



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

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November 6, 1998

MEMORANDUM TO: Herbert N. Berkow, Director  
Project Directorate II-2  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

FROM: Joseph J. Holonich, Chief *Joseph J. Holonich*  
Uranium Recovery Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: ACTION ON DAM SAFETY INSPECTION RESPONSE  
VIRGIL C. SUMMER SERVICE WATER POND DAM  
DOCKET NO. 50-395

On August 28, 1998, South Carolina Electric & Gas Company (SCE&G) responded to NRC's February 27, 1997, report of the dam safety audit for the Service Water Pond (SWP) Dams at the Virgil C. Summer Nuclear Plant. SCE&G responded to the seven items in the audit. The SCE&G responses are summarized below:

1. The licensee reported that, as of June 9, 1998, all small brush and trees which were located on, or within 50 feet of, the dams, embankments, or discharge canal, had been removed and/or chemically treated.
2. The licensee stated that the three accessible piezometers located along the crest of the North Dam above the operating surface water level were monitored until the phreatic levels stabilized at approximately the water level on both sides of the dam. It is SCE&G's intention to test and evaluate the functional capability of the piezometers in the Fall of 1999. *1/0*
3. The licensee stated it has plans to conduct and document an annual walkdown of the SWP dams, beginning in 1999. *NUT*
4. The licensee stated that the natural abutment between the East and South Dams has required continual maintenance, but that no detrimental effects on the riprap have been observed for approximately 20 years. Nevertheless, SCE&G has performed additional grading to redirect flow away from the toe of the East Dam.

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5. The licensee stated that the area southeast of the plant site, between the security fences, does not appear to pose a water ponding problem at this time. However, SCE&G will monitor the area in question, and will take appropriate action should ponding of water become a problem in the future.
6. The licensee indicated a reluctance to conduct a lead-line survey on the discharge channel side of the South and East Dams, and the discharge channel for three reasons:
  - a) The South Dam is survey monitored along its crest every five years with consistent results, to date. Large tolerances must be assumed for underwater measurements due to irregularity of the riprap surface.
  - b) The East Dam is a very low profile structure, and the possibility of slope failures is considered too remote to warrant the need and expense of a lead-line survey.
  - c) The Discharge Canal (channel) is a non-safety related structure, the bottom of which was partially excavated several years ago to alleviate thermal stratification linked to fish kills. Since the bottom of the canal is non-uniform, a lead-line survey would not provide any meaningful results, nor is it considered necessary due to the lack of safety significance of the structure.
7. SCE&G stated that the 12-inch diameter corrugated metal pipe (CMP) is a non-safety related drain pipe for the SWP pumphouse screen wash pumps. Although the CMP admittedly leaks water onto the SWP and riprap, the impact of the water is dispersed by the riprap. The relatively small leakage of water is considered to have an insignificant impact on the integrity of the West Embankment.

The West Embankment is lead-line surveyed every five years. These surveys, and the semi-annual survey monitoring of the pumphouse and intake structure, have provided very consistent results for the past 20 years. The survey results to date show no signs of significant settlement of the structures, or instability of the West Embankment.

The positive response by the licensee to items 1 through 5 is acknowledged. Whereas the licensee has expressed a preference to maintain the status quo with respect to underwater monitoring (or lack thereof) of the embankments, the Dam Safety Officer (DSO) cannot confirm that the structures are free from gross erosion or other effects that could impair their stability. If the licensee is unwilling to perform lead-line surveys (see items 6 and 7, above), then it is recommended that a suitable alternative should be proposed and implemented unless the licensee can disprove the need for confirmation. For example, the licensee could consider the use of a commercially-available surface-operated depth-finder to provide the necessary backup. Other reasonable alternatives to a lead-line survey will also be considered by the DSO.

H. Berkow

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The DSO acknowledges that the irregularity of riprap surfaces, dredging, and other conditions will be reflected in any measurement of the embankment made below the water line. However, without a measurable degree of assurance being provided by the licensee, we are unable to close out items 6 and 7.

cc: MPadovan, NRR  
GBagchi, NRR  
TJohnson, NMSS



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