

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

October 28, 1993

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

Serial No. 93-643
SPS/VAS/ETS R5
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

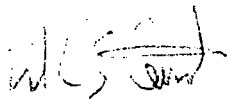
Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
REPLY TO A NOTICE OF VIOLATION
NRC INSPECTION REPORT NOS. 50-280/93-22 AND 50-281/93-22

We have reviewed your Inspection Report Nos. 50-280/93-22 and 50-281/93-22 dated September 29, 1993 and the enclosed Notice of Violation. We agree that in retrospect, our investigation and evaluation of the Reactor Coolant System leak was not sufficient in that it failed to definitively identify the actual source of leakage. However, as detailed in the attached reply to the Notice of Violation, we believe that the actions taken and the evaluations made under the conditions which existed at the time were prudent. Likewise, we believe that our categorization of the leakage at that time as "identified" was reasonable.

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,



W. L. Stewart
Senior Vice President - Nuclear

Attachment

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PDR ADDCK 05000280
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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 AUGUST 9 - SEPTEMBER 4, 1993
SURRY POWER STATION UNITS 1 AND 2
INSPECTION REPORT NOS. 50-280/93-22 AND 50-281/93-22

NRC COMMENT:

"During an NRC inspection conducted on August 9 through September 4, 1993, 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:

Technical Specification 3.1.c.1 requires that detected or suspected leakage from the reactor coolant system shall be investigated and evaluated.

Contrary to the above, the investigation and evaluation of a detectable reactor coolant leak was inadequate. The leak was identified as coming from the B steam generator manway and the leakage was categorized as identified leakage. In fact, the leak was at a 3/4-inch pipe weld on the B Steam Generator channel head drain assembly. As a result, Unit 1 operated at power from 12:52 p.m., on June 25, 1993 through 2:38 a.m., on August 21, 1993, for a total of 57 days, with a non-isolable leak.

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

REPLY TO A NOTICE OF VIOLATION
NRC INSPECTION CONDUCTED AUGUST 9 - SEPTEMBER 4, 1993
SURRY POWER STATION UNITS 1 AND 2
INSPECTION REPORT NOS. 50-280/93-22 AND 50-281/93-22

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

The violation occurred because the investigation and evaluation which was conducted after detection of the Reactor Coolant System (RCS) leak misidentified the source of the leakage. As described below, the team which made the third containment entry during the leak investigation evaluated the leak as coming from the "B" Steam Generator primary manway. This evaluation was based on visual observation in the vicinity of the leak.

At 1252 on June 25, 1993, Unit 1 Containment Particulate Radiation Monitor alarmed in the alert range. Upon receipt of this initial indication of a possible RCS leak, the following investigations and evaluations were performed:

- RCS leakage rate was measured in accordance with established procedures. Results indicated an increase in both unidentified and total RCS leakage of 0.2 gallons per minute (gpm).
- The containment sump was analyzed and radioactive isotopes indicative of a RCS leak were detected.
- Changes in system line-up were performed, but no effect on the leak rate was noted.
- Several containment entries were made by Operations and Maintenance personnel to determine the source of the leakage.
 - At 1756 hours on June 25, 1993, a team went into containment. No active leakage was observed during this entry.
 - At 1149 on June 26, 1993, a team entered containment to walk down the loop rooms. This team identified leakage from the 'B' Steam Generator (SG) cold leg manway area at approximately 0.2 gpm.
 - At 2057 hours on June 26, 1993, a team entered containment to investigate and evaluate the leak. Based on the nature of the leakage through the SG primary manway insulation, the individuals on the scene evaluated the leakage as coming from the SG primary manway. Removal of the manway insulation cover for a more detailed examination at power is not possible and was not planned for during this inspection due to the radiation levels (7 to 10 rem per hour) in the vicinity of the SG channel head.

- Based on the location and type of leakage observed, the leakage was identified as coming from the 'B' SG primary manway gasket, and the leakage was categorized as identified.
- Operating shift crews were briefed to heighten personnel sensitivity to the condition.
- Precautionary actions were put in place to monitor the leakage. These actions included:
 - Increasing the performance of the leak rate calculation from the Technical Specification requirement of once every twenty four hours to twice each shift, (representing six times each twenty four hour period) to monitor any changes.
 - Installation of a video camera in containment which was focused on the 'B' SG manway.
 - Installation of a television monitor and VCR in the Main Control Room (MCR) to provide continuous monitoring capability and to allow comparison with previously recorded conditions.
- Plans were made for a maintenance outage to repair the leak.

Given the actions described above and the conditions which existed at the leak site, the actions taken in investigating and evaluating the leakage were prudent. Further, given the on-scene evaluation by experienced personnel regarding the location of the leak, our categorization of the leakage as "identified" was reasonable. It was not until the Unit had been shut down and insulation had been removed that a more detailed inspection and evaluation was reasonably possible. It was at this time that the actual through-wall leak was located in the SG channel head drain line.

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

After the source of the leak had been identified, a walk down of the other five SG channel head drain lines (i.e. two on Unit 1 and three on Unit 2) was performed on August 23, 1993. The 21 welds on the 'A', 'B' and 'C' SG channel head drain lines for Unit 1 were non-destructively examined using the liquid penetrant method and were found to fully meet Code acceptance criteria. A visual inspection was conducted on Unit 2, and no evidence of leakage was observed.

A Licensee Event Report (LER S1-93-010) was submitted in accordance with 10 CFR 50.73(a)(2)(i)(b) since Surry Unit 1 operated in a condition not allowed by Technical Specification 3.1.c.4. In addition, information on the leak in the SG channel head drain line was shared with the industry through the Operating Experience network.

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

Procedures will be revised such that when RCS leakage is observable, but its source can not be positively confirmed, a formal evaluation will be completed and documentation of the evaluation will be prepared, prior to characterizing the leakage as "identified." Elements of the evaluation may include a 10 CFR 50.59 screening, a safety evaluation, an engineering evaluation, and a justification for continued operation outlining any special monitoring measures or associated activities.

The design of the channel head drain line and valving arrangement is under reevaluation to determine if a configuration less susceptible to this type of failure should be developed.

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

Full compliance was achieved when the insulation was removed in the vicinity of the leak, the actual source of the leakage was determined, and a code repair to the line was made.