

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

050311-820817
050311-821004

Report No. 50-311/82-28

Docket No. 50-311

License No. DPR-75 Priority - Category C

Licensee: Public Service Electric and Gas Company
80 Park Plaza
Newark, New Jersey 07101

Facility Name: Salem Nuclear Generating Station - Unit 2

Inspection at: Hancocks Bridge, New Jersey

Inspection conducted: October 6-12, 1982

Inspectors: [Signature] 10/26/82
L. J. Narrholm, Senior Resident Inspector date signed

[Signature] 10/26/82
for R. Summers, Resident Reactor Inspector date signed

Approved by: [Signature] 10-26-82
L. E. Tripp, Chief, Reactor Projects date signed
Section No. 2A, Projects Branch
No. 2, DPRP

Inspection Summary:

Inspections on October 6-12, 1982 (Report Number 50-311/82-28)

Special inspection (12 hours) to review the circumstances surrounding the isolation of auxiliary feedwater supply to Steam Generators 23 which occurred on October 4, 1982.

Results: One violation was identified for failure to follow procedures (para. 2)

DETAILS

1. Persons Contacted

L. Fry, Operations Manager
N. Gerrity, Senior Shift Supervisor (Days)
H. Midura, General Manager - Salem Operations

2. Isolation of Auxiliary Feedwater Supply to Steam Generator No. 23

a. Summary

In preparation for maintenance on safety related equipment, a valve was closed (and tagged) mistakenly which isolated the auxiliary feedwater supply to one of the four steam generators. The tagging order correctly indicated which valves should have been closed. Independent verification of compliance with the tagging order was not performed in accordance with plant procedures and did not detect the error.

b. Details

Radiography of the No. 23 Auxiliary Feed Pump turbine steam supply check valves (21MS46 and 23MS46) determined that 23MS46 (steam supply from Steam Generator No. 23) was defective in that the disc had separated from the operating arm, rendering the valve and, therefore, the feed pump, inoperable. Technical Specification Action 3.7.1.2 (a) was entered at about 5:00 p.m. on October 4, 1982 for one inoperable auxiliary feed pump. At about 8:00 p.m. on October 4, in preparation to repair the valve, a tagging order was initiated to isolate the pump steam supply. The pump is supplied steam from both Steam Generator No. 21 and No. 23. The tagging order was carried out and independent verification of the tagging order was documented. At about 3:00 a.m. on October 5, the shift Technical Advisor (STA), who was making a plant tour, heard steam being released in the area of the No. 23 Auxiliary Feedwater Pump. After reporting to the Control Room, the STA and an equipment operator returned to the penetration area to investigate. They discovered that rather than the steam supply from Steam Generator No. 21 (21MS45) and the supply from Steam Generator No. 23 (23MS45) being closed and tagged, the tag meant for 23MS45 was affixed to valve 23AF23 (isolation valve for auxiliary feedwater supply to No. 23 Steam Generator) and that valve was closed. The resulting alignment made only the two motor-driven auxiliary feedwater pumps available and capable of providing flow to only three of the four steam generators, thus degrading the ability of the auxiliary feedwater system to mitigate an accident.

Valve 23MS45 and Valve 23AF23 are both located about 10 feet off the floor and about 5 feet apart. Both are normally locked open and have metal identification tags affixed. Independent verification of compliance with the tagging order should have detected the error.

Administrative Procedure (AP)-15, "Safety Tagging Program" states that safety related equipment and fire protection for safety related areas shall require independent verification when equipment is removed from or restored to service and, further, lists the systems affected and the individuals qualified to perform the verification. The auxiliary feedwater system is listed and the individual who documented the independent verification is qualified. In addition, Operations Directive (OD)-8, TRIS (Tagging Request Inquiry System) Tagging Operations describes the step by step procedure which must be followed to perform the tagging and independent verification operations. By procedure, the equipment operator is to carry out the tagging operation and return to the control room after completion. The control room operator then verifies that the number of tags applied is correct, afterwhich, a qualified individual is sent to perform and document the independent verification. However, in this instance, the inspector verified that the person responsible for performing the independent verification accompanied the equipment operator who was carrying out the tagging order and assisted in carrying out the tagging order in violation of AD-15 and OD-8.

c. Finding

The inspector finds that this failure to follow procedures constitutes an apparent violation of Technical Specification 6.8.1.

3. Exit Interview

Findings were discussed with facility management frequently during the course of the inspection.