

November 8, 2011

The Honorable Edward J. Markey
United States House of Representatives
Washington, D.C. 20515

Dear Congressman Markey:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of August 26, 2011, regarding seismic safety at the North Anna Power Station in central Virginia. The NRC is continuing its evaluation of the recent earthquake and its effect on North Anna; however, based on the licensee's collection and analysis of seismic data the agency is able to offer preliminary responses to your specific questions.

Shortly after the earthquake occurred, the NRC and the licensee (Virginia Electric and Power Company (VEPCO)) independently concluded based on partial data that the facility may have exceeded the ground motion for which it was designed. Enclosed, as requested, is the NRC's preliminary analysis (Enclosure 1). On September 8th, after a complete evaluation of earthquake seismic data, the licensee reported to the NRC that the facility's Operating Basis Earthquake and Design Basis Earthquake (DBE) were exceeded. Specifically, for some aspects of the earthquake, VEPCO's analysis also concluded that exceedance beyond the seismic design basis for the plant did not occur across the entire spectrum of frequencies for which the plant was designed. That is, the earthquake ground motion was lower than the design basis at some frequencies. VEPCO obtained third party peer review of its analysis by industry experts to confirm its findings. A copy of the licensee's briefing provided to the NRC in a recent public meeting is enclosed (Enclosure 2).

Regarding the question of whether the current requirements for the North Anna Power Station incorporate "modern geologic information," the NRC is currently evaluating this issue as part of a project started in 2005 known as Generic Issue-199, "Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States on Existing Plants," which evaluated the effect of updated seismic hazard estimates for operating nuclear power plants. Data and models developed in this project suggest that the probability of earthquake ground shaking above the seismic design basis at certain frequencies for some nuclear power plants in the central and eastern U.S. is greater than previous estimates. Later this year, the NRC expects to provide licensees of existing facilities a seismic analysis tool based on work related to applications for new plants (which use a "probabilistic" approach to determining seismic hazards), along with the latest information on earthquake sources, so that these plants can perform an updated review of their current risk from seismic events. Based on the information collected from these required analyses, the NRC will determine whether there is a need to take additional action at specific sites.

Please be assured that the NRC is carefully examining the effects of the recent earthquake at the North Anna Power Station. On October 3, the NRC conducted a public exit meeting to discuss the preliminary results from its augmented inspection team that was chartered to understand the effects of the earthquake on North Anna, and to gather information for further evaluation. Additionally, the agency is conducting a restart readiness inspection of both units. The Commission held public meetings on October 21 and November 1 to learn about the actions taken by the licensee and NRC staff to determine restart readiness of the North Anna nuclear plant. Currently, both units are shut down, and will remain so until VEPCO demonstrates to the NRC that no functional damage has occurred to those features necessary for continued operation without undue risk to the health and safety of the public.

Regarding your request that the Commission adopt the Near-Term Task Force recommendation related to seismic and flooding hazards, the Commission approved the staff's proposed actions to implement without delay the Near-Term Task Force recommendations. The Commission directed the NRC should strive to complete and implement the lessons learned from the Fukushima accident within five years – by 2016.

If you have any questions, please contact me or Ms. Rebecca Schmidt, Director of the Office of Congressional Affairs, at (301) 415-1776.

Sincerely,

/RA/

Gregory B. Jaczko

Enclosures:
As stated