

June 4, 2003

MEMORANDUM TO: Dam Safety Advisory Group

Geary Mizuno (OGC)  
Goutam Bagchi (NRR)  
Andrew Murphy (RES)  
James Costello (RES)

FROM: Daniel Rom, NRC Dam Safety Officer **/RA/**  
High Level Waste Branch  
Division of Waste Management  
Office of Nuclear Materials Safety  
and Safeguards

SUBJECT: ACTION REQUESTED - TELEPHONE CONFERENCE WITH VIRGINIA  
ELECTRIC POWER COMPANY TO DISCUSS DAM SAFETY ISSUES  
FOR THE CATEGORY I SERVICE WATER RESERVOIR DAM AT THE  
NORTH ANNA NUCLEAR POWER PLANT

This memorandum summarizes important points raised at a meeting of NRC's Dam Safety Advisory Group (DSAG) on March 19, 2003. It is suggested that this information be shared with NRR Management, and that they participate in a telephone conference with the Dam Safety Officer (DSO) and Virginia Electric Power Company (VEPCO) management to resolve open issues dating to 1997.

As part of NRC's Dam Safety Program, Category I dams associated with power reactors are inspected for safety every two years. NRC is responsible for these inspections under the National Dam Safety Program. The 1997, 1999, and 2001, safety inspections of the Category I Service Water Pond (SWP) dam at North Anna have had open issues based on input from our contractor for inspections, the Federal Energy Regulatory Commission (FERC). On May 10, 2002, the DSO issued a letter to VEPCO requesting the licensee re-address the open issues, most importantly the concerns about seepage. VEPCO's written response, dated November 6, 2002, was the subject of the March DSAG meeting.

The DSAG, which includes members from NRR, RES, OGC, and NMSS, determined that VEPCO's written response of November 6, 2002, did not resolve all of our concerns. FERC has done a thorough series of inspections, consistent with the level of detail exercised at the six other NRC Category I dams at power reactor sites. In each of the other six power reactor sites, similar findings have resulted in conscientious and positive licensee response.

CONTACT: Daniel Rom  
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VEPCO's written responses that failed to meet expectations are discussed below, in order of importance with respect to safety:

- ◆ NRC and VEPCO have not resolved the issue of possible seepage from the embankment. NRC and FERC are concerned that seepage, considered with increased piezometric readings, may indicate changes in embankment behavior that could affect the stability of the dam. Although VEPCO has made its position on the seepage question clear, it has not presented a convincing argument to NRC, nor to FERC. Although seepage alone does not necessarily prove a problem exists, recognition of seepage and aggressive monitoring is a safety prerequisite. Additional discussion of the seepage question can be found in the DSAG Meeting Minutes of March 19, 2003.
- ◆ NRC requested that quarterly flow measurements for horizontal drains that extend beneath the Service Water Pumphouse be made, and that a summary of readings be included in the annual inspection report. VEPCO replied that "Increasing to quarterly flow measurements is not considered necessary at this time."
- ◆ NRC requested that the newly installed piezometers should be clearly numbered, i.e., the new P-10 should be renumbered P-10A. VEPCO responded that "...there is no need to renumber the standpipe piezometer P-10."
- ◆ NRC requested that VEPCO staff should include a summary of instrumentation data and predicted performance of the embankment in the next Inservice Inspection report, providing copies for NRC review and comment. VEPCO responded "The next 5 year ISI report is due in 2004. We will submit the inspection results consistent with normal NRC reporting requirements."

At the March meeting, the DSAG also discussed several alternatives to break the impasse with VEPCO on these issues. The alternatives discussed included 1) NRR management informally contacting VEPCO management to express its concern with the lack of apparent responsiveness to NRC concerns; 2) a formal telephone conference or in-person meeting between NRR management and VEPCO; and 3) an agreement to postpone the upcoming NRC on-site dam safety inspection to the summer, to reflect a VEPCO request and contention that observed ponding was due solely to poor drainage after precipitation.

Given that some of the open issues date to 1997, and in view of VEPCO's most recent written response, I recommend that a telephone conference be held to discuss these issues with NRR and VEPCO management. The DSAG also agreed that the upcoming on site dam safety inspection will be conducted this summer. Therefore, I suggest the telephone conference be held on or before June 26, 2003. Please contact me at 415-6704, or e-mail at [dsr@nrc.gov](mailto:dsr@nrc.gov), with your comments on the above, or if you have any questions.

cc: Stephen R. Monarque (NRR)  
Kathryn Barber (OGC)  
Brooke Smith (OGC)

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