

Duquesne Light Company

Beaver Valley Power Station
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May 15, 1992

JOHN D. SIEBER
Vice President - Nuclear Group

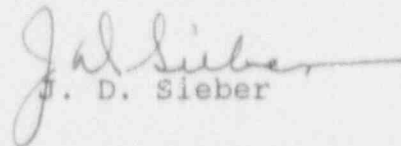
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

**Subject: Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
Inspection Report 50-334/92-02
Reply to a Notice of Violation**

In response to NRC correspondence dated April 14, 1992 and in accordance with 10 CFR 2.201, the attached reply addresses the Notice of Violation transmitted with the referenced inspection report.

If there are any questions concerning this response, please contact Mr. N. R. Tonet at (412) 393-5210.

Sincerely,

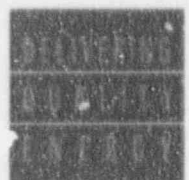

J. D. Sieber

Attachment

cc: Mr. L. W. Rossbach, Sr. Resident Inspector
Mr. T. T. Martin, NRC Region I Administrator
Mr. L. H. Bettenhausen, Chief, Operations Branch
Division of Reactor Safety, Region I
Mr. A. W. DeAgazio, Project Manager
Mr. M. L. Bo'ing (VEPCO)

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DUQUESNE LIGHT COMPANY
Nuclear Group
Beaver Valley Power Station, Unit No. 1

Reply to Notice of Violation

Inspection Report 50-334/92-02
Letter dated April 14, 1992

VIOLATION (Severity Level IV, Supplement I)

Description of Violation (50-334/92-02-01)

10CFR 50 Appendix B, Criterion XVI, requires, in part, that conditions adverse to quality such as failures and deficiencies are promptly identified and corrected.

Nuclear Group Administrative Manual Directive 1.2.3, "Corrective Action Response," and Nuclear Engineering Administrative Procedure 7.1, "Corrective Action," require, in part, that corrective actions that will maintain or improve the safety posture of BVPS or assure continued compliance with regulatory requirements shall be taken as expeditiously as possible.

Contrary to the above, for approximately ten years, Duquesne Light Company did not recognize inadequate Supplementary Leak Collection and Release (SLCR) System ventilation flow in the charging pump cubicles until October 1990 after a 1980 design change (DCP 201/202) occurred in the SLCR System. This condition also existed for approximately seven years after a 1983 heat gain calculation predicted that excessive cubicle temperatures would occur during accident conditions. Adequate corrective actions to determine proper testing for cubicle air flows were not completed until November 1991. In addition, special testing in November 1991 determined that adequate flow for two out of three cubicles could not be obtained due to the failure of a SLCR System damper which had not been tested since January 1985. An apparent miscommunication between Duquesne Light Company engineering, test, and operations personnel then allowed an escalation in plant operating modes before the inadequate cubicle flow was understood by the Operations Department. Two charging pumps were consequently declared inoperable and further mode escalation halted until the failed damper was identified and repaired.

Failing to identify the deficiencies in the SLCRS flow balance for 10 years, failing to adequately test all SLCRS flow paths, allowing the charging cubicle deficiency to remain uncorrected for 13 months once identified, and failing to properly evaluate and communicate test results in time to prevent an improper operating mode change violate the Criterion XVI requirement for prompt identification and correction of conditions adverse to quality.

Reasons for the Violation

In 1980, DCP 201/202 altered SLCRS branch flows without specifying corresponding changes to individual room flows in the test criteria and did not update the design drawings to show the revised SLCRS flow rates. Subsequently, the periodic test program only verified SLCRS flow rates required by Technical Specification 3.7.8.1, with room flow rate verification performed on an as needed basis to support system flow balancing. In addition, station design documents did not provide adequate information to describe all design requirements of the SLCRS. These design documents discussed the function of the SLCRS to collect leakage from the containment contiguous areas, to maintain these areas under a negative pressure, and to filter the exhaust from these areas through the Main Filter Banks under accident conditions. However, the secondary design requirement of providing post accident cooling to maintain equipment qualification (EQ) in these areas was not added to station documents after credit was taken for this function in EQ calculations. Therefore, ventilation flow in individual rooms such as the charging pump cubicles were not periodically verified.

The charging pump cubicle flow deficiency was identified during an internal review of design calculations for EQ areas. Corrective actions were initiated at that time. However, it was not until November 1991 that corrective actions were completed.

The operating mode change occurred due to a miscommunication of testing and analysis results which led to the misunderstanding that the required ventilation flow was available.

Corrective Actions Taken

1. Immediately following the identification of inadequate charging pump cubicle ventilation flow, the following actions were taken:
 - a. After an evaluation of SLCRS exhaust flow data determined that the charging pump cubicle flows were inadequate, the Action Statement of Technical Specification 3.5.2 was entered and the mode escalation was halted.
 - b. Calculation 8700-DMC-2500 was completed to establish the minimum SLCRS air flows in the charging pump cubicles to maintain the charging pumps below their environmental qualification (EQ) temperature limits.
 - c. An investigation determined that balance damper VS-D-4-30 had failed in a partially closed position. The damper was repaired and charging pump cubicle flows were adjusted to be in excess of the required minimum flow rates established in calculation 8700-DMC-2500 and therefore acceptable.

This event was reported to the NRC via Licensee Event Report (LER) 91-032.

Corrective Actions Taken (continued)

2. The current Design Change Package (DCP) program, as defined in engineering procedure NEAP 2.2, is more definitive and rigorous in its requirements for safety evaluations, test specifications, and records update. As a result, the design control deficiencies identified from DCP 201/202, prepared in 1979 would not occur in a DCP today.
3. Other areas which contain major safety related pumps and require cooling by SLCRS to meet EQ requirements were verified to meet acceptable branch line flow rates.

Actions Taken to Prevent Recurrence

1. Calculation 8700-DMC-2703 "SLCRS Air Flows for EQ Temperature Requirements" was completed to determine the minimum SLCRS air flows to maintain equipment below the environmental qualification (EQ) temperature limits. This calculation including its references has been established to define the flow requirements for the SLCRS.
2. Beaver Valley Test procedures 1BVT 2.16.5 and 1BVT 1.16.10 will be revised to incorporate all of the SLCRS design basis flow rates for SLCRS into the acceptance criteria. These flow rates will be periodically verified by the performance of these tests on an 18 month frequency.
3. SLCRS flow diagram 3700-RB-2B will be revised to show the minimum allowable flow rates to meet both EQ and exhaust flow rates.
4. The Design Basis Document (DBD) for SLCRS will be revised to include area temperature limits and heat removal requirements to support EQ requirements.
5. The Beaver Valley Unit 1 (BV-1) Updated Final Safety Analysis Report (UFSAR) will be revised to describe the SLCRS post accident cooling function in the next annual update.
6. This event will be reviewed with technical personnel in the next session of Technical Personnel Continuing Training (TPCT) with emphasis on the need for prompt and adequate corrective action and effective communication of conditions which may affect equipment operability.

Date When Full Compliance will be Achieved

1. 1BVT 2.16.5 and 1BVT 1.16.10 will be revised and performed to verify all SLCRS area flow rates by June 15, 1992.
2. SLCRS flow diagram 8700-RB-2B will be revised by July 30, 1992.
3. The SLCRS Design Basis Document will be revised by December 31, 1992.

Date When Full Compliance will be Achieved (continued)

4. The next annual update to the EV-1 UFSAR is scheduled to be submitted in July, 1992.
5. Training will be completed in Module 92-3 of TPCT during the third quarter of 1992.