

**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>  
**Date:** 8/17/2006 10:11:29 AM  
**Subject:** NRC & VDEQ public hearings on North Anna Early Site Permit & Federal Consistency Certification  
**cc:** "Senator R. Edward Houck" <ehouck@adelphia.net>,"Senator Charles Colgan" <cjcolgan@aol.com>,"Jeffery Steers (VDEQ)" <jasteers@deq.virginia.gov>,"Tony Banks (Dominion)" <TONY\_BANKS@DOM.COM>,"Kevin Magerr (EPA)" <majerr.kevin@epa.gov>,"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>

17

Aug 2006

Dear Nuclear Regulatory Commission (NRC) and Virginia Department of Environmental Quality (VDEQ),

Attached are the Friends of Lake Anna presentations made at the public hearings re the North Anna Power Plant Early Site Permit re the proposal for adding two additional nuclear reactors (units 3 and 4) to the Power Plant which is adjacent to Lake Anna. The NRC hearing was on Aug 15 and the VDEQ hearing on Aug 16 at the Louisa Middle School, Louisa, Va. Please enter both of the attachments into your official records. We also request that you address all of the concerns identified in both presentations.

The NRC hearing focused on the NRC draft environmental impact statement, while the VDEQ hearing focused on the Virginia Federal Consistency Certification re the U.S. Coastal Program to ensure that Virginia's waters, air and fisheries are protected re the proposed new reactors before an Early Site Permit can be granted.

The two attached Friends of Lake Anna presentations, although similar in many respects, were also focused on the particular purpose of the respective

hearing

The NRC presentation addressed unique concerns with:

Lack of public involvement with the Safety Evaluation Report

Emergency evacuation on small 2 lane roads. Need for expanded road system to accommodate new workers and subdivisions.

.Currently no public input to Safety Report. What happens with spent nuclear fuel (where stored - temporary for how long - where permanent?). What about terrorist attack protections for plant and dam, etc.). Dam blown up & breaks - no water to cool reactors - no electricity for 1/3 of Virginia for 3 years while Lake Anna refills. .

Need for automatic extension of NRC public comment period whenever a Revision to the ESP Application or revised environmental report is published so the public has adequate time to review the many technical pages. The current process resembles a three ring circus without having a ring master to direct all the acts, but the time keeper is making sure that the public/audience moves out of the big top so the next schedule performance can begin.

The VDEQ presentation addressed unique concerns with:

. Recommendation not to issue a Federal consistency Certification until all issues are resolved.

. Lack of adequate water in a small watershed to support the proposed type of cooling system.

- . Increased drought cycle for both lake and downstream users.
  
- . Impacts to both Lake Anna and downstream of North Anna river fisheries.
  
- . Alternative sites for other Nuclear Reactors have much more abundant supply of water.
  
- . Lack of current compliance with U.S. Clean Water Act
  
- . Authority of State Water Control Board
  
- . Need for Environmental Protection Agency to re-evaluate authority given to Virginia to ensure that the Virginia program is not less stringent than the national program.
  
- .. Need to perform a detailed review of Dominion's 316A variance for thermal discharges to prevent the entire Lake Anna (13,000 acres) from being heated above Clean Water Act requirements.
  
- . Need to follow the U.S. laws to protect the public for recreation in and on the waters, so the lake is not a big hot tub. Entire lake was in the 90's a few weeks ago..
  
- . Request for VDEQ to provide an independent cumulative impact analysis of the water withdrawal of the new unit 3 wet cooling method and related impacts to Virginia.

- . Violation of the U.S. Clean Water Act by Dominion with the current 2 reactors.

- . Designate Lake Anna cooling lagoons as unique for thermal cooling & designate it as a quasi-public water.

Both presentations addressed concerns/issues with:

- . One set of North Anna River Users should not benefit at the expense of another set of users.

- . Recommendation to use Dry Air Cooling for both reactors to avoid problems with the inadequate water

- . Stop using designation Waste Heat Treatment Facility to describe the cooling lagoons, so they are not viewed and treated similar to a sewage treatment facility by Virginia state departments and the federal government.

- . Change point of compliance from Dike 3 to end of Discharge Canal, so the Cooling Lagoons start to be treated by all state and federal agencies as quasi-public waters so the health, welfare and safety of those who use the cooling lagoons is protected. Currently over 8,000 daily users receive no protection.

- . Water temperatures should be limited to no more than 104 degrees F at the end of the discharge canal. At some spots they exceeded 106 degrees F a few weeks ago.

- . Point of compliance for all U.S. and water permits should be changed from Dike 3 to the end of the discharge canal to provide all Clean Water Act

protections for all cooling lagoon users.

- . Human health problems due to increased water temperatures and increased bacteria from increased water temperatures.

- . Impact to wildlife, fish and endangered species (bald eagles) as a result of increased water temperatures, reduced water flow, increased drought cycles and possible loss of food supply for endangered species due to fish kills as a result of high water temperatures in the cooling lagoons, reduced water flow.

- . Raising of lake level to retain more water for 3rd unit and resulting in destruction of adjoining property and also for retention for downstream users.

- . Lowering lake levels by increased water usage thereby causing increased drought cycles ranging from weeks to months.

- . Need to enforce U.S. Clean Water Act for recreating in and on the water in both the main reservoir and cooling lagoons. Currently the cooling lagoon and main reservoir waters exceed hot tub temperatures on many occasions.

- . Height of dry and wet cooling towers and facility buildings should not exceed tree line to protect the rural esthetic atmosphere of the community as Dominion indicated in Jan 06 stakeholder meeting.

- . Impact of 5,000 - 7,000 new workers (construction, periodic maintenance, professional) employees for 5 years on local roads and schools. This will create the need for new expanded roads before the project begins because of the workers and the three newly approved Louisa County subdivisions for about 1800 new homes in close proximity to the plant. These are possibly in anticipation of the new reactors being built?

New schools and other county infrastructure (police, fire, rescue squads, etc.) will need to be planned and built prior to any new tax dollars coming from Dominion. Louisa is now the 73rd fastest growing county in the U.S. Who is going to pay for all these new requirements? Is the Federal Government (NRC & other departments) going to give grants to Louisa County, similar to the 8 to 10 million dollar grant they gave to Dominion for processing the Early Site Permit?

. Impact of additional fog and icing from wet cooling towers on local roadways.

. Noise concerns emitted from 180/230 foot buildings that will travel long distances without having tree barriers to break the sound from giant fans.

Do not hesitate to call if I can provide any additional information.

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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. Currently no public input to Safety Report. What happens with spent nuclear fuel (where stored – temporary for how long – where permanent?). What about terrorist attack protections for plant and dam, etc.). Dam blown up & breaks – no water to cool reactors – no electricity for 1/3 of Virginia for 3 years while Lake Anna refills. .

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. *Increased drought cycle for both lake and downstream users.*

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. *Alternative sites for other Nuclear Reactors have much more abundant supply of water.*

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Sincerely,

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

**(Presentation to U.S. Nuclear Regulatory Commission public hearing on August 15, 2006 at Louisa Middle School, Louisa, Va.)**

**Dear Nuclear Regulatory Commission & Ladies and Gentlemen,**

**My name is Harry Ruth and I reside at 230 Heather Drive, Bumpass, Va. I live on Lake Anna and represent the Friends of Lake Anna.**

**1. Friends of Lake Anna.** “The Friends of Lake Anna” is a citizen group representing 2,650 persons 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 its 500,000 plus annual users and insure compliance with the law.

We believe that the U.S. should become self-reliant for energy sources and not be dependent on foreign oil, but we do want to promote the wise and safe use of nuclear energy and not have the impact of new nuclear reactors destroy Lake Anna in the process. If the project at the North Anna Plant is accomplished correctly and takes into account our concerns, possibly the new reactors could become a model for the continued growth of nuclear energy throughout the country. If the project is handled poorly, resulting in public and political uproar and bad national press, the entire future of increased nuclear energy within the U.S. could be on hold for many more years.

We are not opposed to the North Anna Project and do support the addition of 3<sup>rd</sup> and 4<sup>th</sup> nuclear reactors at the North Anna plant, but want to ensure that all environmental issues are taken care of prior to the issuance of either an NRC Early Site Permit or a VDEQ Federal Consistency Certification.

**2. Overview:**

The U.S. public should be permitted to comment on the Safety Evaluation Report and also the public comment period should automatically be extended each time a revision to the Early Site Permit is accepted and published by the NRC.

We also believe that the North Anna project as currently proposed is inconsistent with the Va. Coastal Zone Management Program as approved under the U.S. Coastal Zone management Act.

It is inconsistent with the Coastal Zone Management Act related to Fisheries Management and Point Source Pollution Controls and also the federal U.S. Clean Water Act. Also one set of the North Anna River Users should not benefit at the expense of another set of users. Possibly other cooling alternatives should be considered. In addition, there are other local environmental items that should be addressed further evaluated prior to making any final determination on either the ESP or Federal Consistency Certification.

**I will now address each of these items.**

### 3. Public involvement with Safety Report.

The public should be involved in both the Safety Evaluation Report, as well as the Environmental Impact Statement. The NRC does not provide for any public scrutiny of a draft Safety Evaluation Report prior to its issuance. The public's safety should be the primary focus of any government agency. The public's review of any safety projects is essential. It appears the NRC is basing decisions on 5 year old data and has not considered recent property development around the lake or world events in any of their decision making. The NRC's staff population increase projects for the North Anna site through 2065 is not anywhere in the ballpark, Louisa County is currently the 73<sup>rd</sup> fastest growing county in the U.S.

Where are the NRC safety protections for terrorist attacks against the plant and dam. If the dam is blown up and breaks. The Lake Anna water will run downstream. How will the reactors be cooled? Will 1/3 of Virginia be without power. How long will the power outage last? Will Dominion have to build a new dam and wait 3 years for the lake to fill up before you can restart the reactors and restore power to 1/3 of Virginia? Is building another water-cooled reactor that is dependent on a lake that takes 3 years to fill up the best approach to protect Virginia's and the U.S. electrical needs when a dry-air cooled reactor will eliminate this problem? The public must be involved with the safety of the nuclear reactors, whether it is at the plant, at the dam, together with how, where and how long the spent nuclear fuel is stored.

### 4. Automatic Extension of Public Comment period.

The NRC continues to accept many changes to the ESP, without automatically extending the public comment period each time a change is issued. Currently we are reviewing Revision 6 to the North Anna ESP, which is over 1,000 pages of technical data. In addition, just last month (July 2006) you issued a supplemental Draft Environmental Impact Statement relating to Revision 6 only, that was about 500 pages, which related to your first draft Environmental Impact Statement which was another 600 or 700 pages. You have also just within the past few weeks, issued Revision 7 and a Revision 8 with no automatic extension of the public comment.

While the Draft Environmental Impact Statement (DEIS) is still under review, Dominion continues to make revisions to issues that are analyzed. Hence our review of the DEIS is a moving target, without the NRC automatically extending the public comment period and giving the public sufficient time to review the changes

The NRC should evaluate all of the applicant's documents and ensure that they are complete before completing its analysis of the issues and issuing the documents to the public or the commonwealth for review. Once the NRC and the applicant have finalized the requested ESP application, then and only then should the documents be issued for public and commonwealth review. It seems like everyone is spinning wheels in trying to keep up with all the Dominion and NRC revisions, Requests for Information, Responses for Request for Information, additional revisions, draft environmental impact statements that pertain to the earlier revision only and is making a mockery of an extremely important governmental process so the states, local population and energy companies can participate in a streamline efficient coordinated process that allows the U.S. to become adequately prepared for the upcoming energy crisis and to be self-reliant for energy resources (including nuclear energy) and not be dependent on foreign oil.

*The current ESP process resembles a three ring circus without having a ring master to direct all of the acts, but the time keeper is making sure that the public/audience moves out of the big top so the next schedule performance can begin.*

## **5. Current ESP proposal is inconsistent with Va. Coastal Zone Management Program.**

**a. Fisheries Management** – The Department of Game and Inland Fisheries (DGIF) has found that the fish will continue to be adversely affected even after the changes to the 3<sup>rd</sup> reactor have been made. See comments in the draft environmental impact statement and reference DGIF memo dated July 7, 2006 originated by Raymond Fernald re the ESP.

**b. Point Source Pollution controls** As stated in VDEQ analysis of the draft DEIS, the North Anna watershed is too small to allow large water withdrawals. These would adversely affect the beneficial uses of the North Anna River which flows into the Pamunkey River, which flows into the Chesapeake Bay and then into the Atlantic Ocean. The DGIF & VDEQ analysis clearly indicates that the 3<sup>rd</sup> unit would increase the drought cycle and cause decreased water flows during March, April; May; June, July, August and October (7 months) of each year.

Even though the proposed water withdrawal has decreased with the new cooling methods, yet the withdrawals remain significant with this small watershed. At a minimum NRC and VDEQ must provide an analysis of the cumulative impact taking into consideration worst-case scenario that includes the 2001-2002 drought.

Recent Lake Anna Civic Association (LACA) water studies have indicated that the North Anna River (3 miles before it enters Lake Anna) is 13 degrees cooler than the central part of the lake above the Rt 208 Bridge. Many areas of the entire lake (both main reservoir and cooling lagoons) have recently experienced temperatures in the low to high ninety's which clearly exceeds the 89.6 degree F temperature limitation in the Clean Water Act. Some residents have reported temperatures as high as 106 degrees F. The entire Lake Anna is being heated as a result of the current power plant.

NRC and VDEQ must fully analyze the impact of any further water temperature increases resulting from the blowdown/discharges of the proposed unit 3 cooling towers or any malfunction of any of the proposed cooling towers or current generating units. The existing units 1 & 2 periodically exceed Clean Water Act limitations and any additional temperature increases by the proposed cooling towers will only exacerbate the situation.

Waters of the Lake Anna cooling ponds/lagoons reached 106 degrees on August 3, 2006 as recorded by local residents. The Lake Anna Civic Association (LACA) Water Quality Team had recorded 104.6 degrees F at the end of the discharge canal on the same day at a different time. LACA has also reported that waters in the North Anna River (3 miles before it enters Lake Anna) are 13 degrees cooler than the central part of the lake above the Rt 208 Bridge.

The current limits of 89.6 F for non-tidal waters established by the U.S. Clean Water Act have been violated many times by Dominion throughout the entire lake. In addition, the U.S. Clean Water Act defines that the effluent discharge into Lake Anna shall not be increased more than 6.3 degrees F above the natural water temperature. Therefore recent LACA studies have shown the current natural North Anna River temperatures to be approximately 72 degrees F, which translated with the U.S. Clean Water Act requirements, indicates that Lake Anna water temperatures should not exceed 78.3 degrees F under current conditions. Dominion has a current variance from the VPDES permit under section 316(a) of the federal Clean Water Act; however this variance is for the vicinity of the Dike 3 discharge and in the shallow reaches near its tributaries. The variance does not permit the entire Lake Anna to be heated. The clean water act anticipates that the water discharge would occur in a free flowing river or ocean, so the heat transfer would be carried downstream.

The entire Lake Anna is unique and it is primarily an impoundment where 99% of the water is recirculated, which in turn causes the entire Lake to heat up, since only about 1% of the water is released over the dam. Since the entire lake is 17 miles long and includes 13,000 acres of water (with depths of 50- 75 feet in many parts), and water temperatures exceed 90 degrees F throughout the lake, it would seem that Dominion is routinely in violation of the U.S. Clean Water Act and the VPDES variance that they have. Any additional heat transfer from the proposed 3<sup>rd</sup> unit water-cooling tower blowdown/discharge will only compound the problem, while the proposed unit 4 dry air cooling tower would have no additional heat transfer impacts to the lake.

**6. Inconsistency with the U.S. Clean Water Act.** The U.S. Congress passed the Clean Water Act to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The national goal of the Act is to achieve "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water"

**7. One set of the North Anna River Users should not benefit at the expense of another set of users.** Whatever, the final solution is for not decreasing the inadequate water supply in the small water shed; the solution should not benefit one set of users at the expense of another set of users.

For example, the lake levels should not be raised which could cause property damage to lake owners to quarantine more water so it could be released later to satisfy the downstream users at different times of the year.

Likewise the consumptive use of water and increased needs for water caused by population growth by downstream users should not cause the lake levels to be dropped so more water flow could be released to downstream users and then create mud flats throughout the lake.

## 8. Alternative Cooling Method.

One alternative discussed, but not proposed in the SDEIS is to exclusively use dry Air Cooling for the 3<sup>rd</sup> unit, which would then negate any further water withdrawals from the small watershed and would also alleviate a major safety problem if the dam would break or was blown-up by a terrorist attack and there was no water for cooling any of the reactors. 1/3 of Virginia could be without power for 3 years while we wait for the lake to refill. The dry-air cooling appears to be a feasible option, since this is same technology that Dominion has proposed for Unit 4 and is used by many overseas countries that do not have a local water source. In addition, many of the recommendations by VDEQ analysis to the NRC requests that the air cooling mode be used with unit 3 for 7 months of the year to reduce lake water drawdown and reduce the risk of a complete unit 3 shutdown. As defined in section 7.3 of the SDEIS dry cooling would eliminate the consumptive water loss associated with unit 3.

In its response to the DEIS, VDEQ's Division of Water Resources (DWR) expressed its preference for the once-through cooling process proposed for Unit 3 be changed to a cooling tower because the once-through process results in less consumptive use of water than the cooling tower. Also in its comments on the DEIS, DWR stated that it would have no concerns about this project if both the third and fourth reactors at North Anna were air cooled. The SDEIS fails to analyze this alternative.

The SDEIS must fully analyze the consumptive water use for this new cooling method.

## 9. Other related concerns:

To ensure that the proposed construction of a 3<sup>rd</sup> & 4<sup>th</sup> reactor will minimize the adverse affect to the quality of life for those that live and use Lake Anna, we also ask that you further evaluate the following concerns prior to your making a final decision on the ESP or Federal Consistency Certification.

- a. Water temperatures should be limited to no more then 104 degrees F at the end of the discharge canal
- b. Point of compliance for all U.S. and water permits should be changed from Dike 3 to the end of the discharge canal to provide all Clean Water Act protections for all cooling lagoon users.
- c. Human health problems due to increased water temperatures and increased bacteria from increased water temperatures.
- d. Impact to wildlife, fish and endangered species (bald eagles) as a result of increased water temperatures, reduced water flow, increased drought cycles and possible loss of food supply for endangered species due to fish kills as a result of high water temperatures in the cooling lagoons, reduced water flow.
- e. Raising of lake level to retain more water for 3<sup>rd</sup> unit and resulting in destruction of adjoining property and also for retention for downstream users.

- f. Lowering lake levels by increased water usage thereby causing increased drought cycles ranging from weeks to months.
- g. Need to enforce U.S. Clean Water Act for recreating in and on the water in both the main reservoir and cooling lagoons. Currently the cooling lagoon and main reservoir waters exceed hot tub temperatures on many occasions.
- h. Height of dry and wet cooling towers and facility buildings should not exceed tree line to protect the rural esthetic atmosphere of the community as Dominion indicated in Jan 06 stakeholder meeting.
- i. Impact of 5,000 – 7,000 new workers (construction, periodic maintenance, professional) employees for 5 years on local roads and schools. This will create the need for new expanded roads before the project begins because of the workers and the three newly approved Louisa County subdivisions for about 1800 new homes in close proximity to the plant. These are possibly in anticipation of the new reactors being built?
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- j. Emergency evacuation on small 2 lane roads. Need for expanded road system to accommodate new workers and subdivisions.
- k. Spent nuclear fuel (where stored, terrorist attack protections, etc.)
- l. Impact of additional fog and icing from wet cooling towers on local roadways.
- m. Noise concerns emitted from 180/230 foot buildings that will travel long distances without having tree barriers to break the sound from giant fans.

## 10. Summary

- a. We believe that the North Anna project as currently proposed is inconsistent with the Va. Coastal Zone Management Program as approved under the U.S. Coastal Zone Management Act. We support the concept of a 3<sup>rd</sup> and 4<sup>th</sup> reactors, but the above environmental items must be resolved prior to the issuance of either a Federal Consistency Certification. We request that a Federal Consistency Certification or an Early Site Permit not be issued until the above issues are satisfactorily resolved
- b. We request that the U.S. Clean Water Act be enforced so the entire lake is not a hot tub with temperatures throughout the lake in the 90's that we have experienced in recent weeks and the waters at the end of discharge canal be no greater than 104 degrees F

c. We also request that the all state agencies stop using the designation, Waste Heat Treatment Facility to describe the cooling lagoons so it is not viewed and treated similar to a sewage treatment facility. This designation affords no public protection for the over 8,000 users of the cooling lagoons.

d. Further, we request that the VPDES Point of compliance be changed from Dike 3 to the end of the Discharge Canal and the Cooling Lagoons start to be treated by all state agencies as quasi-public waters so the health, welfare and safety of those who use the cooling lagoons is protected.

The quasi-public water designation would recognize that Lake Anna is unique for thermal cooling (unlike other power plants that discharge heated waters into oceans or major free flowing rivers). It would also permit the state to treat the cooling lagoons as public waters and afford them the same protection as other public waters unless there is a nuclear disaster. This would also adhere to the recent Supreme Court Decision (S. D. Warren vs. Maine Board of Environmental Protection) to be adhered to which did not permit the privatization of public waters. If there is a nuclear disaster at the North Anna plant, this designation would be recognized that the cooling lagoons are adjacent to a nuclear power plant and in the event of a nuclear disaster only, nuclear by-products could be discharged into the cooling lagoons and be quarantined.

e. We request that alternative analysis for the 3<sup>rd</sup> unit cooling method be accomplished to fully consider dry air cooling for the 3<sup>rd</sup> unit as used by many overseas countries to eliminate the consumptive water loss associated with using wet cooling towers

f. We also request that the public be involved in reviewing a draft safety report re the ESP prior to its final issuance and also that there is an automatic extension of the public comment period whenever a revision to the ESP occurs. The current public comment period should be extended to permit the public to have adequate time to review and comment on Revision 7 and Revision 8 which were issued after the supplemental draft environmental Impact Statement was issued in July, just a few weeks ago..

Thank you for your time and consideration of the above items,

Sincerely,

Harry Ruth  
For the Friends of Lake Anna

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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Senator Russell Potts, 27<sup>th</sup> District of Virginia (via email – [district27@sov.stte.va.us](mailto:district27@sov.stte.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))  
Delegate Edward Scott, 30<sup>th</sup> District of Virginia (via email – [delescott@house.state.va.us](mailto:delescott@house.state.va.us))

Delegate William Janis, 56<sup>th</sup> District of Virginia (via email – [delbjanis@house.state.va.us](mailto:delbjanis@house.state.va.us))  
Delegate Robert Orrock, Sr., 54<sup>th</sup> District of Virginia (via email – [delborrock@house.state.va.us](mailto:delborrock@house.state.va.us))  
Delegate Clifford Athey, 18<sup>th</sup> District of Virginia (via email – [DelCAthey@house.state.va.us](mailto:DelCAthey@house.state.va.us))  
Tony Banks – Dominion ESP Project Manager (via email – [tony\\_banks@dom.com](mailto:tony_banks@dom.com))  
VDEQ – Ellie Irons – Environmental Impact Review - via email – [elirons@deq.virginia.gov](mailto:elirons@deq.virginia.gov)  
VDEQ – Jeff Steers – No. Va. Regional Director – via email – [jasteers@deq.virginia.gov](mailto:jasteers@deq.virginia.gov)  
NRC – Jack Cushing – Environmental Project Mgr – via email – [-JXC9@NRC.GOV](mailto:-JXC9@NRC.GOV)  
NRC – Public comments for North Anna ESP – via email – [North\\_Anna\\_Comments@NRC.GOV](mailto:North_Anna_Comments@NRC.GOV)  
EPA – Kevin Magerr- NEPA Environmental Engineer – via email – [majerr.kevin@epa.gov](mailto:majerr.kevin@epa.gov)

**(Presentation to the Virginia Department of Environmental Quality public hearing on August 16, 2006 at Louisa Middle School, Louisa, Va.)**

**Dear Virginia Department of Environmental Quality, Ladies and Gentlemen,**

**My name is Harry Ruth and I reside at 230 Heather Drive, Bumpass, Va. I live on Lake Anna and represent the Friends of Lake Anna. In the interest of time, I will forward my written comments to VDEQ and the NRC and tonight will identify the highlights only.**

**1. FRIENDS OF LAKE ANNA.** “The Friends of Lake Anna” is a citizen group representing 2,650 persons 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 its 500,000 plus annual users and insure compliance with the law.

We believe that the U.S. should become self-reliant for energy sources and not be dependent on foreign oil, but we do want to promote the wise and safe use of nuclear energy and not have the impact of new nuclear reactors destroy Lake Anna in the process. If the project at the North Anna Plant is accomplished correctly and takes into account our concerns, possibly the new reactors could become a model for the continued growth of nuclear energy throughout the country. If the project is handled poorly, resulting in public and political uproar and bad national press, the entire future of increased nuclear energy within the U.S. could be on hold for many more years.

We are not opposed to the North Anna Project and do support the addition of 3<sup>rd</sup> and 4<sup>th</sup> nuclear reactors at the North Anna plant, but want to ensure that all environmental issues are taken care of prior to the issuance of either an NRC Early Site Permit or a VDEQ Federal Consistency Certification.

## **2. OVERVIEW:**

We believe that the North Anna project as currently proposed is inconsistent with the Va. Coastal Zone Management Program as approved under the U.S. Coastal Zone management Act.

It is inconsistent with the enforceable policies of the Coastal Zone Management Act related to Fisheries Management and Point Source Pollution Controls. In addition it is inconsistent with the Advisory Policies of the Virginia Coastal Program & the federal U.S. Clean Water Act. VDEQ must also modify the current 316A variance and ensure that future discharge permits are protecting the public. Also one set of the North Anna River Users should not benefit at the expense of another set of users. Possibly other cooling alternatives should be considered. In addition, there are other local environmental items not within the purview of the Coastal Zone Program; however I request that you forward the concerns to the appropriate Virginia state departments for their comment and evaluation prior to making any final determination on either the ESP or Federal Consistency Certification.

**I will now address each of these items.**

### 3. CURRENT ESP PROPOSAL IS INCONSISTENT WITH VA COASTAL ZONE MANAGEMENT PROGRAM.

**a. FISHERIES MANAGEMENT.** – The Department of Game and Inland Fisheries (DGIF) has found that the fish will continue to be adversely affected even after the changes to the 3<sup>rd</sup> reactor have been made. See comments in the draft environmental impact statement and reference DGIF letter dated July 7, 2006 originated by Raymond Fernald re the ESP.

*Fisheries: Department of Game and Inland Fisheries Assessment.* DGIF continues to have reservations about the impacts of proposed Unit 3 on the lake and downstream resources. Striped bass and other anadromous fish are native to the York River drainage and the North Anna River, while largemouth bass, bluegill, black crappie, walleye, and channel catfish are not. Nevertheless, all of these species are important to the recreational fishery in the lake.

*North Anna River Fishery Issues.* According to the DGIF, the downstream impacts to fisheries resources were ignored in the Draft EIS in spite of the increased frequency of low flows that a third water-cooled unit would produce. Currently, (with two units in the regulated “base scenario”), 67 weeks of drought conditions (20 CFS or less) out of a 26-year period would be expected. Given the addition of a third unit using water, the expected drought frequency would increase 7 months of the year. Placing the population of aquatic species under frequent drought stress will shift the community substantially. Recent DGIF surveys of the North Anna River have suggested that the primary sport fish, smallmouth bass, is much less abundant than in other rivers in the region. Using 100% air cooling for Unit 3 would eliminate this concern.

*Downstream Flows and Recreation.* The North Anna River is a spectacularly scenic and remote canoeing river with excellent fishing, according to the Department of Conservation and Recreation. Accordingly, discharge rates from the Lake Anna Dam should be adequate to meet minimum in-stream flows needed for recreational boating from State Route 601 to U.S. Route 301. The Department of Conservation and Recreation recommends that a minimum in-stream flow recreation study be conducted to determine what this discharge rate should be.

**b. POINT SOURCE POLLUTION CONTROLS** - Two federal regulation programs are affected (1) Section 401 of the Clean Water Act (Water Quality Certification as administered by Virginia Water Protection permit by (VDEQ) and (2) Section 402 – (National Pollution Discharge Elimination System (NPDES) delegated by the U.S. Environmental Protection Agency (EPA) to Virginia Department of Environmental Quality (VDEQ).

**(1) Water Resources, Flows, Drought and Supply.** As stated in VDEQ analysis of the draft Nuclear Regulatory Commission (NRC) Draft Environmental Impact Statement (DEIS), the North Anna watershed is too small to allow large water withdrawals. These would adversely affect the beneficial uses of the North Anna River which flows into the Pamunkey River, which flows into the Chesapeake Bay and then into the Atlantic Ocean. The DGIF & VDEQ analysis clearly indicates that the 3<sup>rd</sup> unit would increase the drought cycle and cause decreased water flows during March, April; May; June, July, August and October (7 months) of each year.

**Va. Department of Water Resources assessment of water availability.** The Supplemental Draft Environmental Impact Statement (EIS) analyzes water resource and quality impacts considering the addition of the proposed Unit 3 as a closed-cycle, wet-dry cooled unit and Unit 4 as a dry-cooled unit having negligible effects on water supply. VDEQ's Division of Water Resources (DWR) commented previously in regard to its concerns for the adequacy of Lake Anna as a source of cooling water for a third nuclear reactor. Although the new cooling method would use less water, indications are that *this small watershed cannot sustain any additional water withdrawals.*

**Drought Cycle Increase.** Addition of Unit 3 would increase the drought recurrence interval as well as increase the total weeks of flows that are 20 cubic feet per second (cfs) or lower (currently 67 weeks out of the past 26 years). Virginia State Water Control Board Bulletin #58 reviewed flow statistics for the gauge downstream at Doswell. Prior to dam construction, flows of 25 cfs or lower would occur once every 10 years for about 10 weeks. Addition of Unit 3 would increase the frequency of drought flows downstream, and the duration of those droughts. Significant changes in drought flows have occurred since the plant/reservoir construction.

**Other East Coast Nuclear Reactors:** In its earlier review of the DEIS, VDEQ's Division of Water Resources looked at other nuclear reactors along the East Coast to compare the water resources available to them with the water resources available at North Anna. The conclusions drawn from that research are:

- Most of the intake locations are tidal and have an essentially unlimited water supply;
- Of the remaining locations, the **North Anna location has the least abundant water supply**, based on the average flow of a small watershed (342 square miles) and a medium-sized reservoir; and
- There is a limited number of nuclear power stations located on non-tidal rivers. In these cases, the power plants are on large rivers such as the Connecticut and the Susquehanna.

In fact, the only location remotely similar to North Anna's situation is the Oconee plants on Lake Keowee in South Carolina. However, immediately below Lake Keowee is Hartwell Lake, so the section of non-tidal stream affected by consumptive loss is very short.

***Cumulative Impacts and Downstream Effects.*** Cumulative impacts of the current and future units on downstream hydrology and biology need to be quantitatively evaluated before any determination can be made that effects of the proposed addition of reactors to the site are "small." The starting point for a cumulative impact analysis should be before the existing two reactors were put into operations.

**VDEQ provide independent cumulative impact analysis.** Even though the proposed water withdrawal has decreased with the new cooling methods, yet the withdrawals remain significant with this small watershed. At a minimum VDEQ must provide an independent analysis of the cumulative impact taking into consideration worst-case scenario that includes the 2001-2002 drought.

**(2) Water Act administered by EPA (Water Temperature)** Section 402 of the Clean Water Act is administered by the Environmental Protection Agency (EPA) through NPDES which is administered in Virginia as the VPDES. The water temperature currently exceeds the temperature necessary to protect aquatic resources and the beneficial uses of national waters. Any additional temperature increases (i.e. blowdown discharges of the water cooling towers) would be detrimental to the coastal resources and would affect coastal uses, fisheries, aquatic life, public access and recreation. Further increase in water temperature would only compound the current problems.

**VDEQ must prevent existing VPDES violation.** First VDEQ must prevent the existing violation of its VPDES permit and the Clean Water Act, with just the two existing units which are increasing the temperatures of the entire lake. Recent Lake Anna Civic Association (LACA) water studies have indicated that the North Anna River (3 miles before it enters Lake Anna) is 13 degrees cooler than the central part of the lake above the Rt 208 Bridge. Many areas of the entire lake (both main reservoir and cooling lagoons) have recently experienced temperatures in the low to high ninety's which clearly exceeds the 89.6 degree F temperature limitation in the Clean Water Act as defined in the NPDES. Some residents have reported temperatures as high as 106 degrees F. The entire Lake Anna is being heated as a result of the current power plant.

The Clean Water Act applies to the Lake Anna reservoir and cooling lagoons/cooling ponds. Moreover, cooling ponds are considered navigable waters of the U.S. In addition, the U.S. Army Corps of Engineers (USACE) who administers Section 404 of the Clean Water Act - Dredge and Fill of Navigable Waters of the U.S. requires the issuance of 404 permits for dredge and fill activities in the cooling lagoons. This is predicated on the determination by the USACE that the cooling lagoons are jurisdictional waters of the United States. The definition for Waters of the United States under the 404 implementing regulations at 33 USC Section 328.3 is identical in all necessary respects to that of the NPDES regulations implementing 402 (40 CFR Section 122.2)

VDEQ must fully analyze the impact of any further water temperature increases resulting from the blowdown/discharges of the proposed unit 3 cooling towers or any malfunction of any of the proposed cooling towers or current generating units. The existing units 1 & 2 periodically exceed Clean Water Act limitations and any additional temperature increases by the proposed cooling towers will only exacerbate the situation.

VDEQ must also correct the existing VPDES regulations that exempt cooling lagoons from the definition of surface waters. VDEQ is in conflict with the national program (NPDES – 40 CFR Section 122.2) states that cooling lagoons/cooling ponds which meet the definition of waters of the U.S. are not Waste Treatment systems.

There is no question that the cooling lagoons are waters of the U.S. and as such are subject to three federal regulations:

- (1) 404 (Dredge and Fill of Navigable Waters of the U.S.. administered by the U.S. Army Corp of Engineers)
- (2) 402 (National Pollution Discharge Elimination System – NPDES)
- (3) 401 (Water Quality Certifications as administered by VDEQ)

VDEQ and the Virginia State Water Control Board do not have the authority to de-nationalize national waters and designate the Lake Anna cooling lagoons as a waste heat treatment facility.

**The U.S. Environmental Protection Agency (EPA) must re-evaluate the NPDES authority delegated to the Commonwealth of Virginia** and ensure that the VPDES program is not less stringent than the national program. Federally delegated programs such as VPDES can be more stringent than the national program, but cannot be less.

**The Virginia State Water Control Board cannot arbitrarily exclude U.S. surface waters from its regulatory purview of its delegated national program.**

Monitoring of the VPDES program must begin at the end of the North Anna power plant discharge canal, since the cooling ponds are national waters.

Waters of the Lake Anna cooling ponds/lagoons reached 106 degrees on August 3, 2006 as recorded by local residents. The Lake Anna Civic Association (LACA) Water Quality Team had recorded 104.6 degrees F at the end of the discharge canal on the same day at a different time. LACA has also reported that waters in the North Anna River (3 miles before it enters Lake Anna) are 13 degrees cooler than the central part of the lake above the Rt 208 Bridge.

The current limits of 89.6 F for non-tidal waters established by the U.S. Clean Water Act have been violated many times by Dominion throughout the entire lake. In addition, the U.S. Clean Water Act defines that the effluent discharge into Lake Anna shall not be increased more than 6.3 degrees F above the natural water temperature. Therefore recent LACA studies have shown the current natural North Anna River temperatures to be approximately 72 degrees F, which translated with the U.S. Clean Water Act requirements, indicates that Lake Anna water temperatures should not exceed 78.3 degrees F under current conditions.

**Dominion's current 316(a) variance.** Dominion has a current variance from the VPDES permit under section 316(a) (Thermal Discharges) of the federal Clean Water Act; however this variance is for the vicinity of the Dike 3 discharge and in the shallow reaches near its tributaries. Whenever the current VPDES permit is renewed, it is essential that VDEQ renewal process includes a detailed review of any previous variances granted.

***Variances cannot be granted to a commercial/utility company for life or we could be faced with 150 degree F lake temperatures with the public having no recourse.*** Local conditions change and the VPDES renewal process must be pro-active in soliciting public comments prior to the draft of a new permit to ensure that it is as stringent or more stringent than the EPA delegation to the state of the Clean Water Act administration responsibilities. The VPDES process must examine whether local conditions have changed (i.e. increased use of lake by the public for recreation, heating of the entire lake to 90 degree temperatures creating unhealthy conditions, etc.) prior to any re-issuance of the waiver. The U.S. Clean Water Act 316A variance does not and should not permit the entire Lake Anna to be heated to unhealthy conditions. The clean water act also anticipates that the water discharge would occur in a free flowing river or ocean, so the heat transfer would be carried downstream, not be in an impoundment with little water-flow that heats up throughout.

**U.S. Code Title 33, chapter 26, subchapter III Section 1312 of the Clean Water Act re Water quality related effluent limitations** indicates that effluent limitations should be imposed on those effluents that would not interfere with the attainment of water quality in a specific portion of the waters *to protect public health, shellfish, fish and wildlife and allow recreational activities in and on the water*

**U.S. Code Title 33, chapter 26, subchapter III Section 1313 of the Clean Water Act re Water Quality Standards and Implementation Plans** indicates that water quality standards *to protect the public health and welfare , plus fisheries and wildlife and recreational and other for intrastate waters shall be reviewed at least once each three year period.*

**U.S. Code Title 33, chapter 26 subchapter III Section 1326 of the Clean Water Act re Thermal Discharges** indicates that *more stringent thermal effluent limitations may be imposed* to assure the protection and propagation of shellfish, fish and wildlife in the body of water.

The entire Lake Anna is unique and it is primarily an impoundment where 99% of the water is re-circulated, which in turn causes the entire Lake to heat up, since only about 1% of the water is released over the dam. Since the entire lake is 17 miles long and includes 13,000 acres of water (with depths of 50- 75 feet in many parts), and water temperatures exceed 90 degrees F throughout the lake, *it would seem that Dominion is routinely in violation of the U.S. Clean Water Act and the VPDES variance that they have.* Any additional heat transfer from the proposed 3<sup>rd</sup> unit water-cooling tower blowdown/discharge will only compound the problem, while the proposed unit 4 dry air cooling tower would have no additional heat transfer impacts to the lake.

The VPDES permit is one of the enforceable policies of the Coastal Program. If the current 316A variance granted by the VPDES is in violation of the Clean Water Act, it follows that any future VPDES permit will also be in violation if immediate changes to protect the public are not made.

**4. Inconsistency with the Advisory Policies of the Coastal Program and the U.S. Clean Water Act.** The Coastal Program promotes recreational uses of coastal waters that include swimming, boating, fishing, etc. The U.S. Congress passed the Clean Water Act to restore and maintain the chemical, physical, and biological integrity of the Nation's waters (33 U.S.C. section 1251(a). The national goal of the Act is to achieve "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water" (33 USC section 1251(a) (2).

**5. One set of the North Anna River Users should not benefit at the expense of another set of users.** Whatever, the final solution is for not decreasing the inadequate water supply in the small water shed; the solution should not benefit one set of users at the expense of another set of users.

For example, the lake levels should not be raised which could cause property damage to lake owners to quarantine more water so it could be released later to satisfy the downstream users at different times of the year.

Likewise the consumptive use of water and increased needs for water caused by population growth by downstream users should not cause the lake levels to be dropped so more water flow could be released to downstream users and then create mud flats throughout the lake.

**6. Alternative Cooling Method.** One alternative discussed, but not proposed in the SDEIS is to exclusively use dry Air Cooling for the 3<sup>rd</sup> unit, which would then negate any further water withdrawals from the small watershed and would also alleviate a major safety problem if the dam breaks or was blown-up by a terrorist attack. The dam break would necessitate the dam repair and then also requiring 3 years to refill the lake before you could restart any of the reactors.. ***If the dam break occurred, 1/3 of Virginia could be without power for 3 years.*** The dry-air cooling appears to be a feasible option, since this is same technology that Dominion has proposed for Unit 4 and is used by many overseas countries that do not have a local water source. In addition, many of the recommendations by VDEQ analysis to the NRC requests that the air cooling mode be used with unit 3 for 7 months of the year to reduce lake water drawdown and reduce the risk of a complete unit 3 shutdown. As defined in section 7.3 of the SDEIS dry cooling would eliminate the consumptive water loss associated with unit 3.

In its response to the DEIS, VDEQ's Division of Water Resources (DWR) expressed its preference for the once-through cooling process proposed for Unit 3 be changed to a dry cooling tower because ***the once-through process results in less consumptive use of water than the unit 3 cooling tower proposed.*** Also in its comments on the DEIS, DWR stated that it would have no concerns about this project if both the third and fourth reactors at North Anna were dry air cooled. The SDEIS must fully analyze the consumptive water use for this new cooling method.

## 7. Other related concerns:

To ensure that the proposed construction of a 3<sup>rd</sup> & 4<sup>th</sup> reactor will minimize the adverse affect to the quality of life for those that live and use Lake Anna, we also ask that you forward the following concerns to the appropriate Va. State departments for evaluation and comment prior to your making a final decision on the ESP or Federal Consistency Certification.

- a. Water temperatures should be limited to no more than 104 degrees F at the end of the discharge canal
- b. Point of compliance for all U.S. and water permits should be changed from Dike 3 to the end of the discharge canal to provide all Clean Water Act protections for all cooling lagoon users.
- c. Human health problems due to increased water temperatures and increased bacteria from increased water temperatures.
- d. Impact to wildlife, fish and endangered species (*DGIF recently identified two new bald eagle nest at Lake Anna*) as a result of increased water temperatures, reduced water flow, increased drought cycles and possible loss of food supply for endangered species due to fish kills as a result of high water temperatures in the cooling lagoons, reduced water flow.
- e. Raising of lake level to retain more water for 3<sup>rd</sup> unit and resulting in destruction of adjoining property and also for retention for downstream users.

f. Lowering lake levels by increased water usage thereby causing increased drought cycles ranging from weeks to months.

g. Need to enforce U.S. Clean Water Act for recreating in and on the water in both the main reservoir and cooling lagoons. Currently the cooling lagoon and main reservoir waters exceed hot tub temperatures on many occasions.

h. Height of dry and wet cooling towers and facility buildings should not exceed tree line to protect the rural esthetic atmosphere of the community as Dominion indicated in Jan 06 stakeholder meeting.

i. Impact of 5,000 – 7,000 new workers (construction, periodic maintenance, professional) employees for 5 years on local roads and schools. This will create the need for new expanded roads before the project begins because of the workers and the three newly approved Louisa County subdivisions for about 1800 new homes in close proximity to the plant. These are possibly in anticipation of the new reactors being built?

New schools and other county infrastructure (police, fire, rescue squads, etc.) will need to be planned and built prior to any new tax dollars coming from Dominion. Louisa is now the 73<sup>rd</sup> fastest growing county in the U.S. Who is going to pay for all these new requirements? Is the Federal Government (NRC & other departments) going to give grants to Louisa County, similar to the 8 to 10 million dollar grant they gave to Dominion for processing the Early Site Permit?

j. Emergency evacuation on small 2 lane roads. Need for expanded road system to accommodate new workers and subdivisions.

k. Safety - spent nuclear fuel (where stored) & terrorist attack protections for plant, dam, etc)

l. Impact of additional fog and icing from wet cooling towers on local roadways.

m. Noise concerns emitted from 180/230 foot buildings that will travel long distances without having tree barriers to break the sound from giant fans.

## 8. Summary

a. We believe that the North Anna project as currently proposed is inconsistent with the Va. Coastal Zone Management Program as approved under the U.S. Coastal Zone Management Act. We support the concept of a 3<sup>rd</sup> and 4<sup>th</sup> reactors, but the above environmental items must be resolved prior to the issuance of any Federal Consistency Certification. **We request that a federal consistency certification not be issued until the above issues are satisfactorily resolved**

b. We request that the U.S. Clean Water Act be enforced so the entire lake is not a hot tub with temperatures throughout the lake periodically in the 90's or greater that we have experienced in recent weeks and the waters at the end of discharge canal be no greater than 104 degrees F. Any previous Clean Water Act variances granted should be immediately revisited to ensure the 500,000 plus annual users/public's health, safety and welfare is protected and all U.S. Clean Water Act and other laws are complied with prior to any new VPDES discharge permit or variances being granted.

c. We also request that the all state and federal agencies stop using the designation, Waste Heat Treatment Facility to describe the cooling lagoons of Lake Anna so it is not viewed and treated similar to a sewage treatment facility by Virginia state departments. This designation affords no public protection for the over 8,000 users of the cooling lagoons on a typical summer weekend day.

d. Further, we request that the VPDES Point of compliance be changed from Dike 3 to the end of the Discharge Canal and the Cooling Lagoons start to be treated by all state agencies as quasi-public waters so the health, welfare and safety of those who use the cooling lagoons is protected.

The quasi-public water designation would recognize that Lake Anna is unique for thermal cooling (unlike other power plants that discharge heated waters into oceans or major free flowing rivers). It would also permit the state to treat the cooling lagoons as public waters and afford them the same protection as other public waters unless there is a nuclear disaster. This would also adhere to the recent Supreme Court Decision (S. D. Warren vs. Maine Board of Environmental Protection) to be adhered to which did not permit the privatization of public waters. If there is a nuclear disaster at the North Anna plant, this designation would be recognized that the cooling lagoons are adjacent to a nuclear power plant and in the event of a nuclear disaster only, nuclear by-products could be discharged into the cooling lagoons and be quarantined

e. We also request that VDEQ provide a cumulative impact analysis of the water withdrawal of the new unit 3 water cooling tower method. The analysis should identify the number of inches that the lake level will be lowered from the current conditions for each month of the year. It should also include the impact to downstream users and fisheries and potential impacts to groundwater users (current & planned) that include landowners, utilities, commercial and farming) surrounding Lake Anna throughout the small watershed. and downstream users.

f. We further request that all items defined above that are not part of the Coastal Zone Program be forwarded to the appropriate state or federal agency for review and comment prior to any Federal Consistency Certification being granted.

Thank you for your time and consideration of the above items,

Sincerely,

Harry Ruth  
For the Friends of Lake Anna

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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**(Presentation to U.S. Nuclear Regulatory Commission public hearing on August 15, 2006 at Louisa Middle School, Louisa, Va.)**

**Dear Nuclear Regulatory Commission & Ladies and Gentlemen,**

**My name is Harry Ruth and I reside at 230 Heather Drive, Bumpass, Va. I live on Lake Anna and represent the Friends of Lake Anna.**

**1. Friends of Lake Anna.** “The Friends of Lake Anna” is a citizen group representing 2,650 persons 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 its 500,000 plus annual users and insure compliance with the law.

We believe that the U.S. should become self-reliant for energy sources and not be dependent on foreign oil, but we do want to promote the wise and safe use of nuclear energy and not have the impact of new nuclear reactors destroy Lake Anna in the process. If the project at the North Anna Plant is accomplished correctly and takes into account our concerns, possibly the new reactors could become a model for the continued growth of nuclear energy throughout the country. If the project is handled poorly, resulting in public and political uproar and bad national press, the entire future of increased nuclear energy within the U.S. could be on hold for many more years.

We are not opposed to the North Anna Project and do support the addition of 3<sup>rd</sup> and 4<sup>th</sup> nuclear reactors at the North Anna plant, but want to ensure that all environmental issues are taken care of prior to the issuance of either an NRC Early Site Permit or a VDEQ Federal Consistency Certification.

**2. Overview:**

The U.S. public should be permitted to comment on the Safety Evaluation Report and also the public comment period should automatically be extended each time a revision to the Early Site Permit is accepted and published by the NRC.

We also believe that the North Anna project as currently proposed is inconsistent with the Va. Coastal Zone Management Program as approved under the U.S. Coastal Zone management Act.

It is inconsistent with the Coastal Zone Management Act related to Fisheries Management and Point Source Pollution Controls and also the federal U.S. Clean Water Act. Also one set of the North Anna River Users should not benefit at the expense of another set of users. Possibly other cooling alternatives should be considered. In addition, there are other local environmental items that should be addressed further evaluated prior to making any final determination on either the ESP or Federal Consistency Certification.

**I will now address each of these items.**

### **3. Public involvement with Safety Report.**

The public should be involved in both the Safety Evaluation Report, as well as the Environmental Impact Statement. The NRC does not provide for any public scrutiny of a draft Safety Evaluation Report prior to its issuance. The public's safety should be the primary focus of any government agency. The public's review of any safety projects is essential. It appears the NRC is basing decisions on 5 year old data and has not considered recent property development around the lake or world events in any of their decision making. The NRC's staff population increase projects for the North Anna site through 2065 is not anywhere in the ballpark, Louisa County is currently the 73<sup>rd</sup> fastest growing county in the U.S.

Where are the NRC safety protections for terrorist attacks against the plant and dam. If the dam is blown up and breaks. The Lake Anna water will run downstream. How will the reactors be cooled? Will 1/3 of Virginia be without power. How long will the power outage last? Will Dominion have to build a new dam and wait 3 years for the lake to fill up before you can restart the reactors and restore power to 1/3 of Virginia? Is building another water-cooled reactor that is dependent on a lake that takes 3 years to fill up the best approach to protect Virginia's and the U.S. electrical needs when a dry-air cooled reactor will eliminate this problem? The public must be involved with the safety of the nuclear reactors, whether it is at the plant, at the dam, together with how, where and how long the spent nuclear fuel is stored.

### **4. Automatic Extension of Public Comment period.**

The NRC continues to accept many changes to the ESP, without automatically extending the public comment period each time a change is issued. Currently we are reviewing Revision 6 to the North Anna ESP, which is over 1,000 pages of technical data. In addition, just last month (July 2006) you issued a supplemental Draft Environmental Impact Statement relating to Revision 6 only, that was about 500 pages, which related to your first draft Environmental Impact Statement which was another 600 or 700 pages. You have also just within the past few weeks, issued Revision 7 and a Revision 8 with no automatic extension of the public comment.

While the Draft Environmental Impact Statement (DEIS) is still under review, Dominion continues to make revisions to issues that are analyzed. Hence our review of the DEIS is a moving target, without the NRC automatically extending the public comment period and giving the public sufficient time to review the changes

The NRC should evaluate all of the applicant's documents and ensure that they are complete before completing its analysis of the issues and issuing the documents to the public or the commonwealth for review. Once the NRC and the applicant have finalized the requested ESP application, then and only then should the documents be issued for public and commonwealth review. It seems like everyone is spinning wheels in trying to keep up with all the Dominion and NRC revisions, Requests for Information, Responses for Request for Information, additional revisions, draft environmental impact statements that pertain to the earlier revision only and is making a mockery of an extremely important governmental process so the states, local population and energy companies can participate in a streamline efficient coordinated process that allows the U.S. to become adequately prepared for the upcoming energy crisis and to be self-reliant for energy resources (including nuclear energy) and not be dependent on foreign oil.

*The current ESP process resembles a three ring circus without having a ring master to direct all of the acts, but the time keeper is making sure that the public/audience moves out of the big top so the next schedule performance can begin.*

## **5. Current ESP proposal is inconsistent with Va. Coastal Zone Management Program.**

**a. Fisheries Management** – The Department of Game and Inland Fisheries (DGIF) has found that the fish will continue to be adversely affected even after the changes to the 3<sup>rd</sup> reactor have been made. See comments in the draft environmental impact statement and reference DGIF memo dated July 7, 2006 originated by Raymond Fernald re the ESP.

**b. Point Source Pollution controls** As stated in VDEQ analysis of the draft DEIS, the North Anna watershed is too small to allow large water withdrawals. These would adversely affect the beneficial uses of the North Anna River which flows into the Pamunkey River, which flows into the Chesapeake Bay and then into the Atlantic Ocean. The DGIF & VDEQ analysis clearly indicates that the 3<sup>rd</sup> unit would increase the drought cycle and cause decreased water flows during March, April; May; June, July, August and October (7 months) of each year.

Even though the proposed water withdrawal has decreased with the new cooling methods, yet the withdrawals remain significant with this small watershed. At a minimum NRC and VDEQ must provide an analysis of the cumulative impact taking into consideration worst-case scenario that includes the 2001-2002 drought.

Recent Lake Anna Civic Association (LACA) water studies have indicated that the North Anna River (3 miles before it enters Lake Anna) is 13 degrees cooler than the central part of the lake above the Rt 208 Bridge. Many areas of the entire lake (both main reservoir and cooling lagoons) have recently experienced temperatures in the low to high ninety's which clearly exceeds the 89.6 degree F temperature limitation in the Clean Water Act. Some residents have reported temperatures as high as 106 degrees F. The entire Lake Anna is being heated as a result of the current power plant.

NRC and VDEQ must fully analyze the impact of any further water temperature increases resulting from the blowdown/discharges of the proposed unit 3 cooling towers or any malfunction of any of the proposed cooling towers or current generating units. The existing units 1 & 2 periodically exceed Clean Water Act limitations and any additional temperature increases by the proposed cooling towers will only exacerbate the situation.

Waters of the Lake Anna cooling ponds/lagoons reached 106 degrees on August 3, 2006 as recorded by local residents. The Lake Anna Civic Association (LACA) Water Quality Team had recorded 104.6 degrees F at the end of the discharge canal on the same day at a different time. LACA has also reported that waters in the North Anna River (3 miles before it enters Lake Anna) are 13 degrees cooler than the central part of the lake above the Rt 208 Bridge.

The current limits of 89.6 F for non-tidal waters established by the U.S. Clean Water Act have been violated many times by Dominion throughout the entire lake. In addition, the U.S. Clean Water Act defines that the effluent discharge into Lake Anna shall not be increased more than 6.3 degrees F above the natural water temperature. Therefore recent LACA studies have shown the current natural North Anna River temperatures to be approximately 72 degrees F, which translated with the U.S. Clean Water Act requirements, indicates that Lake Anna water temperatures should not exceed 78.3 degrees F under current conditions. Dominion has a current variance from the VPDES permit under section 316(a) of the federal Clean Water Act; however this variance is for the vicinity of the Dike 3 discharge and in the shallow reaches near its tributaries. The variance does not permit the entire Lake Anna to be heated. The clean water act anticipates that the water discharge would occur in a free flowing river or ocean, so the heat transfer would be carried downstream.

The entire Lake Anna is unique and it is primarily an impoundment where 99% of the water is recirculated, which in turn causes the entire Lake to heat up, since only about 1% of the water is released over the dam. Since the entire lake is 17 miles long and includes 13,000 acres of water (with depths of 50- 75 feet in many parts), and water temperatures exceed 90 degrees F throughout the lake, it would seem that Dominion is routinely in violation of the U.S. Clean Water Act and the VPDES variance that they have. Any additional heat transfer from the proposed 3<sup>rd</sup> unit water-cooling tower blowdown/discharge will only compound the problem, while the proposed unit 4 dry air cooling tower would have no additional heat transfer impacts to the lake.

**6. Inconsistency with the U.S. Clean Water Act.** The U.S. Congress passed the Clean Water Act to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The national goal of the Act is to achieve "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water"

**7. One set of the North Anna River Users should not benefit at the expense of another set of users.** Whatever, the final solution is for not decreasing the inadequate water supply in the small water shed; the solution should not benefit one set of users at the expense of another set of users.

For example, the lake levels should not be raised which could cause property damage to lake owners to quarantine more water so it could be released later to satisfy the downstream users at different times of the year.

Likewise the consumptive use of water and increased needs for water caused by population growth by downstream users should not cause the lake levels to be dropped so more water flow could be released to downstream users and then create mud flats throughout the lake.

## 8. Alternative Cooling Method.

One alternative discussed, but not proposed in the SDEIS is to exclusively use dry Air Cooling for the 3<sup>rd</sup> unit, which would then negate any further water withdrawals from the small watershed and would also alleviate a major safety problem if the dam would break or was blown-up by a terrorist attack and there was no water for cooling any of the reactors. 1/3 of Virginia could be without power for 3 years while we wait for the lake to refill. The dry-air cooling appears to be a feasible option, since this is same technology that Dominion has proposed for Unit 4 and is used by many overseas countries that do not have a local water source. In addition, many of the recommendations by VDEQ analysis to the NRC requests that the air cooling mode be used with unit 3 for 7 months of the year to reduce lake water drawdown and reduce the risk of a complete unit 3 shutdown. As defined in section 7.3 of the SDEIS dry cooling would eliminate the consumptive water loss associated with unit 3.

In its response to the DEIS, VDEQ's Division of Water Resources (DWR) expressed its preference for the once-through cooling process proposed for Unit 3 be changed to a cooling tower because the once-through process results in less consumptive use of water than the cooling tower. Also in its comments on the DEIS, DWR stated that it would have no concerns about this project if both the third and fourth reactors at North Anna were air cooled. The SDEIS fails to analyze this alternative.

The SDEIS must fully analyze the consumptive water use for this new cooling method.

## 9. Other related concerns:

To ensure that the proposed construction of a 3<sup>rd</sup> & 4<sup>th</sup> reactor will minimize the adverse affect to the quality of life for those that live and use Lake Anna, we also ask that you further evaluate the following concerns prior to your making a final decision on the ESP or Federal Consistency Certification.

- a. Water temperatures should be limited to no more then 104 degrees F at the end of the discharge canal
- b. Point of compliance for all U.S. and water permits should be changed from Dike 3 to the end of the discharge canal to provide all Clean Water Act protections for all cooling lagoon users.
- c. Human health problems due to increased water temperatures and increased bacteria from increased water temperatures.
- d. Impact to wildlife, fish and endangered species (bald eagles) as a result of increased water temperatures, reduced water flow, increased drought cycles and possible loss of food supply for endangered species due to fish kills as a result of high water temperatures in the cooling lagoons, reduced water flow.
- e. Raising of lake level to retain more water for 3<sup>rd</sup> unit and resulting in destruction of adjoining property and also for retention for downstream users.

- f. Lowering lake levels by increased water usage thereby causing increased drought cycles ranging from weeks to months.
- g. Need to enforce U.S. Clean Water Act for recreating in and on the water in both the main reservoir and cooling lagoons. Currently the cooling lagoon and main reservoir waters exceed hot tub temperatures on many occasions.
- h. Height of dry and wet cooling towers and facility buildings should not exceed tree line to protect the rural esthetic atmosphere of the community as Dominion indicated in Jan 06 stakeholder meeting.
- i. Impact of 5,000 – 7,000 new workers (construction, periodic maintenance, professional) employees for 5 years on local roads and schools. This will create the need for new expanded roads before the project begins because of the workers and the three newly approved Louisa County subdivisions for about 1800 new homes in close proximity to the plant. These are possibly in anticipation of the new reactors being built?
- New schools and other county infrastructure (police, fire, rescue squads, etc.) will need to be planned and built prior to any new tax dollars coming from Dominion. Louisa is now the 73<sup>rd</sup> fastest growing county in the U.S. Who is going to pay for all these new requirements? Is the Federal Government (NRC & other departments) going to give grants to Louisa County, similar to the 8 to 10 million dollar grant they gave to Dominion for processing the Early Site Permit?
- j. Emergency evacuation on small 2 lane roads. Need for expanded road system to accommodate new workers and subdivisions.
- k. Spent nuclear fuel (where stored, terrorist attack protections, etc.)
- l. Impact of additional fog and icing from wet cooling towers on local roadways.
- m. Noise concerns emitted from 180/230 foot buildings that will travel long distances without having tree barriers to break the sound from giant fans.

## 10. Summary

- a. We believe that the North Anna project as currently proposed is inconsistent with the Va. Coastal Zone Management Program as approved under the U.S. Coastal Zone Management Act. We support the concept of a 3<sup>rd</sup> and 4<sup>th</sup> reactors, but the above environmental items must be resolved prior to the issuance of either a Federal Consistency Certification. We request that a Federal Consistency Certification or an Early Site Permit not be issued until the above issues are satisfactorily resolved
- b. We request that the U.S. Clean Water Act be enforced so the entire lake is not a hot tub with temperatures throughout the lake in the 90's that we have experienced in recent weeks and the waters at the end of discharge canal be no greater then 104 degrees F

c. We also request that the all state agencies stop using the designation, Waste Heat Treatment Facility to describe the cooling lagoons so it is not viewed and treated similar to a sewage treatment facility. This designation affords no public protection for the over 8,000 users of the cooling lagoons.

d. Further, we request that the VPDES Point of compliance be changed from Dike 3 to the end of the Discharge Canal and the Cooling Lagoons start to be treated by all state agencies as quasi-public waters so the health, welfare and safety of those who use the cooling lagoons is protected.

The quasi-public water designation would recognize that Lake Anna is unique for thermal cooling (unlike other power plants that discharge heated waters into oceans or major free flowing rivers). It would also permit the state to treat the cooling lagoons as public waters and afford them the same protection as other public waters unless there is a nuclear disaster. This would also adhere to the recent Supreme Court Decision (S. D. Warren vs. Maine Board of Environmental Protection) to be adhered to which did not permit the privatization of public waters. If there is a nuclear disaster at the North Anna plant, this designation would be recognized that the cooling lagoons are adjacent to a nuclear power plant and in the event of a nuclear disaster only, nuclear by-products could be discharged into the cooling lagoons and be quarantined.

e. We request that alternative analysis for the 3<sup>rd</sup> unit cooling method be accomplished to fully consider dry air cooling for the 3<sup>rd</sup> unit as used by many overseas countries to eliminate the consumptive water loss associated with using wet cooling towers

f. We also request that the public be involved in reviewing a draft safety report re the ESP prior to its final issuance and also that there is an automatic extension of the public comment period whenever a revision to the ESP occurs. The current public comment period should be extended to permit the public to have adequate time to review and comment on Revision 7 and Revision 8 which were issued after the supplemental draft environmental Impact Statement was issued in July, just a few weeks ago..

Thank you for your time and consideration of the above items,

Sincerely,

Harry Ruth  
For the Friends of Lake Anna

CC: U.S. Representative Eric Cantor (7<sup>th</sup> District) (via email – [Lloyd.Lenhart@mail.house.gov](mailto:Lloyd.Lenhart@mail.house.gov))  
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