

The Honorable Eric Cantor
Member, U.S. House of Representatives
5040 Sadler Place, Suite 110
Glen Allen, VA 23060

March 1, 2006

Dear Congressman Cantor:

I am responding on behalf of the U.S. Nuclear Regulatory Commission (NRC) to your letter of December 27, 2005. You enclosed letters dated October 24 and October 28, 2005, from your constituent, Mr. Harry Ruth, who represents the Friends of Lake Anna. Mr. Ruth had several concerns about the NRC's issuance of a safety evaluation report (SER) for an early site permit (ESP) application from Dominion Nuclear North Anna, LLC (Dominion, or the applicant) for their North Anna site. Mr. Ruth expressed concern over what he saw as a lack of coordination between different divisions within the NRC regarding the issuance of the SER and the draft environmental impact statement (EIS) for the North Anna ESP. He stated that the NRC did not engage the Commonwealth of Virginia or the public in the ESP process. Mr. Ruth also expressed his concern about the potential effect of additional power plants on lake temperature and level; about the adequacy of emergency preparedness, particularly what he saw as inattention to future population growth and the NRC's failure to learn from the lessons of two recent hurricanes; about site security; and about spent fuel storage.

I note at the outset that Dominion, on October 24, 2005, indicated that it would change its cooling system for proposed Unit 3. Dominion supplemented its application on January 13, 2006, and replaced the originally proposed once-through cooling system that is of concern to your constituents with a hybrid wet/dry cooling tower system. In a letter dated February 10, 2006, the NRC staff requested that Dominion provide additional information describing the proposed Unit 3 hybrid system for staff evaluation. Until the staff receives and evaluates that information, the staff will not be able to determine the effect of the hybrid system on the temperature and level of Lake Anna; consequently, there will be further NRC staff evaluation of the safety and environmental aspects of the supplemental application which the staff will document in an SER supplement and a supplement to the EIS.

By way of background, the purpose of an ESP is to make certain decisions on the physical suitability of a specific site for the construction of a nuclear power plant and to make certain decisions on the environmental impacts of construction and operation of such a plant. The ESP application and review process makes it possible to evaluate and resolve several safety and environmental issues related to siting before the applicant makes large commitments of resources. The ESP does not allow the construction of a new power plant; the activities that a licensee may be allowed to perform under an ESP are limited and reversible.

Rather than identifying a single specific design in its ESP application, Dominion chose to provide a "plant parameter envelope" (PPE) for NRC review. The PPE includes values of key reactor design parameters intended to bound multiple reactor designs, thus allowing an applicant for a combined license (COL) referencing any ESP that might be issued the flexibility to choose among the available designs. The NRC reviews design related issues in the context

of a COL application; in reviewing a COL application that references an ESP, the NRC ensures that siting decisions embodied in the ESP remain valid by verifying that the design chosen in the COL application falls within the bounds of the PPE.

Before issuing an ESP, the NRC must first prepare both an SER and an EIS. The purpose of the SER is to document the NRC staff's evaluation of site safety characteristics and emergency planning. In contrast, the purpose of the EIS is to document the staff's evaluation of the impact of the proposed action on the environment. The SER and the EIS evaluate different issues and are prepared in parallel. With respect to lake water issues, the evaluation in the SER is intended to determine only whether the water available at the site is sufficient to cool the reactor, given the proposed cooling system and other PPE values, and the severity of natural phenomena (e.g., flooding) to which the proposed reactor may be subjected. The environmental impacts of the reactor's water use are evaluated in the EIS. Together, the SER and the EIS form the basis for the staff's recommendation to the Commission on whether or not to issue an ESP. The SER was completed in June 2005. The EIS was originally scheduled to be issued in December 2005; however, due to the design change by the applicant described above, this date has been changed.

The NRC considers State and public input on the issuance of an ESP to be an important component of the review process. For this reason, State and public comments are allowed throughout the licensing review process. In particular, the NRC staff requested comments on the draft EIS. The public was informed of the various opportunities to participate in the ESP process during a pre-application meeting held in the vicinity of the North Anna site. The public has been and will continue to be given the opportunity to participate during open technical meetings on site safety review and during public meetings on site environmental review. The public was also given the chance to participate in the Advisory Committee on Reactor Safeguards (ACRS) meetings on the proposed ESP. The public will have a final opportunity for comment during the hearings that must be conducted before the issuance of any ESP.

Several of the concerns that Mr. Ruth raises deal with the impact that additional units at the North Anna site may have on the level and temperature of Lake Anna. The NRC staff evaluates these issues in the EIS. The Commonwealth of Virginia, Mr. Ruth, and others brought their concerns regarding these environmental issues to the attention of Dominion. Partly in response to the concerns raised by the Commonwealth of Virginia and the Friends of Lake Anna, Dominion revised part of its application for an ESP, as indicated above. The revised design is intended to reduce significantly the thermal effects of the proposed unit on the lake. The NRC staff intends to issue a supplemental draft EIS to address this design change, but must first evaluate it. The NRC will also issue a supplement to its SER to address the cooling system design change.

Regarding Mr. Ruth's concerns about emergency preparedness, the staff found that the road network surrounding the North Anna site, which includes the ESP site, can adequately accommodate anticipated traffic. This conclusion was based on the most recent evacuation time estimate (ETE) using U.S. Census 2000 data. The staff reviewed the North Anna ETE and found it to be acceptable in that it adequately identified and reflected the site's evacuation characteristics. Evacuation time estimates serve two purposes: they provide data which is used to develop specific evacuation plans, and they provide information which can be used by decision-makers in responding to an actual emergency. An ETE study does not attempt to

predict exact conditions during an evacuation; rather, it attempts to indicate the sensitivity of the analysis to a number of commonly occurring events.

The staff determined that population increases in the area would be gradual. The SER for the North Anna ESP acknowledges that as population increases improved roads may be necessary. In its ESP application, Dominion described the demographic environment of the North Anna site and included population predictions to the year 2065. The NRC staff reviewed this aspect of the application in its SER and concluded that the applicant had adequately represented the demographic environment. The ACRS reviewed the SER and agreed with the staff's conclusion. Please note that the purpose of the SER for the ESP is not to determine that emergency plans for all possible future contingencies have been made; rather, it is to determine whether or not the site characteristics could pose a significant impediment to the development of emergency plans. In the context of Dominion's application, the staff has also determined whether or not certain major features of emergency plans are acceptable.

Although the NRC is confident in the response capabilities of State and local officials, emergency preparedness is a dynamic process; therefore, we continue to seek information to enhance preparedness and the level of the response capability. We are evaluating the lessons from the recent hurricanes to determine how we can improve emergency preparedness and response. We are also conducting a thorough review of emergency preparedness regulations and guidance that will take into account the most current information available regarding human behavior in the event of an emergency. In coordination with other Federal agencies, as well as State and local governments, we are ensuring the safety, security, and emergency preparedness of nuclear power plants in the United States.

Regarding Mr. Ruth's concerns about site security, the ESP SER includes an NRC staff review to determine whether or not site characteristics are such that adequate security plans and measures could be developed, not to determine whether or not such plans are already in place for units that have not been built. The site's security plan and physical protection strategy must be reviewed and approved by the staff as part of any future COL application. If a COL is granted, before nuclear fuel is brought onsite for any potential nuclear reactor the NRC staff would then plan to inspect these physical security measures once implemented and would plan to conduct force-on-force testing prior to receipt of fuel onsite.

Regarding Mr. Ruth's concern about the storage of spent fuel, Virginia Electric and Power Company (VEPCO) received a specific license for an independent spent fuel storage installation (ISFSI) under Part 72 of Title 10 of the *Code of Federal Regulations* (10 CFR) for dry spent fuel storage at the North Anna Power Station in 1998. The NRC staff evaluated VEPCO's application for this license in accordance with Part 72 and documented its evaluation in an SER dated June 30, 1998. This license authorizes VEPCO, to receive, acquire, and possess the power reactor spent fuel and other radioactive materials associated with spent fuel storage as designated in the license and to deliver or transfer such material to persons authorized to receive it.

The ISFSI is licensed to accommodate spent fuel from North Anna Units 1 and 2. The 1998 SER states that the ISFSI, together with the spent fuel pool, has the capacity to accommodate all spent fuel generated by North Anna Units 1 and 2 during its currently licensed operating period. VEPCO may apply for renewal of the ISFSI license; this application would be subject to additional NRC review and approval. If additional units are built at the North Anna Power

Station and the use of the current ISFSI is requested for spent fuel from these units, VEPCO will need to seek an amendment to its ISFSI license to allow the spent fuel from the new units and the amendment will be subject to NRC review and approval.

Before the NRC can issue an ESP, several regulatory tasks must be completed. These tasks are assigned to different divisions within the NRC staff who coordinate their efforts to develop the final product. The NRC continues to try to make the ESP process, and all Agency processes, as efficient and as open as possible. The NRC values public input throughout the review of an ESP application. The actions taken by Dominion following State and public comments regarding the potential impact of additional units on the temperature of Lake Anna show that such input can have a significant effect. The NRC welcomes continued input from all affected parties.

I trust that this letter addresses your constituent's concerns. If you have any other questions, please do not hesitate to contact me.

Sincerely,

/RA/

Luis A. Reyes
Executive Director
for Operations

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Luis A. Reyes
Executive Director
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G20060001 - Letter to The Honorable Eric Cantor from L. Reyes dated March 1, 2006

SUBJECT: NRC's PROCESSING PROCEDURES FOR NEW NUCLEAR REACTORS
(HARRY RUTH)

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