



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30323

Report Nos.: 50-269/92-14, 50-270/92-14 and 50-287/92-14

Licensee: Duke Power Company
 P. O. Box 1007
 Charlotte, NC 28201-1007

Docket Nos.: 50-269, 50-270, 50-287, 72-4

License Nos.: DPR-38, DPR-47, DPR-55, SNM-2503

Facility Name: Oconee Nuclear Station

Inspection Conducted: May 24 - June 19, 1992

Inspectors: <u>W. Harmon</u>	<u>6-24-92</u>
for P. E. Harmon, Senior Resident Inspector	Date Signed
<u>W. Harmon</u>	<u>6-24-92</u>
for B. B. Desai, Resident Inspector	Date Signed
<u>W. Harmon</u>	<u>6-24-92</u>
for W. K. Poertner, Resident Inspector	Date Signed
Approved by: <u>G. A. Belisle</u>	<u>6-24-92</u>
G. A. Belisle, Section Chief	Date Signed
Division of Reactor Projects	

SUMMARY

Scope: This routine, resident inspection was conducted in the area of plant operations.

Results: One apparent violation was identified involving the failure to maintain two emergency feedwater flow paths operable as required by Technical Specification 3.4.1, Emergency Feedwater System, prior to restarting Unit 1 after a reactor trip on May 8, 1992.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *H. Barron, Station Manager
- *S. Benesole, Safety Review
- *D. Coyle, Systems Engineering
- *J. Davis, Safety Assurance Manager
- D. Deatherage, Operations Support Manager
- *J. Hampton, Vice President, Oconee Site
- *M. Patrick, Performance Engineer
- *S. Perry, Regulatory Compliance
- G. Rothenberger, Work Control Superintendent
- R. Sweigart, Operations Superintendent

Other licensee employees contacted included technicians, operators, mechanics, security force members, and staff engineers.

NRC Resident Inspectors:

- *P. Harmon
- *W. Poertner
- B. Desai

*Attended exit interview.

2. Inoperable Emergency Feedwater Flowpath.

On May 24, 1992, a Unit 1 shutdown to cold shutdown was commenced to repair reactor coolant pump seals on the 1A2 reactor coolant pump. During the maintenance outage the licensee performed a stroke test surveillance on valves 1FDW-315 and 1FDW-316. These are the emergency feedwater level control valves to steam generators 1A and 1B respectively. These valves are air operated valves with a nitrogen backup supply and open automatically to control steam generator level on an emergency feedwater actuation and are provided to maintain a water level of 30 inches or approximately 4.6 percent in each steam generator.

When performance personnel tested valve 1FDW-315, the valve did not open automatically when a low steam generator level test signal was simulated in the valve control circuitry. Subsequent to the surveillance test, the operators in the control room had placed the valve in manual and successfully opened and closed the valve from the control room. The licensee initiated a work request to troubleshoot/repair valve 1FDW-315.

The licensee determined that the solenoid valve that deenergizes and allows the automatic level control signal to control valve position had failed. This prevented the valve from opening automatically. The solenoid valve was replaced and the valve was retested and declared operable. These solenoid valves have failed in the past and have resulted in the failure of the EFW steam generator level control valves to open automatically. The previous most recent failure occurred on July 3, 1991, when Unit 3 tripped on a loss of main feedwater and valve 3FDW-315 failed to open automatically. The operator was required to take manual control of the valve to maintain steam generator level in the 3A steam generator. The maintenance outage was completed and Unit 1 was returned to service on June 7, 1992.

During the May 1992 outage, the inspectors expressed concern about the failure of valve 1FDW-315 to open automatically and the operability of the valve prior to the Unit shutdown. On June 9, 1992, the inspectors reviewed the post trip review and Licensee Event Report (LER) 269/92-04 associated with the Unit 1 trip from 14 percent power on May 8, 1992. Unit 1 tripped due to an anticipatory trip signal on loss of both main feedwater pumps. During the transient, both motor driven emergency feedwater (MDEFW) pumps received a start signal on low main feedwater pump discharge pressure and started. The MDEFW pumps were secured by the operator approximately 40 seconds after the trip based on the fact that the 1B main feedwater pump had not actually tripped. The post trip review report and LER identified that the emergency feedwater system operated properly during the emergency feedwater initiation. During a review of the transient monitor printouts, the inspectors identified that EFW flow was initiated to the 1B steam generator but flow to the 1A steam generator was not indicated on the printout even though steam generator level was below the automatic level control setpoint of 30 inches.

The inspectors identified this item to the licensee on June 10, 1992, and requested that the licensee review the item to determine if valve 1FDW-315 had operated properly during the Unit 1 trip on May 8, 1992. The inspectors were informed by the licensee on June 11, 1992, that valve 1FDW-315 had not operated properly during the EFW initiation on May 8, 1992, and that the valve had been incapable of opening automatically when the unit had been returned to service on May 11, 1992. The licensee stated that the valve would have been capable of being opened manually by the operators in the control room and that manual operation of the valve had been verified prior to returning the Unit to service.

During the event and subsequent event review, the licensee had opportunities to identify that valve 1FDW-315 did not operate properly. These opportunities were by the operators, the post trip review, the transient analysis report and the LER preparation.

Technical Specification 3.4.1, Emergency Feedwater System, requires that two 100 percent emergency feedwater flowpaths be operable prior to exceeding 250 degrees Fahrenheit. The Technical Specification Bases defines a 100 percent flow path as the flowpath to either steam generator including associated valves and piping. Contrary to the above, Unit 1 was returned to operation from less than 250 degrees Fahrenheit on May 11, 1992, and did not have two 100 percent flow paths. Valve 1FDW-315, the 1A steam generator emergency feedwater level control valve, was incapable of opening automatically on an emergency feedwater actuation. Valve 1FDW-315 remained inoperable until approximately May 25, 1992, when the Unit was removed from operation for a reactor coolant pump seal replacement outage. The failure to meet the requirements of Technical Specification 3.4.1 is identified as Apparent Violation 50-269/92-14-01: Unit 1 Restart With Inoperable Emergency Feedwater System.

3. Exit Interview (30703)

The inspection scope and findings were summarized on June 18, 1992, with those persons indicated in paragraph 1 above. The inspectors described the areas inspected and discussed in detail the inspection findings. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection.

<u>Item Number</u>	<u>Description/Reference Paragraph</u>
Apparent Violation 269/92-14-01	Unit 1 Restart with Inoperable Emergency Feedwater System.