

## PMNorthAnna3COLPEmails Resource

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**From:** Steve Tracton [s.tracton@hotmail.com]  
**Sent:** Tuesday, March 15, 2011 5:44 PM  
**To:** Harry Ruth; skmarsala@deq.virginia.gov; Dozier, Tamsen; elirons@de.virginia.gov  
**Cc:** willie@buck.com; lcbs\_jd@louisiana.gov; walterjoseph@hughes.net;  
twolakelovers@yahoo.com; stuart@readthehook.com; duaneredic@msn.com;  
remmerskd@verizon.net; nortont@comcast.net  
**Subject:** RE: FOLA - Additional comments re North Anna nuclear reactors

Thanks Harry for including my concerns relating to the potentially dire consequences of severe solar storms on the Lake Anna nuclear facility (as well as to those across the nation). This applies to the existing plant and addition of a third only increases the odds of a major problem.

I know to some this may come across as science fiction, but be assured - as I've reported in the Washington Post (links below) - the disastrous consequences of solar storms generally is reality based science by experts in the relevant fields. After considerable pestering by myself and others over the past couple years at many meetings and forums the message is finally being taken seriously at government levels from NOAA, NASA, and the Dept of Homeland Security up to and including (I recently learned) briefings with President Obama.

It was only after the problems in Japan with the cooling issue (lack of power to keep the cooling facility operative) did I (and I assume others) connect the dots between the effects of solar storms on the electrical power grid and implications for maintaining the cooling systems of nuclear plants. In a worst case scenario, perhaps improbable but far from impossible, current backup systems could become inoperable.

I'll be working with others on a feature article for media and officials concerned about expansion of nuclear power. I'm not against nuclear power per se, but what we're talking about must be included in establishing requirements for approval of new plants and retrofitting those now in place.

Questions related to the above (in addition to those mentioned by Harry) must be brought to the attention to accountable personages regarding the Lake Anna plant. I'd be most surprised if they have ever been mentioned before now.

I'd be glad to provide a briefing or additional material should you believe it helpful.

**Steve**

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\*\*\*\*\*

> Date: Tue, 15 Mar 2011 14:49:42 -0400  
> Subject: FOLA - Additional comments re North Anna nuclear reactors  
> From: hc.ruth@louisiana.net  
> To: skmarsala@deq.virginia.gov; Tamsen.dozier@nrc.gov; elirons@de.virginia.gov  
> CC: hc.ruth@louisiana.net; willie@buck.com; lcbs\_jd@louisiana.org; walterjoseph@hughes.net; twolakelovers@yahoo.com; s.tracton@hotmail.com; stuart@readthehook.com; duaneredic@msn.com; remmerskd@verizon.net; nortont@comcast.net  
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>  
> 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.
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- > 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.
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- > 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.
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- > 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](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 form the cooling core) and



> 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.

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> 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.

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> Thank you for your time and consideration of the above items. Please  
> advise if you have any questions.

>  
> Sincerely,

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

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**Hearing Identifier:** NorthAnna3\_Public\_EX  
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**Mail Envelope Properties** (SNT120-W40ECC1124D866A308CECB2E3CF0)

**Subject:** RE: FOLA - Additional comments re North Anna nuclear reactors  
**Sent Date:** 3/15/2011 5:44:23 PM  
**Received Date:** 3/15/2011 5:44:53 PM  
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