

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

December 14, 1994

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555

Serial No. 94-689  
SPS/BCB/GDM R2  
Docket Nos. 50-280  
50-281  
License Nos. DPR-32  
DPR-37

Gentlemen:

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**SURRY POWER STATION UNITS 1 AND 2**  
**REPLY TO A NOTICE OF VIOLATION**  
**NRC INSPECTION REPORT NOS. 50-280/94-32 AND 50-281/94-32**

We have reviewed Inspection Report Nos. 50-280/94-32 and 50-281/94-32 dated November 23, 1994, and the enclosed Notice of Violation. We share your concern regarding the timeliness and effectiveness of the corrective actions associated with the operability of Station Battery 2A. The sensitivity and performance of our organization leading up to this violation were not reflective of our standards and management expectations. Although we believe that this violation was a discrete event, some aspects had potential common characteristics to another recent violation regarding the auxiliary ventilation adsorbers. As a consequence, we have established a Root Cause Evaluation (RCE) team to more carefully examine the communications involved in the initiation of the corrective action process, specifically as it may apply to recurring equipment or performance problems.

The attached response to the Notice of Violation specifically addresses the Station Battery 2A operability issue and the associated corrective actions. The broader issues related to the timeliness and effectiveness of corrective actions are being addressed by the RCE, which is still in progress. The results of the RCE will be reviewed by management and any additional actions that are appropriate will be implemented.

As previously discussed by Mr. M. L. Bowling, Manager-Nuclear Licensing and Programs and Mr. G. A. Belisle of your staff, a management meeting is requested on January 9, 1995, to provide an opportunity to discuss the results of the RCE and the status of our corrective actions.

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PDR

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We have no objection to this letter being made a part of the public record. Please contact us if you have any questions or require additional information.

Very truly yours,



James P. O'Hanlon  
Senior Vice President - Nuclear

Attachment

cc: U.S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, N.W.  
Atlanta, Georgia 30323

Mr. M. W. Branch  
NRC Senior Resident Inspector  
Surry Power Station

**REPLY TO A NOTICE OF VIOLATION**  
**NRC INSPECTION CONDUCTED OCTOBER 27 - NOVEMBER 14, 1994**  
**SURRY POWER STATION UNITS 1 AND 2**  
**INSPECTION REPORT NOS. 50-280/94-32 AND 50-281/94-32**

**NRC COMMENT:**

"During an NRC inspection conducted on October 27 through November 14, 1994, a violation of NRC requirements was identified. In accordance with the 'General Statement of Policy and Procedure for NRC Enforcement Actions,' 10 CFR Part 2, Appendix C, the violation is listed below:

10 CFR 50, Appendix B, Criterion XVI, as implemented by the Operational Quality Assurance Program Topical Report (VEP-1-5A, Section 17.2.16) requires that measures be established to assure that conditions adverse to quality are promptly identified and corrected.

Sections 7.2 and Attachment 13 of station procedure 0-EPT-0102-01, Monthly Station Battery Cell Voltage Check, revision 0, specifies that a battery cell be considered inoperable if a cell voltage measurement of  $\leq 2.07$  is recorded and requires that a Deviation Report (DR) be issued.

Contrary to the above, on October 7, 17, 22, and 26, 1994, established measures to assure that conditions adverse to quality are promptly identified and corrected were ineffective. Specifically, on these four occasions, cell voltages for cell 52 of the 2A station battery were  $\leq 2.07$  volts and the cell was not declared inoperable and DRs were not issued. The failure to promptly identify and correct this condition resulted in operation with a degraded station battery.

This is a Severity Level IV Violation (Supplement I)."

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**1. Reason for the Violation, or, if Contested, the Basis for Disputing the Violation**

The reason for the violation was inadequate post-maintenance testing and personnel error.

On September 20, 1994, an electrical periodic test was performed to check the cell voltage for Unit 2 Station Battery 2A. The measured voltage for Cell 52 of Station Battery 2A was 2.09 VDC, which was within the "Alert" range (i.e., 2.08 to 2.12 VDC). From September 28 to October 26, 1994, Station Battery 2A/Cell 52 was charged four times in accordance with the appropriate electrical corrective maintenance procedure in an attempt to restore the voltage of Cell 52 to the "Acceptable" range (i.e.,  $\geq 2.13$  VDC). On four occasions during this period, the measured voltage for Cell 52 was slightly below the operable range (i.e.,  $\geq 2.08$  VDC). The post-maintenance testing, which was included in the electrical corrective maintenance procedure, did not specify acceptance criteria related to cell operability. As a result, the inoperable conditions that existed on October 7, 17, 22, and 26, 1994, were not recognized by the maintenance personnel who were performing the procedure. The responsible engineer, when informed of the corrective maintenance results, mistakenly concluded that the measured voltage for Cell 52 was in the "Alert" range.

**2. Corrective Steps Which Have Been Taken and the Results Achieved**

A Deviation Report was submitted on October 27, 1994, when the measured voltage for Cell 52 was identified as being below the operable range. Station Battery 2A was declared inoperable and a Limiting Condition for Operation (LCO) that required Unit 2 to be at Hot Shutdown within 24 hours was initiated in accordance with Technical Specification (TS) 3.16.B.3.

Management evaluated the options for correcting the degraded condition of Station Battery 2A and determined the most conservative solution was to temporarily install an electrical jumper around Cell 52 until the next refueling outage when the cell would be replaced. Operation of the battery with less than the full complement of 60 cells was evaluated and determined to be acceptable and consistent with the UFSAR and TS. On October 28, 1994, an electrical jumper was installed around Cell 52. Station Battery 2A was returned to operable status and the LCO was exited.

**2. Corrective Steps Which Have Been Taken and the Results Achieved (Continued)**

A Deviation Report was submitted by maintenance personnel on November 4, 1994, which identified that the measured voltage for Cell 52 had been below the operable range prior to October 27, 1994, when the battery had been declared inoperable.

Disciplinary actions have been taken for the personnel involved.

The process by which main station battery electrical corrective maintenance is performed was changed to require the performance of post-maintenance testing that is independent of the electrical corrective maintenance procedures. This independent post-maintenance testing provides specific cell acceptance criteria to ensure the recognition of inoperable conditions.

Engineering and battery vendor personnel visually inspected other safety-related batteries to assess their condition. The batteries were noted to be in good condition. The results of this inspection were presented to management.

As an interim measure, a management directive was issued which requires a Deviation Report to be submitted when a component is found to be in the "Alert" range or when trending data indicates an approach to the "Alert" range. The Deviation Report process will ensure such conditions are communicated to appropriate levels of management and that corrective actions are promptly initiated. Furthermore, management met with engineering personnel to reemphasize their expectations for promptly informing management of equipment problems and degraded equipment operability trends.

A Root Cause Evaluation (RCE) was initiated to more carefully examine the communications involved in the initiation of the corrective action process, specifically as it may apply to recurring equipment or performance problems.

A Licensee Event Report (50-281/94-004-00) was submitted pursuant to 10 CFR 50.73 due to Station Battery 2A being inoperable in excess of the period allowed by Technical Specification 3.16.B.3.

**3. Corrective Steps Which Will be Taken to Avoid Further Violations**

A separate RCE is being performed by Maintenance Engineering personnel to determine the failure mechanism which resulted in Station Battery 2A becoming inoperable.

**3. Corrective Steps Which Will be Taken to Avoid Further Violations (Continued)**

Cell 52 of Station Battery 2A will be replaced during the 1995 Unit 2 refueling outage.

As noted above, an RCE is also in progress to evaluate the corrective action process. The results of the RCE will be presented to management. Any additional corrective actions will be identified and discussed with the NRC at the management meeting scheduled for January 9, 1995.

As an enhancement, a proposed change to the Technical Specifications is being prepared to incorporate specific acceptance criteria for station batteries. This change should further facilitate determination of battery operability in the future.

**4. The Date When Full Compliance Will be Achieved**

Full compliance was achieved when Station Battery 2A was returned to operable status on October 28, 1994, and when the process by which main station battery electrical corrective maintenance is performed was changed to require the performance of post-maintenance testing that includes appropriate acceptance criteria.