



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA ST., N.W., SUITE 3100
 ATLANTA, GEORGIA 30303

Report Nos. 50-259/80-13, 50-260/80-11, and 50-296/80-12

Licensee: Tennessee Valley Authority
 500A Chestnut Street
 Chattanooga, Tennessee 37401

Facility: Browns Ferry Nuclear Plant

Docket Nos. 50-259, 50-260, and 50-296

License Nos. DPR-33, DPR-52, and DPR-68

Inspection at Browns Ferry Site near Decatur, Alabama

Inspectors:	<u>P. A. Taylor for</u>	<u>4-23-80</u>
	R. E. Sullivan	Date Signed
	<u>P. A. Taylor for</u>	<u>4-23-80</u>
	J. W. Chase	Date Signed
Approved by:	<u>H. C. Dance</u>	<u>4-23-80</u>
	H. C. Dance, Section Chief, RONS Branch	Date Signed

SUMMARY

Inspection on February 4 through March 7, 1980

Areas Inspected

This routine inspection involved 140 resident inspector-hours in the areas of plant operations, plant tours, reportable occurrences, refueling, plant physical protection, and radiation area controls.

Results

Of the six areas inspected, no items of noncompliance or deviations were identified in five areas. One item of apparent noncompliance was found in one area (Infraction - Failure to demonstrate HPCI operable when RCIC was inoperative for maintenance, paragraph 6.c).

DETAILS

1. Persons Contacted

Licensee Employees

H. L. Abercrombie, Plant Superintendent
J. L. Harness, Assistant Plant Superintendent
J. B. Studdard, Operations Supervisor
R. Hunkapillar, Assistant Operations Supervisor
J. A. Teague, Maintenance Supervisor, Electrical
M. A. Haney, Maintenance Supervisor, Mechanical
J. R. Pittman, Maintenance Supervisor, Instruments
R. G. Metke, Results Section Supervisor
G. T. Jones, Outage Director
R. T. Smith, QA Supervisor
W. C. Thomison, Assistant Results Supervisor
S. G. Bugg, Plant Health Physicist
D. C. Cummin, Outage Health Physicist
A. L. Burnett, Shift Engineer
R. E. Jackson, Chief, Public Safety
J. D. Glover, Shift Engineer
R. Cole, QA Site Representative Office of Power

Other licensee employees contacted included Licensed Senior Reactor Operators and Reactor Operators, auxiliary operators, craftsmen, technicians, public safety officers, QA personnel and engineering personnel.

2. Management Interviews

Management interviews were conducted on February 8, 22, 29 and March 3, 1980 with the Plant Superintendent and selected members of his staff. The inspectors summarized the scope and findings of their inspection activities. The licensee was informed that one apparent item of noncompliance was identified during this report period.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

No unresolved items were identified during this inspection.

5. Plant Operations

The inspector kept informed on a daily basis of the overall plant status and any significant safety matters related to plant operations. Daily discussions were held with plant management and various members of the

operations staff. Frequent visits were made to the shift engineer's office and control rooms to review current reactor operating status. Special visits to specific locations in the plant areas were made as deemed advisable to observe activities and to verify system or component status.

Selected portions of the daily journals and operations data sheets were reviewed on at least a weekly basis during the report period

The inspectors made general plant tours on the following dates: February 6, 7, 8, 11, 14, 18, 19, 20, 22, 25, 26, 27, 29, March 1, 5, 6, and 7, 1980. Selected areas in the turbine building, reactor buildings, refueling floor and the outside areas were visited. Observations included witnessing work activities in progress, status of operating and standby safety systems, valve positions, snubber condition, instrument readings and recordings, annunciator alarms, housekeeping, radiation area controls and vital area controls. Informal discussions were held with operators and other personnel on work activities and equipment status.

The inspectors, by observation and informal interviews, followed the HPCI pedestal bearing repair work on Unit 1 and 2. The licensee had discovered during the refueling outage that the forward pedestal on Unit 1 HPCI was cracked, further examinations by the licensee using the visual and dye penetrant methods discovered the rear pedestal bearing cracked on Unit 1 and the forward pedestal on Unit 2 cracked. The cracking problem is attributed to water hammers which occur at times when returning the HPCI system to operation following maintenance. The licensee theorized that water collected between the isolation valves when the system was removed from service for maintenance. The inability to adequately throttle these valves during return to service a water hammer can result and transmit an abnormal force to the pedestal.

Plant personnel have requested design to determine necessary piping modifications to correct the problem. In the interim, the licensee will minimize shutting the two main steam isolation valves for maintenance. The inspectors reviewed the operating procedures for operation of the HPCI system and noted that the procedure does recognize the need for slowly warming up the HPCI main steam line if both isolation valves are shut to minimize water hammer. The importance of strict adherence to the procedure is to be covered in the retraining program.

The inspectors also reviewed details of the 3 spurious scrams on Unit 2 which have occurred during this reporting period. By interviews with instrument engineers and operation personnel and examination of recordings and computer printouts, the scrams could not be attributed to any direct cause. Extensive troubleshooting by the licensee could not definitely locate the cause other than a few loose leads on various components. Special high speed monitoring of the reactor protection system was installed to aid in further troubleshooting if the problem reappeared. Within the areas inspected no items of noncompliance or deviation were identified.

6. Reportable Occurrence Review

- a. The below listed licensee event reports were reviewed to determine if the information provided met NRC reporting requirements. The determination included adequacy of event description and corrective action taken or planned, existence of potential generic problems and the relative safety significance of each event.

<u>LER No.</u>	<u>Date</u>	<u>Event</u>
259/801	01/07/80	3A diesel-generator speed control was lost due to failure of speed pickup coupling.
259/7936	12/26/79	Drywell continuous air monitor had low sample flow
259/7929	10/16/79	Design flow rate testing was not performed on the primary containment purge system as required by technical specifications
259/7917	08/09/79	GE SIL 299 reports that reactor water level could be 29" less than indicated during post-LOCA conditions
260/7908	05/04/79	Secondary containment integrity was not conclusively demonstrated prior to breaking primary containment
296/7833	11/14/78	Total leakage from 35 isolation valves which terminate below the suppression pool water level exceeded the inventory restriction
296/7928	12/18/79	Reactor pressure switches did not actuate at the correct setpoint
296/7927	12/16/79	During surveillance inspection APRM B was found to be less than 120% and rod block occurred at 12 LPRM vice 13 LPRM inputs. RCIC failed to reach rated flow
296/7910	07/23/79	Reactor pressure switch was found set above Technical Specifications
296/7831	11/28/78	Discovered all LPRMs were connected backwards following startup.

Corrective action indicated on the above reports was determined to be adequate. The inspector's questions were satisfactorily answered.

- b. The inspector also conducted a followup on LER 50-260/802. The licensee reported that the recirculation flow control valve 2-FCV-68-79 (recirculation pump discharge valve) would not operate because the gears on the limitorque valve were installed improperly. As corrective action, the licensee implemented procedure MMI-88, Inspection and Corrective Action of Improperly Staked Locknut on limitorque Operators.

MMI-88 as written, did not provide for an adequate inspection of the limitorque gears being installed properly, nor did it cover all major safety related limitorque valves. The licensee has committed to revising LER 50-260/802 to implement a program for inspection of the gears on a selected number of safety related limitorque valves and have the procedure issued by April 4, 1980. In addition, the licensee has committed to inspect the gears on all safety related limitorque valves disassembled during regular plant maintenance. This LER will remain open until the new procedure is written and approved by the licensee.

- c. The inspector also followed up on LER 296/7926 concerning Unit 3 RCIC's failure to reach rated flow. On 12/08/79 at 0200, RCIC was removed from service for approximately 4 hours for replacement and calibration of its EGM box. RCIC was then demonstrated to be operable at 0750 on 12/08/79. HPCI was demonstrated to be operable at 1150 on 12/08/79.

A review of the unit operators, assistant shift engineer and the shift engineer journal for 12/07/79 and 12/08/79 shows that none of the journals documented the fact that RCIC was inoperable or that there was a problem with RCIC as required by Browns Ferry Standard Practice 12.2 which requires the logging of significant equipment malfunction. In addition no journal entries or surveillance records could be located that indicated HPCI was demonstrated to be operable either immediately before or after RCIC was inoperable.

The inspectors identified as an apparent item of noncompliance the failure to declare RCIC inoperable and to demonstrate HPCI operable with RCIC inoperable as required by Technical Specification 3.5.F.2 (SC-296/80-12-01).

7. Unit 1 Refueling Outage

During this report period, the inspectors made frequent visits to the refueling floor to observe work in progress and discuss activities with personnel involved.

No items of noncompliance or deviations were identified by the inspectors.

8. Plant Physical Protection

During the course of routine inspection activities, the inspector made observation of certain plant physical protection activities. These included

personnel badging, search and escort, vehicle search and escort, vital area access control and physical barriers.

No items of noncompliance or deviations were noted.

9. Health Physics

During this reporting period, the inspectors made frequent inspections of contaminated storage and work areas. The inspectors considered that poor housekeeping existed in some of the areas and so informed plant management. In response, the licensee implemented a program where QA makes frequent tours of contaminated storage and work areas to identify problems or potential problems in these areas and report their findings. Since this program was instituted, the inspectors have noted a general improvement in all contaminated storage and work areas.

No items of noncompliance or deviations were noted.

10. Pre-Action Alert

On March 1, 1980, a severe winter storm engulfed the Northern Alabama area and caused temporary and sporadic power outages throughout the area. During this time period Unit 1 and 2 were in cold shutdown and Unit 3 was operating at full power. At 1036 both offsite power supply lines to the site were lost. Unit 1 and 2 diesels functioned as required. One off site power supply was regained at 1042 but the other remained unstable until approximately 1830 March 2, 1980 when weather conditions subsided. The licensee, because of the potential for losing the only off site power supply, declared a Pre-Action Alert at 1640 on March 1, 1980. At 1219 on March 2, 1980, the Pre-Action Alert was cancelled after regaining the second off site power supply and the severe weather had passed. An inspector observed activities at the site during initial phases of the alert.