

NAPSEISComment Resource

From: Harry Ruth [HC.RUTH@LOUISA.NET]
Sent: Thursday, March 10, 2011 1:54 PM
To: Dozier, Tamsen
Cc: Bob & Jo Richards; George & Gerry Heino; Walter Michalski; Ken Remmers (work); Ken Remmers; Masnik, Michael
Subject: Fw: FOLA's - Additional Concerns for Lake Anna consistency certification
Attachments: FOLA - Presentation to VDEQ (Coastal Zone Pgm) - Thur - 3Mar11.doc; FOLA - LAKE ANNA 2010 VISITOR STATISTICAL SUMMARY - 5 Dec 10.doc

To: Tamsen Dozier (NRC Environmental)

Re: Supplemental Environmental Review for the Construction and Operating License North Anna 3 nuclear reactor at Lake Anna, Virginia

Dear Mrs. Dozier,

Please consider all the various comments from the below 3 March and 9 March emails, including the attachments when preparing and reviewing any of the environmental reports for the North Anna 3 nuclear project.

Note that I have also faxed 17 pages to you at 301-415-5397 today that are used as references in the 9 March email (paragraph 2) and provide documentation that supplements the comments together with proof that Dominion is not managing the Lake Anna water efficiently.

Note: On 7 March 2011, the main reservoir lake water level was down 2 inches from the design level, while the cooling lagoons were down 10 inches and Dominion was letting about 194 million gallons a day go over the dam and downstream.

Also, please note that we have questioned the validity of this review to the NRC Chairman at this time, since the final design of the 3rd reactor will not take place until 2013 according to recent NRC reports.

Please advise 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

----- Original Message -----

----- Original Message -----

From: [Harry Ruth](#)
To: [Ellie Irons \(VDEQ\)](#)

Sent: Wednesday, March 09, 2011 3:05 PM

Subject: FOLA's - Additional Concerns for Lake Anna consistency certification

9 March 2011

To: Virginia Department of Environmental Quality (Coastal Zone)
Attention: Ellie Irons (Environmental Impact Review Manager)
via email elirons@deq.virginia.gov

Reference: FOLA's - Concerns for Lake Anna Consistency Certification submitted on 3 March 2011

Subject: Additional concerns/comments.

Dear Mrs. Irons,

The following are additional concerns/comments to be considered during the Office of Environmental Impact Review for the Consistency Certification of the North Anna 3 project.

1. We request that the Consistency Certification by your office to the Nuclear Regulatory Commission as a result of this review be an "Objection", with the notation that the state will lift the objections if the applicant complies with certain conditions. These conditions would necessitate a satisfactory resolving, with public participation, of all the concerns/ comments previously submitted in our 3 March letter, plus any new comments in this email and others that may be submitted prior to the 18 March deadline. These are to include, but not limited to:

- a. The completion by a Lake Anna Comprehensive Impact Study by independent contractor
- b. The development of a Comprehensive Water Level Management Plan that has penalties if the water manager does not comply
- c. Realistic design plan changes to reduce the requested water consumption so it does not have a negative affect on the recreational and other lake activities.
- d. Realistic plans to reduce the water temperature as a result of the 3 reactors operating concurrently etc....

2. We are faxing under a separate cover the following items to Fax 804-698-4319 today

a. A sample copy of the 2008 Petition concerning the declining lake levels of Lake Anna Virginia. This petition, together with emails and letters was received representing over 6,500 persons. See the petition for details of the concerns.

.b. A copy of Lake Anna Fact's that defines the various U.S. Government Agencies, Commonwealth of Virginia departments, together with Louisa, Spotsylvania & Orange County that have some oversight of Lake Anna responsibilities. It also includes an overview of the Lake Environment, together with all the various types of recreation that occurs on the lake.

Our comment is that it appears that each federal, state or local jurisdiction is only focused on their individual part. Who is looking out for the overall environmental impact to Lake Anna to address the concerns identified in our 3 March submittal, plus those in the above petition? Many concerns cross jurisdictional lines, however sometimes the cooperation to resolve the concern is not the best and should be improved.. What federal or state agency looks at the total big picture to protect the health, safety and welfare of the public? .

c. A copy dated 10 Jan 2011 from Dominion's website that indicates that on that date the main reservoir was down 15.5 inches from the design level of 250.0 MSL for a lake water level of 248.7. MSL. At the same time measurements were taken in the cooling lagoons indicated that the cooling lagoons were down 27" from the design level of 251.5 MSL. Also note that this reflects a difference of about one foot in difference between the design water levels of the two sides showing that Dominion is not doing an effective job of water management to retain water in the lake. Both sides of the lake should be down/up the corresponding number of inches.

d. A copy of Louisa County Tax Revenues from Lake Anna Residential Properties versus Dominion Power. Note that this does not include Lake Anna region commercial business revenues, nor revenues from personal property tax for boats, airplanes, vehicles, etc. which are estimated to account for

at least another 10% of the Louisa County Revenues. The Lake Region only occupies less than 4% of the County land, while contributing a total of about 60% of the county revenues.

Concern: Negative impacts to water levels or water temperatures to the lake will have a dramatic impact to the total revenues received by Louisa County and would cause a major increase in taxes to the local population to compensate for the lost income..

e. Identification of the 177 subdivisions that surround the lake, with notations if they are on the public(main reservoir) or the private (cooling lagoons) side of the lake. Source Lake Anna Maps . Concern: Negative impacts to the lake water levels or water temperatures will may have a dramatic impact to the quality of life for all of those occupants and their visitor friends.

f. An email that defines the Dominion website and USGS website and actual printout (where water levels on the Main Reservoir) together with water temperatures being discharged on 7 March 2011 Also noted is the cooling lagoons water level being down 10' from the design level of 251.5 MSL.

The printout from the USGS website from 7 March 2011 also defines how much water is being discharged over the Lake Anna dam at the same time that the Water Level on the Main Reservoir is down over 2 inches and the cooling lagoons are down 10 inches.

Note that according to the Lake Level Contingency Plan (law) Dominion should only be discharging water in excess of 40 Cubic Feet Per Second (CFS) when the Lake Level exceeds 250 MSL. This graph defines that on 7 Mar 2011 that 300 cubic feet per second was being discharged over the Lake Anna dam at the same time that the lake levels were down over 2 inches on the main reservoir and 10 inches in the cooling lagoon.

See accompanying formula for defining that Dominion, with 300 CFS being released over the dam, that this equates to 193,881,600 gallons per day lost and going down stream

Concern: After repeated demands for better lake water management, Dominion is not practicing good water management to retain water in the lake. How can we then trust them with the 3rd reactor taking more water out of the lake with a result of having decreased water levels to dissipate the heat from the first 2 reactors. This clearly demonstrates the need for a water management plan, that has penalties to the water manager if they do not maintain water levels to the design levels on both sides of the lake when there is an abundant supply of water. It also begs to have the technology updated both at the dam release and also at Dike 3 with 2011 capabilities for managing water releases and also maintaining water in the cooling lagoons with some type of automated locks at Dike 3 when one or more of the water circulating pumps are shut off.

g. Extracts from the Land Use Plan for the North Anna Reservoir, Virginia that was prepared in 1971 for the Virginia Commission of Outdoor Recreation with the generous support and assistance of the Virginia Electric and Power Company. (Dominion's predecessor). Pages 27 & 28 of the plan defined the planned environment for (1) Vacation Homes and (2) Permanent homes around the entire 13,000 lake/North Reservoir.

Concern: Residential development and recreation was planned for the entire North Anna reservoir (both sides) from the very beginning. Here we are about 40 years later, with about 3 million annual users on both sides of the lake. Water Level and Water Temperature do not appear to be a priority by Dominion. Changing of the design to use more or exclusively dry cooling or some of the other suggestions previously (see 3 Mar letter) made would mitigate the water level and water temperature concerns, so this project could be a win-win for all. The residents/users lifestyles should not be negatively impacted as a result of the 3rd reactor. This demonstrates the need for a Comprehensive Lake Anna Impact Study before proceeding with the 3rd reactor, do the design can be modified accordingly (if need be) to insure no negative impacts as a result of the 3rd reactor.

3. We continue to support the Unit 3 project and are hopeful that your office will be able to resolve the concerns so that the project is a win-win for all.

Thank you for the opportunity to comment..

Please advise 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

----- Original Message -----

From: [Harry Ruth](#)
To: [Ellie Irons \(VDEQ\)](#)
Sent: Thursday, March 03, 2011 2:31 PM
Subject: FOLA's -Concerns for lake Anna consistency certification

3 March 2011

To: Virginia Department of Environmental Quality (Coastal Zone)
Attention: Ellie Irons (Environmental Impact Review Manager)
via email elirons@deq.virginia.gov

Dear Mrs. Irons,

Please see the two attachments for the Friends of Lake Anna submittal that identifies many environmental concerns with Dominion's application for a Federal Consistency Certification for a Combined License for the North Anna Power Station Unit 3.

We plan to summarize all of the various details in the detachments at tonight's public meeting at the Louisa Middle School. We also understand that all individuals are encouraged to submit their individual comments prior to March 18

We support the Unit 3 project and are hopeful that your office will be able to resolve the concerns so that the project is a win-win for all.

Thank you for the opportunity to comment..

Please advise 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

Federal Register Notice: 76FR6638
Comment Number: 8

Mail Envelope Properties (AB57F8721C734B57B4F73412E20F92F4)

Subject: Fw: FOLA's - Additional Concerns for Lake Anna consistency certification
Sent Date: 3/10/2011 1:54:00 PM
Received Date: 3/10/2011 1:55:05 PM
From: Harry Ruth

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Files	Size	Date & Time	
MESSAGE	12017	3/10/2011 1:55:05 PM	
FOLA - Presentation to VDEQ (Coastal Zone Pgm) - Thur - 3Mar11.doc			101952
FOLA - LAKE ANNA 2010 VISITOR STATISTICAL SUMMARY - 5 Dec 10.doc			31808

Options

Priority: Standard
Return Notification: No
Reply Requested: No
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Expiration Date:
Recipients Received:

To: Virginia Department of Environmental Quality (Coastal Zone)
Attention: Ellie Irons (Environmental Impact Review Manager)
Via email elirons@deq.virginia.gov

Reference: Dominion Virginia Power application for Federal Consistency Certification for a Combined License (COL) and United States Army Corps of Engineers Permit for the North Anna Power Station Unit 3

1, OVERVIEW; The Friends of Lake Anna believe that the North Anna project for the 3rd reactor as currently proposed in the 30 Sept 2010 submittal by Dominion is inconsistent with the Va. Coastal Zone Management Program as approved under the U.S. Coastal Zone management Act and should not be granted a Consistency Certification until all the environmental items defined below are satisfactorily resolved.

It is inconsistent with the enforceable policies of the Coastal Zone Management Act primarily related Point Source Water Pollution Control & Fisheries Management, together with pending Public Access, Cumulative and Secondary Impacts, Special Area Access policies for the reasons stated below..

In addition, there are other local environmental items not within the purview of the Coastal Zone Program; however we request that you forward the concerns to the appropriate Federal or Virginia departments for their comment and evaluation prior to making any final determination on the Federal Consistency Certification.

2. LAKE ANNA AND THE FRIENDS OF LAKE ANNA.

Lake Anna is a 13,000 acre lake (3rd largest in state) located in Louisa, Spotsylvania and Orange Counties, Virginia. The main reservoir has 9,600 acres of water, while the cooling lagoons have 3,400 acres. There are approximately 5,000 private residences adjacent to the entire 220 mile shoreline. Over 100 Businesses, Marinas, Campgrounds, Motels, Realtors, Lake Anna State Park, etc. depend on the quality of the water and water level within the lake. The three counties depend on the high real estate assessments/taxes received from lake property owners. The lake region accounts for 60% of Louisa County revenues. Ninety-nine (99) % of the heated water from the adjacent power plant circulates at 2 million gallons per minute. It goes from the power plant, through the cooling lagoons, dike 3, and back upstream in the main reservoir returning to the power plant for another cycle. As a result, the water in the cooling lagoons directly impacts both sides of the lake. The lake provides recreation for close to 3 million user/visitor recreation days annually to residents of the surrounding counties, plus frequent visitors from throughout Virginia, Washington D.C. and Maryland.

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 approximately 3,000,000 annual users (see attachment for visitor count) and insure compliance with the law.

We support the North Anna 3rd Unit Project, but want to insure that all environmental concerns, shoreline erosion, recreation, water supply, water quality, water level management, together with the needs and welfare of the surrounding counties and users to Lake Anna are addressed in a responsible manner. This could be a win-win project for all if Dominion modifies its proposed plans for its 3rd reactor which would also mitigate concerns with the current two reactors..

3. Early Site Permit Consistency Certification conditional concurrence: On 21 Nov, 2006, VDEQ Virginia Coastal Program provided a conditional federal consistency certification which was based on the following two conditions:

(a) that prior to construction and operation of one or both of the proposed new units, including any site preparation and preliminary construction activities, Dominion shall obtain all required permits and approvals not yet secured for the activities to be performed that are applicable to VCP's Enforceable Policies and that Dominion also adheres to all the conditions contained therein; and

(b) that should the U.S. Nuclear Regulatory Commission later approve Dominion's application and ultimately issue an Early Site Permit for the referenced project, in accordance with 15 CFR Part 930 -930.4(a)(3), the NRC shall include in the application approval and in the ESP the additional permit condition submitted by Dominion on November 10, 2006, at the request of the Department of Game and Inland Fisheries, which pertains to the completion of an Instream Flow Incremental Methodology study.

Dominion also stated, as part of their conditional certification, that they were aware that another federal consistency certification submission and review will be required should Dominion later decide to apply to the NRC for a combined construction and operating license.

We do not believe that the above two conditions have been met for the reasons stated below in this document and a new federal consistency certification should not be granted until all concerns noted below are responsibly addressed with public participation.

4. CURRENT PROPOSAL IS INCONSISTENT WITH VA COASTAL ZONE MANAGEMENT PROGRAM ENFORCEABLE POLICIES:

A. Primarily Point Source Water Pollution Control & Fisheries Management, together with pending Public Access, Cumulative and Secondary Impacts, Special Area Access policies.

(1) **Lake Anna lawsuit.** Blue Ridge Environmental Defense League (BREDL) initiated a lawsuit to insure that U.S. Clean Water Act Protection is afforded to all those that live and recreate on the Lake Anna Cooling Lagoons. This lawsuit indirectly also affects the main reservoir, since 99% of the water is re-circulated between the power plant, through Dike 3 and then back up stream to the power plant. In 2009, the Richmond Circuit Court initially found that U.S. Clean Water Act Protection should be granted to the Cooling Lagoons. Dominion appealed this decision to the VA. Appeal Court and did not want U.S. Clean Water Act protection for the thousands of people that live, swim, recreate and fish on the Lake Anna Cooling Lagoons, the appeals court has now ruled in Dominion's favor. In July 2010, BREDL appealed that decision to the VA. Supreme Court. It would appear that if BREDL's appeal is successful that possibly additional cooling methods may be necessary for reactors 1, 2 & 3, which would then impact the amount of Lake Anna water that may be required/available to cool the 3rd reactor. *Until the final resolution of this lawsuit is determined, then no Coastal Zone Certification should be granted.*

(2) **Lake Anna design.** Lake Anna was designed by Dominion and approved by VDEQ/NRC/FERC to have two different water levels: (1) main reservoir (250 MSL) and (2) three Cooling Lagoons (251.5 MSL = 251 and 6 inches) to provide for water flow between the cooling lagoons and main reservoir. Recent water levels during the 2010 Winter/Spring indicated the Cooling Lagoon design water level was down 12 inches (from the 251.5 MSL to 250.5), while the main reservoir design level was up 3 inches (to 250.25), while Dominion permitted over 400 million gallons per day to flow over the dam. After many meetings with Dominion it appears that Dominion, using 1960's technology, cannot adequately maintain/regulate the design water levels on both sides of the lake throughout the year. *If one side is up/down 3 inches, then both sides should be up/down 3 inches, etc.*

Dominion is not following the Virginia Governors' guidance for all Virginians to conserve water when managing the Lake Anna water levels in both the main reservoir and cooling lagoons for Units 1 & 2. How can we expect them to improve with Unit 3? Prior to granting a Coastal Zone Certification, Dominion should guarantee that they will use 2011 technology in any proposed Lake Anna construction plans for simply pushing a button to either maintain design water levels or (If one side is up/down 3 inches, then both sides should be up/down 3 inches, etc.) in the cooling lagoons and main reservoir or releasing water over the dam, to insure that the other wetlands not mentioned in the application and the recreation and safety of approximately 3 million annual users (see attached for visitor count) are not affected?

(3) Cumulative affect of cooling 3 reactors with Lake Anna water. Dominion's CZMA Consistency Certification application focuses only on the proposed unit 3 and does not consider the cumulative affect of Lake Anna water temperatures with all 3 reactors running by having less water in the lake which will be consumed by cooling the 3rd unit and also Louisa County Water needs.

a. With Units 1 & 2 operating, in the summer months Dominion has discharged water exceeding 104 degrees (F) into the cooling lagoons where the public recreates and there are fish, wildlife and aquatic life.

b. Although Dominion indicates that the unit 3 cooling method will only add minimal heat to the water that is discharged. They have not taken into account that with Unit 3 using up to 32 or 37 million additional gallons per day (depending on the report you read) that there will be less water in the lake to dissipate the heat from reactors 1 & 2. This in turn, will cause the overall lake temperatures to rise to unhealthy temperatures for humans, fish, wildlife and aquatic species.

c. Dominion indicates in their consistency application that a 3 inch rise in storage capacity would only maintain lake water surface elevation above existing conditions (with the exception of time of drought) approximately 75 percent of the time.. If that other 25% of the time when there is less water in the lake is during the primary recreation months (May through Sept), then the approximately 3 million annual users may have increased water temperatures which may be very unhealthy.

d. Lake Anna has experienced droughts approximately each 3 years during the past decade. We are currently in a drought and the cooling lagoons lake water levels are down about a foot greater then the main reservoir, because Dominion is not managing the water efficiently.

e. If Dominion used less water by using the dry cooling mode for the 3rd unit more during the extreme summer months (that they also proposed exclusively for the 4th reactor) and they provided for Unit 3 (Maximum Water Conservation Mode) to give "operational flexibility during different times of the year" This could compensate for the approximately 25% of the time that the proposed 3 inch rise would not maintain the water levels at the existing surface elevations to dissipate the heat from Units 1 & 2. A Consistency Certification should not be granted until this is agreed to by Dominion.

(4) Dominion's lack of cooperation to reduce the heat discharged from the current two reactors or maintain lake design water levels in the cooling lagoons. During the past 4 years various Lake Anna organizations have met with Dominion, together with Louisa and Spotsylvania County officials to encourage Dominion to adopt different techniques for reducing the high water temperatures from Units 1 & 2 discharged (at times over 104 (F) during the summer months where the public recreates and also maintain lake design water levels in the cooling lagoons. In all cases, Dominion acknowledged the technique, but never adopted any of them which would help in mitigating the problem. These techniques included:

a. Piping cool water (approximately 60 degrees (f) in July/August/Sept. caused by a thermocline) from the bottom of the lake (close to the dam) up the lake bed to the current 2 reactors to assist with the cooling.

b. Taking some of the heated discharge waters and spraying them in the discharge canal, so they would cool further before entering the first cooling lagoon.

c. Expand the cooling towers for the 3rd reactor to provide for additional cooling of Units 1 & 2

d. Reduce the heat output from Units 1 & 2 during a part of the summer months when the lake water exceeds unhealthy temperatures. Note that 99% of the discharged water re-circulates from the power plant through the cooling lagoons to Dike 3 and returns upstream in the main reservoir to the power plant for another cycle. Only 1% of the water goes over the dam and downstream. As a result, on each cycle the heated water gets hotter and hotter over the summer to unhealthy temperatures.

e. Keeping more water in the cooling lagoons of the lake to dissipate the heat and preserve more water in Lake Anna when we have abundant rainfall to compensate for the 3 year interval droughts we have been experiencing during the past decade. Automated technology available in 2011 could easily maintain and synchronize the Design Water Levels of 251.5 MSL in the cooling lagoons with the design water level of 250 MSL in the main reservoir (and similar fluctuations) by having automated locks (similar to those in canals/rivers throughout the U.S & Europe.) These locks would control water flow at Dike 3 in coordination with turning on/off of pumps that can circulate 2 million gallons of water per minute from Units 1 & 2 and the formula could be adjusted to accommodate the discharge from unit 3.

Note: The extra water flow from this additional Unit 3 discharge must carefully be evaluated to insure it does not create a safety hazard for those recreating on any portion of Lake Anna prior to granting a federal consistency certification.

f. Keeping more water in the cooling lagoons by using 1960's technology to manually insert/remove existing stop logs at Dike 3 in coordination with turning on/off of the circulating pumps as indicated in item e above.

g. Eliminating the 100 hours of Dominion requested time (in 3rd reactor water withdrawal request) to not operate the dry cooling mode (MWC) regardless of the lower lake level which will only increase the water usage and increase water temperatures during the summer months when the public recreates on the lake and possibly create additional heat trauma to the public, fish, wildlife and aquatic life.

It is requested that all of the above recommendations be reconsidered, with public participation, prior to granting a federal consistency certification.

(5) Computer Model projections. The Early Site Permit and Construction and Operating License water withdrawal and related permits, including the IFIM study are based **on computer model projections**. As we all know, computer models were used to forecast that Lake Anna would support both recreation and water cooling for 4 nuclear reactors. With the small 342 square mile watershed, previous DEQ watershed studies indicated that it might not even support one additional reactor for a total of 3 reactors. Many respected hydrologists have questioned whether Lake Anna can actually support this proposed 3rd reactor with sufficient water withdrawals and not damage recreation and create higher water temperatures, which in turn may increase the bacteria count in the lake and cause many other problems identified elsewhere in this report..

The exact formula's used in any of the Commonwealth of Virginia's and Dominion's Lake Anna computer modeling should be made available to the public for review prior to further considering a federal consistency certification. The model formulas should provide for all sources of in water flow for each month of the year, evaporation, current permitted water withdrawals and total water available in relation to design water levels on both the main reservoir and cooling lagoons for each month throughout the average year using only the last 10 years of data. It should also incorporate the previous VDEQ analysis, increased 3 year drought intervals during the past decade, Louisa County water needs and data contained in Va. SWCB Bulletin #58 (see below, which did not appear to be considered with the IFIM study or compensated by the 3 inch rise in water level) and the capability to forecast impacts if additional water is withdrawn from the lake..

As stated in previous VDEQ analysis, the North Anna watershed is too small to allow large water withdrawals. These would adversely affect the beneficial uses of Lake Anna and the North Anna River which flows into the Pamunkey River, which flows into the Chesapeake Bay and then into the Atlantic Ocean. The VDEQ analysis clearly indicates that the 3rd 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.

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 (as of 2006, 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,, 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.

The public should also receive the projected data in relationship to each future month for the next 10 years, considering all of the various proposed Lake Anna water withdrawals.

The federal consistency certification should be conditional and have a provision for the public and DEQ to review the actual water withdrawal permit within one year of actual operation, so the public and DEQ can see the actual additional use results and adjust the water withdrawal permit to insure that the recreational use for 3 million annual users of Lake Anna has not suffered as a result?

(6) IFIM Study. The Instream Flow Incremental Methodology (IFIM) study focused on the main reservoir Lake design Level of 250.0 and increase of 3 inches to 250.25 MSL to provide for the make-up water for the 3rd reactor. The IFIM study is negated with Dominion's proven inability to regulate the cooling lagoon design water levels. The IFIM study does not take into account that the cooling lagoons are not maintained at a consistent lake level with the main reservoir and could be down 12 inches or more at the start of a drought, the 3 year drought intervals during the past decade or Louisa County water withdrawal needs.

If the cooling lagoons are down one foot (1,107,891,972 gallons) at the beginning of a drought and this water was taken from the main reservoir, then it would drop the water level in the main reservoir $(1,107,891,972 / 260,680,464) = 4.25$ inches. This would then negate the 3 inch rise that was being proposed to offset the impact of the up to 24 million gallons a day (now 32 or 37 million gallons a day) to be used by the 3rd reactor. In addition, Louisa County has indicated they have applied for a water withdrawal permit from Lake Anna for future local population growth needs, which is also not included in the IFIM study.

The federal consistency certification should not be granted until the IFIM study is corrected to insure that the study reflects the impacts of the cooling lagoon design level of 251.5 has not been maintained historically, the 3 year interval frequency of droughts during the past decade, together with Louisa County water needs with their impact to the 3" rise ??

Formula's used:

- Cooling Lagoon: $(3,400 \text{ acres} \times 43,560 \text{ sq ft per acre} = 148,104,000 \text{ sq ft surface area} / 12 \text{ inch @ foot} = 12,242,000 \times 7.4805 \text{ gals in one inch water depth} = 92,324,331 \times 12 \text{ inch per foot} = 1,107,891,972 \text{ gals in one foot water depth-cooling lagoons.}$
- Main Reservoir: $(9,600 \text{ acres} \times 43,560 \text{ sq ft per acre} = 418,176,000 \text{ sq ft surface area} / 12 \text{ inch @ foot} = 34,848,000 \times 7.4805 \text{ in one inch water depth} = 260,680,464 \text{ gals in one inch of water depth- main reservoir.}$
- 3rd Reactor - 14 Million Gallons @ Day Annual Average.- $14,000,000 \times 365 \text{ days} = 5,110,000,000 \text{ gallons per year}$
- 3rd Reactor - Up to 24 Million Gallons @ Day = $24,000,000 \times 365 \text{ days} = 8,760,000,000 \text{ gallons per year}$

(7) Cumulative affect of all Lake Anna water withdrawals. Dominion currently has water permits for Reactors 1 and 2, (but the public is unaware of how much Lake Anna water is being consumed, plus the withdrawal amount is not regulated) that have to be renewed each 5 years. They also have a water permit for operating their current sewage treatment plant that discharges its effluent into the cooling lagoons of Lake Anna. Last year, Dominion was requesting up to 24 million gallons a day or almost 9 trillion gallons per year just for the 3rd reactor operation. Dominion has now increased their estimated water usage by 33% to 32 million gallons a day which is over 11.7 trillion gallons per year. Another permit for construction activities is requesting 750,000 gallons of water per day for a maximum of 149 million gallons per year for 15 years. Dominion has also indicated plans to request other water permits expanding or creating a new sewage treatment plant at Lake Anna for its 5,000 to 7,000 construction workers and put its effluent back into the lake. Louisa County has applied for a water withdrawal permit from Lake Anna for human consumption since the Lake Anna area is in one of its top three growth areas. Hanover County (North Anna River downstream) also has existing and future water needs.

We believe that Dominion is taking a piece meal approach on applying for all of these permits individually (hoping to piggy back on each permit) and is totally confusing to the public, federal and state regulators. All need to know the bottom line of how much water is available in Lake Anna, considering droughts (about each 3 years during the past decade) and what is the total amount proposed to be withdrawn for all current and proposed water withdrawal activities, together with how that may affect the quality of life and lake water level on both the main reservoir and cooling lagoons for the about 3 million annual recreational users of Lake Anna.

Recreation on both the Main Reservoir and Cooling Lagoons of Lake Anna depends on water quality/water level and includes: Boating, boat regatta's, jet-ski's (personal water craft), tubing, para-sailing, wake boarding, water skiing, sailing, canoeing, kayaking, swimming, tanning on the beaches, triathlons, fishing from both boats and on-shore, fishing tournaments, clamming, scuba diving and scuba diving training for our state police and fire/rescue personnel, gold panning, water critter studies, geo-caching, duck/goose hunting, 4th of July fireworks display, hiking on the shoreline, bird/eagle watching, picnics, sea-plane/ultra light landing areas and just fantastic relaxation opportunities to meditate, etc.

We request a federal consistency certification not be granted until the public, federal and state regulators know what the bottom line is considering all the permits; how the bottom line will affect the recreational uses and businesses that depend on water levels/water quality within Lake Anna so they have sufficient time to provide meaningful comments to the Federal Consistency Staff.

(8) Drought permit conditions. DEQ's draft water withdrawal permit for Construction indicates that Dominion would be able to extract 750,000 gallons per day (GPD) for construction when the water level of the lake is down 2 feet and 500,000 GPD when the lake is down 3 feet and continues taking water out even if the lake water level is down 7 feet.

Lake Anna (both main reservoir and cooling lagoons) was designed, proposed and built as a dual purpose lake (1) Cooling Water for Power Plant and (2) Major Recreation area for Virginians. The majority of recreation takes place from May through Sept (5 months). High Tax Assessments in the surrounding counties are based on water front properties, not beach front properties.

Note that we have had three recent severe droughts (1) 2002 lake level decline over 5 feet (2) 2007 lake level declined over 3 feet and (3) we are currently (2011) in a drought where the main reservoir is down significantly and the cooling lagoons lake level has been down over 2 feet since Sep 2010 (6 months).

No future water withdrawal (other than current uses) should occur if the lake level drops below 2 feet in either the main reservoir or the cooling lagoons. If this water withdrawal permit limitation does not occur, and the lake level declines greater as a result of the 3rd reactor, then the following concerns of over 6,400 petitioners to various Va. state and federal agencies, including the U.S. National Oceanic & Atmospheric Agency, DEQ, DCR, NRC, VDH, EPA and local Board of Supervisors in 2008 will become a reality.

- (a) Create many boating hazards with previously submerged items (tree trunks, rocks, sandbars, etc.) and create major safety hazards for recreational users when their boats hit these submerged items:
- (b) cause the water to get hotter faster in the summer months to unsafe water temperatures causing negative impacts to humans, fish, wildlife, aquatic life, clams and mussels. Note: Va. Dept of Health indicates that bacteria flourishes at water temperatures above 89 degrees F, plus algae blooms become more prevalent. During August 2010 water discharged into the cooling lagoons has exceeded 104 degrees F.
- (c) Have less water in the lake to fight fires for lake homes/communities
- (d) Increase shoreline stabilization problems, including bulkhead erosion and;
- (e) Negatively impact much lake business with loss of customers

Currently, many lake property owners cannot launch/store/tie up their boats at piers/docks/boat houses in which they have put sizable amounts of investments into their present beach front properties. Their concerns/reactions will certainly increase as summer approaches due to poor water management by Dominion.

(9) Meter water withdrawal. VDEQ's draft water construction water withdrawal permit for 3rd reactor construction activities indicates "The permittee shall report the surface water withdrawal authorized by this permit to the DEQ Office of Surface and Groundwater Supply Planning at P.O. Box 1105, Richmond, Virginia, 23218 by January 31st of the year following the year in which the withdrawals occurred"

Note: *This is 2011, where the U.S. has real-time computer monitoring with instantaneous reporting. All future Water Withdrawal or VPDES permits should bring Virginia and Lake Anna into the 21st Century and use current inexpensive technology. It is requested that all Lake Anna water permits be revised to require real-time monitoring of all water withdrawal via water meters connected to any in-take line, so real-time actions can be taken by DEQ if the applicant violates the permit requirements and the public can also monitor these actions and withdrawal amounts.*

To have the applicant report in the following year what water they withdrew appears to be an 1800-1900 methodology when automated meters, computers, and the internet are inexpensive technology. The country has moved dramatically into the computer age within the last 20 years, please insure that our Virginia regulations, permits and laws are keeping pace so the public and regulators can receive automated on-line real-time reports and the regulator can take immediate action if need be and not be one year behind the curve.

(10). Length of Permit. *Although the Virginia law allows for Water Withdrawal Permits to be granted for up to 15 years, we request that any Lake Anna Water Withdrawal permit be limited to 5 years (similar to the current VPDES permit), and the permit be reviewed after the 1st year- (see 5. Computer model projects above)..* Lake Anna is in a very small watershed (about 342 sq miles) and is in as high residential growth area, with major population centers (Fredericksburg, Massaponix, Charlottesville and Richmond) closing into the Lake Anna area rapidly. Louisa County has designated it has one of its top 3 growth areas. Water from the watershed is a precious commodity and will be needed for humans and other businesses as the Lake Anna area grows.

The proposed 15 year life of the draft construction permit (or possibly also for the 3rd reactor operations permit), with options to renew for another 15 years does not make any sense in the Lake Anna high growth area environment. The health, safety and welfare of all Lake Anna users should be paramount over any commercial activity. With all the unknowns and previous miscalculations of water availability for 4 reactors, coupled with all the various proposed water withdrawals, while having droughts about each 3 years during the past decade, it only makes sense to review Lake Anna water withdrawals on an annual basis after any permit is issued to determine the impacts and validity of the prior computer modeling to insure it does not adversely affect the current water levels and make adjustments to the permit accordingly.

(11). Need for specific justification for 750,000 gallons per day for up to 15 years. The public requires very specific justification for why 750,000 gallons per day of our public water is required for construction of the 3rd reactor. Each construction activity should be specifically identified with how much water is needed for the activity and for what period of time and each of these activities must be verifiable by the public, with monetary damages specified if Dominion exceeds the permit conditions. DEQ's draft allows Dominion to report their use in the following year, which does not protect the public

How can Dominion justify 750,000 gallons of water use each day for construction for 15 years? A normal 2 person household only uses 4,000 gallons of water per month, or 66.67 gallons per day per person. (750,000 /66.67 = 11,249). Dominion is requesting that each day for the next 15 years that it uses as much water for undefined construction that is similar to what 11,249 persons use each day. This is simply unjustified and requires much clarification by Dominion before the draft permit can move forward.

(12) Request for Lake Anna Comprehensive Impact Study. The cumulative effect of all Lake Anna proposed water withdrawals (Reference Item 2 in our 17 Feb 11 submittal) for (1) construction, (2) operation of the proposed 3rd reactor, plus (3) water needs for the proposed new or expanded sewage treatment plant for 5,000 – 7,000 construction workers, in addition to (4) Louisa County's request for Lake Anna water for human consumption, necessitates that DEQ in coordination with the Dept of Conservation and Recreation conduct a Comprehensive Impact Study for Lake Anna before proceeding with any Lake Anna water permits

The Study should consider (1) future water levels for each month of the year on both the main reservoir and cooling lagoons, together with their variations from the design levels on both sides; (2) additional water temperatures due to less water to dissipate the existing heat from the current two reactors; (3) the human health impact due to increased water temperatures; (4) its impact to businesses that depend on the Lake and may lose customers due to less water; (5) its impact to the 3 million visitors that recreate on the lake each year; plus (6) the impact to adjacent homeowners; (7) the impact of more shoreline erosion, (8) the impact of the BREDL lawsuit and having the U.S. Clean Water Act protection for the Cooling Lagoons, if the VA. Supreme Court rules in their favor; plus (9) the impact to surrounding counties from loss of tax income. Note that Louisa County currently receives about 24% of its total revenue from Lake Anna property taxes and a total of 60% from the Lake Anna region..

The Impact Study should also include variations if Dominion uses more dry cooling (as they proposed for the 4th reactor) then was previously proposed for the 3rd reactor versus the wet cooling. It appears that many detrimental impacts could be alleviated if Dominion concentrated on using more dry cooling (within its capability of wet or dry cooling) and consequently require less water consumption that will have many negative impacts to those dependent on having sufficient water in the lake to maintain design water levels.

(13) Water Management Plan. A meaningful Lake Anna water management plan should be developed by the Commonwealth of Virginia to insure that the design water levels of both the main reservoir and the cooling lagoons are maintained by the water manager throughout the year (using 2011 technology, including automated internet reporting of water levels on both sides) when the main reservoir is at 250 MSL or above. If the water level falls below 250 MSL on the main reservoir, then the same number of inches drop in level must be maintained from the design level of 251.5 MSL in the cooling lagoons.

(14) 5 year limitation on permits/process all at same time. All water permits related to the construction of the 3rd reactor and any other Lake Anna water permits, including current withdrawal from the existing two units and Louisa Counties water request are (a) limited to 5 years in length and (b) processed at the same time by the Virginia Dept of Environmental Quality, to insure that both the comprehensive Lake Anna Impact Study and Water Management Plan considers all known impacts to the Lake. *In addition, it is requested that all water withdrawal permits should ensure that the current Lake Level Contingency Plan (law) which limits flow over the dam when the main reservoir lake level falls below 250 MSL, applies to each new water withdrawal permit. The law currently only applies to VPDES permits).*

(15) Wasting the taxpayers' money. *It appears that we may be wasting much of taxpayers money, particularly during a recession throughout the country, in processing permits for a project that does not have any financial backing and part-owners of Reactors 1 and 2 at North Anna have decided not to participate in any 3rd reactor venture. The following is a quote from the Fredericksburg, Va. Freelance Star newspaper on 1 March 2011 with reference to the 3rd North Anna reactor*

"While we consider nuclear generation an important part of our diversified portfolio of energy resources our board of directors and senior management have determined that participating in this proposed nuclear project does not fit with our long-term plans," Jackson E. Reasor, president and chief executive officer of Old Dominion Electric Cooperative, said yesterday.

ODEC owns an 11.6 percent interest in, and shares the power generated by, North Anna's existing Units 1 and 2. ODEC provides power to 11 cooperatives in Virginia, Maryland and Delaware".

. When a lot owner applies for a building permit, they have to pay a substantial fee that provides for building inspections and the processing of the application. How much is Dominion paying all of the U.S. Government Agencies and all the State Agencies for all of the various permits and consistency certifications application processing fee re the construction of a 3rd nuclear reactor? Countless public servant hours paid for by the taxpayers, coupled with advertising fee's for public meetings, plus paying for space to conduct the public meetings, during a U.S. recession does not appear to make much sense when Dominion has stated publicly that they will not make a decision to build for another couple of years.

(16) The U.S. Environmental Protection Agency (EPA) should recertify 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 should ensure that monitoring of the VPDES program must begin at the end of the North Anna power plant discharge canal to protect the public..

Waters of the Lake Anna cooling ponds/lagoons reached 106 degrees at various times, as recorded by local residents. The Lake Anna Civic Association (LACA) Water Quality Team has recorded 104.6 degrees F at the end of the discharge canal.. 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. 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 and a federal consistency certification should not be granted until this occurs. Unit 3 should not be looked at as a unique project. The impacts that the existing 2 units have on Lake Anna must be considered when looking at the Consistency Certification for Unit 3.

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 and water withdrawal permit process must be pro-active in soliciting public comments prior to the draft of a new permit each 5 years 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 and water withdrawal permit 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 3rd unit water-cooling tower blowdown/discharge will only compound the problem, unless Dominion proposes to use more dry cooling with the Maximum Water Conservation mode.

New Jersey, West Virginia and other states have mandated that public utilities must adhere to the water temperature standards identified in the U.S. Clean Water Act. Why can't Virginia?

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. All water permits (withdrawal or discharges) from Lake Anna must consider the total environment, not just what the proposed unit 3 will impact. A federal consistency certification should not be granted until the current VPDES permits are updated and future VPDES permits eliminate the current variances that provide no protection for the public and water withdrawal permits limit any withdrawal (other than current uses) when the lake level drops below 248 MSL in the main reservoir.

(17) Alternative Cooling Method. Since Dominion has stated they will not make a decision for another couple of years on whether to build the 3rd unit, one alternative previously proposed for unit 4 by Dominion, but is not indicated in their application for a Federal Consistency Certification for the COL, is to exclusively use dry Air Cooling for the 3rd unit. This 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 during the Early Site Permit process and is used at various locations throughout the world that do not have a local water source. In addition, many of the previous 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.

VDEQ's Division of Water Resources (DWR) on 3 Mar 2005, stated that it would have no concerns about this project if both the third and fourth reactors at North Anna were dry air cooled. It is requested that the federal consistency process examine this alternative prior to granting any federal consistency certification that will sit on a shelf for three or more years until Dominion makes a decision to build or not.

(18) Other related concerns:

To ensure that the proposed construction of a 3rd 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 Federal Consistency Certification for the Combined Operating License and Army Corps of Engineers permit.

.a. Point of compliance for all U.S. and Virginia 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.

b. What are the anticipated human health problems due to increased water temperatures, which will increase bacteria and reduced water levels on both sides of Lake Anna?.

c. What are the anticipated impacts for each month of the year to wildlife, fish and endangered species throughout both the main reservoir and cooling lagoons of Lake Anna as a result of less water and reduced water levels (using updated computer modeling formulas as defined above)?

d. 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.

e. 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. Since Dominion said it will not make a decision to build the 3rd reactor for another couple of years, part of the Consistency Certification should contain conditions, that if they do decide to build that Dominion will provide sufficient monetary incentives to both Louisa County and Virginia Dept of Transportation to enhance the existing road system prior to beginning construction so their workers do not have an adverse affect on the local population and increase taxes to the local taxpayers.

f. 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 and Spotsylvania are one of the fastest growing counties in the U.S. Louisa's population increased 29% between 2000 and 2010, while the Commonwealth of Virginia only increased 13% during this time period. Since Dominion said it will not make a decision to build the 3rd reactor for another couple of years, part of the Consistency Certification should contain conditions, that if they do decide to build that Dominion will provide sufficient monetary incentives to Louisa County to enhance the local school system and provide funds to increase the county infrastructure prior to beginning construction so their workers do not have an adverse affect on the local population and increase taxes to the local taxpayers.

Note: Dominion received million's of federal dollars to process the Early Site Permit, so they should not become a burden to the local taxpayers with their planned construction.

g. Updated emergency evacuation plans on the small 2 lane roads surrounding the power plant. Need for expanded road system to accommodate new workers and subdivisions. Since Dominion said it will not make a decision to build the 3rd reactor for another couple of years, part of the Consistency Certification should contain conditions, that if they do decide to build that Dominion will provide sufficient monetary incentives to Louisa and Spotsylvania Counties to enhance the current evacuation plans, together with the necessary updates to the infrastructures (incorporating emphasis on potential problems during the summer time to accommodate the about 3 million annual users of the lake) prior to beginning construction so their workers do not have an adverse affect on the local population and increase safety taxes to the local taxpayers.

h. There are many concerns about the safety of the local population re spent nuclear fuel (where stored) & terrorist attack protections for plant, dam, etc). Since Dominion said it will not make a decision to build the 3rd reactor for another couple of years, part of the Consistency Certification should contain conditions, that if they do decide to build that Dominion, prior to starting construction, will coordinate with the local authorities, together with citizen representation, to alleviate all concerns with the safety of the spent nuclear fuel currently and proposed to be stored on-site or they will take other actions to remove the spent nuclear fuel from the site.

i. Impact of additional fog and icing from wet cooling towers on local roadways is a major concern. Since Dominion said it will not make a decision to build the 3rd reactor for another couple of years, part of the Consistency Certification should contain conditions, that if they do decide to build that Dominion will provide sufficient monetary incentives to Louisa County and the Commonwealth of Virginia to negate any adverse affects that may endanger the public by additional fog and icing that will occur from the 3rd reactor wet cooling towers on local roadways.

j. Large Component Transport/ Impacts to both Mattaponi River and Virginia Roads. We question why the existing rail line to the nuclear plant is not being used to transport all large components, as opposed to impacting both the Mattaponi River and Virginia Roads. Rail lines are designed to accommodate major loads, while all of the small two lane roads in rural Virginia are not. We can easily see the damage to Virginia roads from heavy loads and the impact to traffic flow. *VDEQ should include in its permits to insure a bond is posted that the applicant pays for any road damage and the damages do not become a tax burden for Virginia taxpayers?*

k. Movement of excavated wetland material on Virginia Roads to a dump site. How is VDEQ coordinating with Louisa County and Virginia Dept of Highways to insure that a bond is posted to insure that any damage to Virginia roads as a result of moving this heavy excavated material is paid for by either Dominion or the bonding company? Will extra traffic enforcement be required for this wetland material movement? How has VDEQ coordinated with the local Louisa officials to mitigate this activity and what provisions have been made for Dominion to pay for any additional law enforcement needed ?

l. Adding different substances to Lake Anna. We have concerns that in Dominion's application statement they are planning to add concentrations of copper and tributyltin to the waste water discharge into the cooling lagoons as a result of Unit 3 Cooling, (which do not currently exist) and there statement that they would not be measurable using VDEQ analytical methods. In addition, Dominion plans to add concentrations of chemicals and/or biocides that are commonly used for water treatment (e.g. for chlorination and /dechlorination, antiscaling, and corrosion protection. *The Federal Consistency Certification must have a condition that protects the public and determines the affect on the public human health, fish, wildlife and aquatic life when these chemical are added to heated water where the public recreates places appropriate limits on their addition.*

m. Temporary Sanitary Waste Treatment Facility. Dominion is requesting in the consistency certification that portable sanitary facilities be used during the initial construction and the waste be placed into the existing sewage treatment plant, then discharged into Lake Anna. *Dominion has stated they will not decide on whether they will build the 3rd unit for 2 or 3 years, so they have plenty of time to construct the necessary sewage treatment facility prior to starting construction. Additional treated sewage should not be discharged into Lake Anna that is heated to temperatures exceeding 104 degrees where the public recreates. The public should not be put at additional risk.*

5. 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 construction of a 3rd reactor, 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 all of the above issues are satisfactorily resolved.**

b. 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 Please advise 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

Attachment: Lake Anna 2010 Visitor Statistical Summary (5Dec10)

Acronym List:

BREDL	Blue Ridge Environmental Defense League
COL	Combined License
CZMA	Coastal Zone Management Act
DCR	Dept of Conservation and Recreation
DEQ	Dept of Environmental Quality
DWR	Dept of Water Resources
EPA	Environmental Protection Agency
ESP	Early Site Permit
EPA	Environmental Protection Agency
MSL	Mean Feet above Sea Level
NRC	Nuclear Regulatory Commission
NOAA	National Oceanic and Atmospheric Administration
SWCB	State Water Control Board
U.S.	United States
VA	Virginia
VCP	Virginia Coastal Program
VDH	Virginia Dept of Health
VPDES	Virginia Pollution Discharge Elimination System

2010 LAKE ANNA, VIRGINIA VISITOR RECREATION DAYS STATISTICAL SUMMARY (As of 30 November 2010)

Prepared by Friends of Lake Anna (FOLA) – Phone 540-872-3632

	<u>MAIN RESERVOIR</u>	<u>COOLING LAGOONS</u>
Sub-Division (Residence/Guests)	1,323,014	437,360
Non-Subdivision (Residence/Guests)	266,368	142,118
Public Campgrounds	167,532	0
Public Marina's	304,852	0
Public Access (Adjacent State Roads)	20,000	7,550
Lake Anna State Park	<u>300,728</u>	<u>0</u>
Total	2,382,494	587,028

Lake Anna Grand Total – 2010 Visitor Recreation Days (2,382,494 + 587,028) = 2,969,522

Acknowledgements: FOLA wishes to acknowledge the Lake organizations, Campgrounds, Marina's, Lake Anna Maps and the Lake Anna State Park that contributed data to facilitate this first comprehensive view of the many recreational opportunities and the public uses that take place on Lake Anna. We apologize if we missed some visitor accesses in this first statistical summary, but will strive to include and update all others in future publications.

Overview: Lake Anna is a 13,000 acre lake (3rd largest in state) located in Louisa, Spotsylvania and Orange Counties, Virginia. The main reservoir has 9,600 acres of water, while the cooling lagoons have 3,400 acres. There are approximately 5,000 private residences adjacent to the entire 220 mile shoreline. Over 100 Businesses, Marinas, Campgrounds, Motels, Realtors, Lake Anna State Park, etc. depend on the quality of the water and water level within the lake. The three counties depend on the high real estate assessments/taxes received from lake property owners. Ninety-nine (99) % of the heated water from the adjacent power plant circulates at 2 million gallons per minute. It goes from the power plant, through the cooling lagoons, dike 3, and back upstream in the main reservoir returning to the power plant for another cycle. As a result, the water in the cooling lagoons directly impacts both sides of the lake. The lake provides recreation for close to 3 million visitor recreation days annually to residents of the surrounding counties, plus frequent visitors from throughout Virginia, Washington D.C. and Maryland.

Recreation on both the Main Reservoir and Cooling Lagoons of Lake Anna depends on water quality/water level and includes: Boating, boat regatta's, jet-ski's (personal water craft), tubing, para-sailing, wake boarding, water skiing, sailing, canoeing, kayaking, swimming, tanning on the beaches, triathlons, fishing from both boats and on-shore, fishing tournaments, clamming, scuba diving and scuba diving training for our state police and fire/rescue personnel, gold panning, water critter studies, geo-caching, duck/goose hunting, 4th of July fireworks display, hiking on the shoreline, bird/eagle watching, picnics, sea-plane/ultra light landing areas and just fantastic relaxation opportunities to meditate, etc.

Visitor Recreation Day Definition: Each day that one person recreates on Lake Anna is counted as one day. For example if one person visits the Lake Anna State Park on 10 different days, then we would have 10 Visitor Recreation Days.

Lake Anna Residences surround the shoreline of the lake on the both the Main Reservoir and Cooling Lagoons. Both residential owners and their guests recreate on Lake Anna and reasonable estimates are included in the Statistical Summary.

Additional Public Access to Lake Anna also occurs: (1) Main Reservoir through Marina's, Campgrounds, the Lake Anna State Park, many locations where the lake adjoins the state roads and bridges, plus the Dike 3 Public Fishing Area and (2) Cooling Lagoons also at the Dike 3 Public Fishing Area, plus the many areas that the lake adjoins the state roads and bridges that span the cooling lagoons.

Historical Projection on Visitor Recreation Days. In 1971, the Virginia Commission of Outdoor Recreation with the support and assistance of the Virginia Electric and Power Company prepared a Land Use Plan for the North Anna Reservoir (Lake Anna). This plan projected "it is reasonable to expect recreation activity to range between 2,300,000 to 3,500,000 recreation days by the year 2000 due to regional growth".