PSE&G

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

Salem Generating Station

August 18, 1982

Mr. R. C. Haynes
Regional Administrator
USNRC
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Haynes:

LICENSE NO. DPR-75
DOCKET NO. 50-311
REPORTABLE OCCURRENCE 82-070/01T

Pursuant to the requirements of Salem Generating Station Unit No. 2, Technical Specifications, Section 6.9.1.8.c, we are submitting Licensee Event Report for Reportable Occurrence 82-070/01T. This report is required within fourteen (14) days of the occurrence.

Sincerely yours,

H. J. Midura
General Manager -
Salem Operations

RF:ks

CC: Distribution

Report Number: 82-070/01T

Report Date: 08-18-82

Occurrence Date: 08-09-82

Facility: Salem Generating Station, Unit 2
Public Service Electric & Gas Company
Hancocks Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Containment Service Water Leak - No. 24 Containment Fan Coil Unit.

This report was initiated by Incident Report 82-198.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 - Rx Power 78% - Unit Load 830 MWe.

DESCRIPTION OF OCCURRENCE:

At 1930 hours, August 9, 1982, during routine operation, the Control Room Operator noticed an increase in leakage to the containment sump, based on more frequent operation of the containment sump pump. A containment entry was performed, and a flow of 0.5 GPM was observed from the No. 24 Containment Fan Coil Unit (CFCU) condensate leakoff line. A minor packing leak was also noted on Valve 24SW65. Subsequent analysis of a sample of the leakoff revealed it was, in fact, service water. At 2005 hours, service water to the CFCU was isolated and the leakage was stopped. No. 24 CFCU was declared inoperable, and Technical Specification Action Statement 3.6.2.3.a was entered. In accordance with NRC IE Bulletin 80-24, the NRC was notified of the leak by telephone at 2009 hours, with written confirmation transmitted on August 10, 1982. Both containment spray systems were operable throughout the occurrence.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

Investigation of the problem showed that the leakage was due to the failure of the cooling coils. The coils are fabricated from copper-nickel alloy which is susceptible to erosion by silt laden service water. Similar failures of other CFCU's have been noted, with most leaks occurring at bends where erosion is more significant. Corrosion involving dissimilar metals in the service water piping may also be involved.

ANALYSIS OF OCCURRENCE:

Primary containment is a design feature which ensures that the release of radiation materials in the event of accident conditions will be restricted such that site boundary radiation doses will be within the limits of 10CFR100.

NRC IE Bulletin 80-24 requires that any service water leak inside the containment be considered as a degradation of the containment boundary. If containment pressure increased to the design pressure of 47 psig during an accident, there is a possibility of the release of radioactivity through the service water discharge. The occurrence therefore constitutes an abnormal degradation of the primary containment and is reportable in accordance with Technical Specification 6.9.1.8.c.

The CFCU's operate in conjunction with the containment spray systems to remove heat and radioactive contamination from the containment atmosphere in the event of a design basis accident. Operability of either all fan coil groups or of both containment spray systems is necessary to insure offsite radiation dose is maintained within the limits of 10CFR100.

Because the leakage was immediately isolated, containment integrity was maintained. Redundant containment cooling capability was provided by the containment spray systems. The occurrence therefore involved no risk to the health or safety of the public.

Due to the inoperability of the CFCU, the event constituted operation in a degraded mode permitted by a limiting condition for operation. Action Statement 3.6.2.3.a requires: with one group of containment cooling fans inoperable, restore the inoperable group of cooling fans to operable status within the next 7 days, or be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

CORRECTIVE ACTION:

As noted, the leak was immediately isolated, and prompt notification was performed in accordance with Technical Specification 6.9.1.8. The flanges in the lines to the leaking cooling coil were blanked to isolate the leak. Valve 24SW65 was repaired by installation of an additional packing ring and retightening of the packing. The CFCU and valve were satisfactorily tested, and the unit was declared operable. At 1630 hours, August 11, 1982, Action Statement 3.6.2.3.a was terminated.

Design Change Request 2EC-0505 has been issued to replace the CFCU cooling coils with coils manufactured of AL-6X steel, for improved erosion and corrosion resistance in the service water environment. This change is scheduled for implementation during the next refueling outage. A Supplemental Report will be submitted upon completion.

FAILURE DATA:

Containment service water leaks due to the erosion of Service Water System components on CFCU's have occurred three other times since January 1, 1982. (LER's 82-028, 82-039, and 82-040).

Westinghouse Electric Corporation
Containment Fan Coil Unit
U-Tube Cooling Coil

Prepared By R. Frahm

General Manager -
Salem Operations

SORC Meeting No. 82-77