



PSEG

Public Service Electric and Gas Company P.O. Box E Hancocks Bridge, New Jersey 08038

Salem Generating Station

May 28, 1987

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

Dear Sir:

SALEM GENERATING STATION
LICENSE NO. DPR-70
DOCKET NO. 50-272
UNIT NO. 1
REPORT 87-3
SPECIAL REPORT

This Special Report describes the circumstances surrounding a Service Water leak inside the containment. This report is being submitted within fourteen days of the occurrence in accordance with the reporting requirements of I.E. Bulletin 80-24.

Sincerely yours,

J. M. Zupko, Jr.

J. M. Zupko, Jr.
General Manager-
Salem Operations

RKH:pc

Distribution

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The Energy People

PLANT IDENTIFICATION:

Salem Generating Station - Unit 1
Public Service Electric & Gas Company
Hancock's Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

SERVICE WATER LEAK INSIDE CONTAINMENT - NO. 12 CONTAINMENT FAN COIL
UNIT MOTOR COOLER LEAK DUE TO CORROSION

Event Date(s): 05/14/87

Report Date: 05/28/87

This report was initiated by Incident Report No. 87-186

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 - Rx Power 100% - Unit Load 1152MWe

DESCRIPTION OF OCCURRENCE:

On May 14, 1987, during routine power operation, the shift noticed an increase in the containment sump leak rate to 7.5 gpm. Due to the unidentified leakage being greater than 1 gpm, Action Statement 3.4.6.2 was entered at 0353 hours. Subsequent performance of a Reactor Coolant System (RCS) Inventory did not indicate a leak from the Chemical Volume and Control System (CVCS) or the RCS. Therefore, a containment entry was performed and it was discovered that No. 12 Containment Fan Coil Unit (CFCU) had developed a leak in a carbon steel fitting in the two (2) inch motor cooler service water outlet line. The CFCU was isolated and Technical Specification Action 3.6.2.3.a was entered at 0434 hours. Action Statement 3.4.6.2 was subsequently terminated at 0457 hours, when leakage was demonstrated to be well within specified limits. The NRC was notified at 0500 hours the same day. Subsequently, on May 17, 1987, at 2010 hours, No. 12 CFCU was restored to operable status and Action Statement 3.6.2.3.a was terminated.

APPARENT CAUSE OF OCCURRENCE:

Upon investigation, a hole was found in the side wall of a two (2) inch service water "tee" fitting, which was the location of a thermo-well. The indications show the hole to have been formed by corrosion. No other similarly corroded fittings were discovered.

ANALYSIS OF OCCURRENCE:

An increase in containment sump inleakage is the primary indication of the development of RCS or other system leakage. Continuous monitoring of the sump inleakage allows early detection of a potential problem and provides a basis for initiation of appropriate actions to identify, isolate, and repair the leak.

ANALYSIS OF OCCURRENCE: (cont'd)

Performance of an RCS water inventory balance in conjunction with a containment entry to locate the source of the inleakage is the appropriate action.

The unavailability of one CFCU does not significantly affect the ability to provide containment cooling. During normal operation there are one or more idle CFCUs, depending on containment temperature. During an accident condition, the CFCUs provide one hundred percent (100%) redundancy to the Containment Spray System for cooling and depressurizing the containment.

PSE&G performed a study in July 1985 (as documented by Engineering Safety Evaluation S-C-M600-NSE-228, Rev. 2, "Safety Considerations of a Containment Fan Coil Unit Tube Severance") which addresses concerns associated with service water leakage from a CFCU during LOCA conditions. The study concluded that the present detection systems (e.g., mismatch detection between service water inlet and outlet flow and the containment water level monitoring system) are adequate for detecting major service water leakage from the CFCUs. Also, minor leakage can be detected through sampling and administrative controls. The study also addresses concerns associated with exceeding the design flood level, potential boron dilution, chloride contamination and pH effects. These concerns are adequately addressed by the current plant design and administrative controls in effect.

Based upon the above analysis, this occurrence involved no undue risk to the health and safety of the public, and no equipment damage resulted from the service water leak. However, all service water leaks inside containment are reportable in accordance with I.E. Bulletin No. 80-24.

CORRECTIVE ACTION:

The entire spoolpiece containing the corroded "tee" fitting was replaced with one made from stainless steel. Our program for investigation of corrosion problems with the Service Water System and replacement of affected piping with piping made from more corrosion resistant materials is currently in progress. Additional research is continuing in this area.

J. M. Zupko, Jr.
General Manager -
Salem Operations

RKH:pc

SORC Mtg. 87-035