

PMNorthAnna3COLPEmails Resource

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Sent: Tuesday, March 15, 2011 2:50 PM
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Subject: FOLA - Additional comments re North Anna nuclear reactors

15 March 2011

To: Ellie Irons (Va. Office of Environmental Review - Coastal Zone)
Tamsen Dozier (NRC Supplemental Environmental Review) Sarah Marsala (VDEQ - Water Permits for Unit 3 - North Anna

Reference: Construction of Unit 3 at North Anna & the various permits, reviews, consistency Certifications

Dear Coastal Zone, NRC & VDEQ,

OVERVIEW: The Mar 11, 2011 nuclear disaster at the Fukushima Dai-ichi Japanese nuclear plant has created additional environmental concerns identified below with the proposed Unit 3 nuclear reactor at North Anna. These concerns, together with the previous concerns FOLA identified should be thoroughly investigated prior to the granting of any Coastal Zone Consistency Certifications. Water Permits or NRC supplemental environmental studies.

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

We continue to 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.

Computer Modeling Inaccurate. It is quite apparent that the computer modeling was inaccurate at both the Japanese and the North Anna reservoir nuclear plants:

(JAPANESE): The Japanese (4) nuclear plant containment buildings were designed to withstand earthquakes but not at the magnitude (9 on the Rector Scale) and as a result, the containment buildings were damaged from the earthquake and radio activity substances leaked into the atmosphere.

140,000 persons had to be evacuated within a 20 mile radius of the plant(s).

The Japanese emergency plans also did not take into account that a tidal wave/tsunami could follow immediately after an earthquake, which would cause further damage, eliminate the electricity necessary to provide cooling for the reactors, nor the failing of the emergency

backup electrical generators to provide cooling, or the eventually failing of backup batteries. An on-site fire truck (s) (not part of the emergency plan were pulled into service to extract an abundant supply of ocean water (next to the plant) to spray water over the ruptured nuclear containment buildings in an attempt to provide cooling to the nuclear reactors so a nuclear melt-down would not occur and release additional radioactivity into the atmosphere.

(NORTH ANNA RESERVOIR): The North Anna Reservoir computer modeling indicated there would be more than enough water in Lake Anna to provide cooling for four (4) nuclear reactors. Recent studies by the VDEQ Water Resources Dept. casts a huge doubt if there is sufficient water to provide cooling for the proposed 3rd reactor (yet alone the 4th) since this is an extremely small watershed that does not have an abundant supply of water from free flowing rivers or oceans that most other nuclear power plants have.

The plans for the North Anna reservoir ASSUME that there will always be water in the lake of various water levels. The computer modeling apparently did not take into account that just like the Japanese scenario, it is possible that two disasters could occur in close proximity to each other: (1) an earthquake of greater than designed values of the containment buildings and (2) an earthquake or terrorist attack that could cause a breach of the Lake Anna dam, which would cause most or all of the water to drain from the lake and go downstream. Although there is a pond on the North Anna site that is to be used to cool the first and second reactor if there is a nuclear malfunction; this is not an abundant (enough should the dam breach eliminate the main reservoir & cooling lagoon) supply of water fed by a free flowing river or ocean. If the water drains from the lake and the on-site pond does not have sufficient water in it to cool the first two reactors - What happens? Where are the computer modeling statistics that prove, beyond a shadow of a doubt, that there will be sufficient amount of water in the on-site pond, (with no water in the lake), to cool the existing two reactors, plus the proposed third reactor if a dual disaster strikes the North Anna reservoir nuclear reactors? How does FERC protect the Lake Anna dam against earthquakes or terrorist attacks? What is the current earthquake level that the dam is protected to? How long will the water in on-site pond last to provide emergency cooling to shut down 3 reactors? These calculations should be provided to the public for their review and comments prior to any consistency review or water permit processing.

VIRGINIA EARTHQUAKE ZONE. During the past several years, Virginia has experienced many different earthquakes. How many were predicted at the quake locations? Where does the current computer modeling forecast the earthquake fault line in relationship to Lake Anna? Does Virginia have an experienced seasoned seismologist on staff or are we relying solely on Dominion submitted data to define the earthquake fault line in relationship to the North Anna site? What earthquake magnitude have the containment buildings for reactors 1 and 2 been designed to withstand? In light of the Japanese disaster, how have these projected earthquake magnitudes been updated? What is the current backup plan at Lake Anna if both the electric and backup generators fail and they cannot power the pumps to provide cooling water to safely shutdown the reactors? Does Dominion have sufficient fire-trucks on site that could easily be brought into service to help cool down all 3 reactors at the same time in the event of a disaster? How have these emergency plans been updated to incorporate more on-site pond water to also safely shutdown the proposed 3rd reactor when the design of the 3rd reactor will not be completed until sometime in 2013? The above and many other environmental and safety questions should be responsibly answered and briefed to the public, with comments solicited before proceeding with Consistency Certifications and permits for the proposed 3rd reactor.

DRY AIR COOLING. The above potential scenario for dual disasters, striking the North Anna current and proposed nuclear power plants, dictate that the proposed 3rd nuclear reactor should be cooled exclusively with DRY AIR COOLING (similar to Dominion's proposed for its 4th reactor during the Early Site Permit processing. Using dry air cooling would insure that at a minimum one nuclear reactor (the 3rd), would still be operational if the lake was drained because of a dam breach and there was insufficient water in the lake to provide for cooling reactors 1 and 2. Note 1970 plans identified that it would take approximately 3 years to fill Lake Anna, since it is not adjacent to a free flowing river or ocean. This is also the approximate time period that all three reactors would be out-of service if the 3rd reactor cooling is not changed to dry cooling and a dual disaster struck the North Anna site.

SOLAR STORM THREAT . The Washington Post recently indicated there is a real scientifically plausible threat that much of the electrical power grid over the U.S. (and around the globe) would be shutdown by solar storms for periods of months to years. And, the threat is steadily increasing as we move into the next maximum in solar activity over the next few years. There are a series of articles that appears not to be science fiction, but a very distinct possibility that government officials and departments are only now belatedly taking seriously. See: Space weather: Are we ready for a solar strike? (http://voices.washingtonpost.com/capitalweathergang/2011/03/space_weather_what_you_need_to.html) and linked reference to earlier articles.

The connection is that without external power the nuclear plant (s) would likely automatically shut down; but cooling must be maintained for days to weeks to avoid a meltdown of the nuclear core. In Japan, with no external electrical supply, the diesel backup generators necessary to keep the cooling system going failed.

But, even without failure of the backup generators here, diesel fuel could run out and resupply impossible (e.g., no electricity to run fuel pumps and gas for transportation, etc.) before the rods cooled sufficiently to avoid at least a partial meltdown. This may not be relevant for reactors 1 & 2, as they are pressurized water reactor where the cooling system is self-contained (run by turbine driven by steam from the cooling core) and not require external power. But, the control system - all those dials and displays - in the absence of diesel generators would depend upon battery power which has limited lifetime and uncertainty on whether they could be replaced when needed. It appears however, that it would apply to the proposed 3rd reactor.

DOMINION SHOULD BE REQUIRED TO PROTECT THE PUBLIC'S HEALTH, SAFETY and WELFARE ON BOTH THE MAIN RESERVOIR AND COOLING LAGOONS. Historically, it appears that Dominion has done the minimum of what is necessary to protect the health and safety of the 3 million annual users of Lake Anna. They have taken many actions to avoid the U.S. Clean Water Act protections for those that recreate and live on the cooling lagoons. Likewise they have requested a 316A Variance from the U.S. Clean Water Act protection for those that recreate and live on the Main Reservoir. Dominion does not practice best water management procedures to conserve water in the lake during times of water abundance, and maintain both sides of the lake at the same level in relationship to design levels. It appears that Dominion's motive is simply to avoid costs of compliance and increase their share-holders net return, without regard to the public's health, safety and welfare. It also appears Dominion's approach ignoring the public's health, safety & welfare invites unnecessary lawsuits that costs the public many man-hours and dollars to protect itself. Now is the time for Dominion to be required by both federal and state authorities to take all the necessary actions at Lake Anna to safeguard against dual disasters (similar to Japan) with a possible earthquake and dam breach that will protect the public's health, safety and welfare.

SUMMARY: In light of the Japanese nuclear disaster and a review of the related environmental concerns for the proposed 3rd reactor at North Anna, including the inaccurate computer modeling at both sites, 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 a Consistency Certification should be OBJECTED to at this time.

There are just too many environmental impacts brought to light by the Japanese disaster and possible Solar threat that dictate no water or wetland permits should be issued at this time. Likewise the NRC Supplemental Environmental Statement for the 3rd reactor should be expanded to include and also review previous assumptions of the many additional environmental considerations brought to light that are new and significant. The NRC should also review all of its previous environmental findings for the proposed 3rd reactor

It just makes sense that the public should be able to know what the final approved design is of the 3rd reactor is (currently scheduled for by the NRC for 2013) before granting any water permits or consistency certifications.

FOLA continues to support the 3rd reactor, but wants to insure that all environmental concerns 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 and equally important resolves the many safety concerns that were brought to light by the unfortunate Japanese disaster.

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,

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