



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

Salem Generating Station

August 25, 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 82-077/01T

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 82-077/01T. This report is required within fourteen (14) days of the occurrence.

Sincerely yours,

H. J. Midura  
General Manager -  
Salem Operations

RH:ks 902

CC: Distribution

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PDR ADOCK 05000311  
S PDR

The Energy People

IEU

Report Number: 82-077/01T  
Report Date: 08-25-82  
Occurrence Date: 08-18-82  
Facility: Salem Generating Station, Unit 2  
Public Service Electric & Gas Company  
Hancocks Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Containment Service Water Leak - No. 21 Containment Fan Coil Unit.

This report was initiated by Incident Report 82-218.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 - Rx Power 82% - Unit Load 860 MWe.

DESCRIPTION OF OCCURRENCE:

At 0220 hours, August 18, 1982, during routine operation, the Control Room Operator discovered indication of increased leakage to the Containment Sump, based on more frequent operation of the Containment Sump Pump. No. 21 Containment Fan Coil Unit (CFCU) also showed indication of increased humidity and rising drain pot level. At 0225 hours, the CFCU was declared inoperable and isolated due to a suspected Service Water leak, and Technical Specification Action Statement 3.6.2.3a was entered. In accordance with NRC Bulletin 80-24, the NRC was notified of the leak by telephone at 0230 hours, with written confirmation transmitted on August 18, 1982. A containment entry was made and it was discovered that the fifth secondary coil from the bottom of the CFCU was leaking. 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 failure of the cooling coils. The coils are fabricated of 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.

ANALYSIS OF OCCURRENCE:

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

ANALYSIS OF OCCURRENCE: (continued)

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 isolated and prompt notification was made to the NRC in accordance with Technical Specification 6.9.1.8.c. The coil was repaired with Belzona, and was satisfactorily tested. No. 21 CFCU was declared operable and Action Statement 3.6.2.3a was terminated at 1650 hours, August 19, 1982.

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 seven other times since January 1, 1982.

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

Prepared By     R. Heller    

*H.J. Midura*

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General Manager -  
Salem Operations

SORC Meeting No.     82-78