna plant, it would recognize that the cooling lagoons are adjacent to a nuclear power plant and in the event of a nuclear disaster/accident only, nuclear by-products could be discharged into the cooling lagoons and be quarantined.

It is requested that the point of compliance be changed to the end of the discharge canal so that any future discharge permit renewals for the North Anna power plant will be waived from compliance with the U.S. Clean Water Act with a maximum temperature of 104 degrees F, together with Dominion being required to take real-time corrective action if the water temperature approaches 104 degrees F and thereby in agreement with the recent U.S. Supreme Court Decision.

Thank you in advance for your kind consideration of our requests. Our other concerns with the water temperature, water quality, safety aspects with local roads, impact on schools in two of the top 100 fastest growing counties in the U.S., 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

**FRIENDS OF LAKE ANNA, VIRGINIA**

Phone 540-872-3632

**Attachments (Use Adobe software to open)**

- a. Attachment 1 – “The North Anna Power Station – Lake Anna, Va. produced by Virginia Electric Power Company (VEPCO) in approximately 1970
- b. Attachment 2 is map showing Lake Anna as it exists today as produced by Lake Anna Realty, a local real estate firm

**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))  
Senator Ryan McDougal, 4<sup>th</sup> District of Virginia (via email – [district04@sov.state.va.us](mailto:district04@sov.state.va.us))  
Delegate Christopher Peace, 97<sup>th</sup> District of Virginia (via email – [delcpeace@house.state.va.us](mailto:delcpeace@house.state.va.us))  
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Tony Banks – Dominion ESP Project Manager (via email – [tony\\_banks@dom.com](mailto:tony_banks@dom.com))