



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

Report Nos. 50-259/82-34, 50-260/82-34 and 50-296/82-34

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

Facility Name: 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 Athens, Alabama

Inspectors: Ross Butcher for 10/1/82
 J. W. Chase Date Signed

Ross Butcher for 10/1/82
 G. L. Paulk Date Signed

Approved by: [Signature] 10/4/82
 F. S. Cantrell, Section Chief, Division of Date Signed
 Projects and Resident Programs

SUMMARY

Inspection on August 26 - September 25, 1982

Areas Inspected

This routine inspection involved 224 resident inspector-hours in the areas of operational safety, maintenance, surveillance, reportable occurrences, organization and administration, calibration and physical plant protection.

Results

Of the seven areas inspected, no violations or deviations were found in five areas. One deviation and one violation was noted in one area; Reportable Occurrence (deviation from commitment in LER 259/81-07), (Violation of T. S. 6.7.a for failure to report); and two violations were noted in one area: Calibration (Violation of 10 CFR 50 Appendix B, Criterion 12, and Violation of Technical Specification 6.3.A).

DETAILS

1. Persons Contacted

G. T. Jones, Power Plant Superintendent
J. R. Bynum, Assistant Power Plant Superintendent
J. R. Pittman, Assistant Power Plant Superintendent
L. W. Jones, Quality Assurance Supervisor
W. C. Thomison, Engineering Section Supervisor
A. L. Clement, Chemical Unit Supervisor
D. C. Mims, Engineering and Test Unit Supervisor
A. L. Burnette, Operations Supervisor
R. Hunkapillar, Operations Section Supervisor
T. L. Chinn, Plant Compliance Supervisor
M. W. Haney, Mechanical Maintenance Section Supervisor
T. D. Cosby, Electrical Maintenance Section Supervisor
R. E. Burns, Instrument Maintenance Section Supervisor
J. E. Swindell, Field Services Supervisor
A. W. Sorrell, Supervisor, Radiation Control Unit
R. E. Jackson, Chief Public Safety
R. Cole, QA Site Representative, Office of Power

Other licensee employees contacted included licensed reactor operators and senior reactor operators, auxiliary operators, craftsmen, technicians, public safety officers, Quality Assurance, Quality Control and engineering personnel.

2. Management Interviews

Management interviews were conducted on September 3, 10, 17, and 24, 1982, with the Power Plant Superintendent and/or the Assistant Power Plant Superintendents and other members of his staff. There were three violations and one deviation during this reporting period.

3. Licensee Action on Previous Inspection Findings

(Closed) Unresolved item (296/82-18-01). The licensee took action to correct the cable conduit support bracket installation. The inspector reviewed the licensee's actions and had no further questions.

(Closed) Violation (259, 260, 296/82-15-03). Failure to adhere to procedure RLM 709B. The licensee corrected the procedure and reissued it for use. The inspector had no additional concerns.

(Closed) Violation (259/81-28-05) Weld Permit 1748 not completed properly. The inspector reviewed corrective action taken by the licensee and had no further questions.

4. Unresolved Items

None.

5. Operational Safety

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

The inspectors made frequent visits to the control rooms such that each was visited at least daily when an inspector was on site. Observations included instrument readings, setpoints and recordings; status of operating systems; status and alignments of emergency standby systems; purpose of temporary tags on equipment controls and switches; annunciator alarms; adherence to procedures; adherence to limiting conditions for operations; temporary alterations in effect; daily journals and data sheet entries; and control room manning. This inspection activity also included numerous informal discussions with operators and their supervisors.

General plant tours were conducted on at least a weekly basis. Portions of the turbine building, each reactor building and outside areas were visited. Observations included valve positions and system alignment; snubber and hanger conditions; instrument readings; housekeeping; radiation area controls; tag controls on equipment; work activities in progress; vital area controls, personnel badging, personnel search and escort; and vehicle search and escort. Informal discussions were held with selected plant personnel in their functional areas during these tours. In addition a complete walkdown which included valve alignment, instrument alignment, switch positions was performed on the standby gas treatment system.

No violations or deviations were noted in the above area.

6. Maintenance Observation

During the report period, the inspectors observed the below listed maintenance activities for procedure adequacy, adherence to procedure, proper tagouts, adherence to Technical Specifications, radiological controls, and adherence to Quality Control hold points:

- a. Torus modifications on Unit 2
- b. Control rod drive mechanism change out.
- c. Calibration of Unit 2 EHC hydraulic oil temperature gauge.

d. MMI-6 - Diesel engine filter replacement.

No violations or deviations were noted in the above area.

7. Surveillance Testing Observation

The inspectors observed the performance of the below listed surveillance procedures. The inspection consisted of a review of the procedure for technical adequacy, conformance to technical specifications, verification of test instrument calibration, observation on the conduct of the test, removal from service and return to service of the system and a review of test data.

- a. S.I.-4.2.B-32 RCIC Steam Line Space High Temperature
- b. S.I.-4.7.2.G-3 Local Leak Rate Test of Core Spray Valves.
- c. S.I.-4.8.B.3 Off-gas Post-treatment Analysis
- d. MMI-176 Calibration of Oxygen Drywell Sensors.

No violations or deviations were noted in the above areas.

8. Reportable Occurrence

The below listed licensee event reports (LERs) 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. Additional inplant reviews and discussions with plant personnel as appropriate were conducted for those reports indicated by an asterisk:

LER No.	Date	Event
*259/81-07	3/10/81	Fuse link broken on fire rated door damper.
259/81-77	12/27/81	Windspeed recorder failed upscale.
259/82-38 R-1	7-29-82	Set point drift on PS-3-74B.
*259/82-39	7/15/82	Failure of relay coil which produced Group 6 isolation.
*259/82-40	7/15/82	Failure of drywell sump pump discharge flow control valve.
259/82-43	7/28/82	Environmental delta air temperature recorder failed downscale

*259/82-44	7/29/82	Failure of drywell sump pump discharge flow control valve.
*259/82-45	7/27/82	Loss of power to control bay smoke detectors.
259/82-46	7/29/82	Failure of fire protection panel 1-25-311
259/82-47	8/13/82	Sticking pointer on reactor water level indicating switch.
*259/82-48	8/13/82	Failure of relay coil resulting in Group 6 isolation.
*259/82-53	8/19/82	Failure to confirm secondary containment integrity during surveillance instruction.
*259/82-54	8/19/82	Primary containment penetration which would not have accommodated movement during seismic event.
260/81-54 R-2	7/30/82	Hydrogen analyzer "B" sample return pump was inoperable.
*260/82-15	6/4/82	Continuous air monitor sample line obstructed by water.
260/82-22	8/13/82	R factor was less than the R factor used to set average power range monitor.
*260/82-23	8/5/82	Inoperable HPCI high steam flow switch.
*260/82-24	8/26/82	Nonconservative calculated reactor thermal power.
*260/82-25	8/17/82	Failure of relay coil resulting in Group 6 isolation.
*296/82-32	8/12/82	Setpoint drift on degraded voltage relays for shutdown board.
*296/82-34	7/29/82	Failure of RHR pump motor.

During the review of LER 259/81-07, fuse link broken on fire rated door damper, the inspector determined that the licensee's corrective action had not been implemented. The licensee stated in the LER that a procedure would be implemented to periodically inspect the fuse links in fire rated doors.

The licensee's tracking system for commitments showed that MMI-116, Inspection of Fire Rated Doors, satisfied LER 259/81-07. The review of MMI-116 revealed no inspection points for the fuse links nor was any other procedure produced which inspected the fuse links.

On September 3, 1982, the Plant Superintendent was informed that failure to implement a procedure for inspection of fire damper fuse links was a deviation from a commitment. MMI-116 was revised on September 9, 1982 and the inspection was conducted. (82-34-01).

On September 9, 1982, the HPCI condensate header low-level switches were found to be inoperable on Unit 1. The licensee failed to make a prompt report as required by Technical Specification 6.7.A. until September 14, 1982. The licensee's report listed the date of occurrence as September 13, 1982, the date the licensee recognized that a prompt report should have been made rather than September 9, 1982. The licensee was informed of this discrepancy and advised that the date of occurrence should be when the licensee has the information available to recognize a reportable event has occurred. The inspector informed the Plant Superintendent that failure to make a prompt report was a violation of Technical Specification 6.7. (259/82-34-02).

9. Organization and Administration

During this report period, the inspectors reviewed the licensee's onsite organization to ensure it is in conformance with the requirements of the Technical Specifications. Inspection Report 259, 260, 296/81-32 documents the latest management changes at the Browns Ferry site. No other management changes have occurred since that inspection.

Mr. J. R. Bynum has tentatively announced his resignation effective October 1, 1982 as Assistant Plant Superintendent. TVA has temporarily assigned Mr. E. R. Ennis to replace Mr. Bynum. The inspector reviewed Mr. Ennis' past work experience and found that he meets the requirements of ANSI Standard 18.1 dated March 8, 1971.

During the inspection, the inspector determined that the organization chart of the Browns Ferry site is not current and needs to be updated. This will remain an open item for future followup action. (259, 260, 296/82-34-03).

In the above area, no violations or deviations were identified.

10. Calibration

a. Control of Ultrasonic Examination Calibration Blocks.

The inspectors reviewed the TVA program for control of ultrasonic examination calibration blocks to determine compliance with regulatory requirements and the Browns Ferry Operational Quality Assurance Manual Section 3.3, Part III. Areas of inspection included storage requirements, control of access, inventory control, and configuration

verification requirements for the calibration blocks. Calibration blocks are used for inservice examinations required by Section XI of the ASME code.

All calibration blocks accounted for were stored in a wire cage on the turbine floor when not in use. The control of calibration blocks is a recent requirement for TVA, therefore, several blocks have been lost since construction. Those missing blocks were so designated on the control list, and when required, new blocks will be manufactured. Access control was maintained by combination lock entry, the combination being known by persons on an access list. An access list was available as required to assure positive entry requirements met. Survey requirements for inspection of block condition and accountability have been established. As-built drawings are available for all blocks except one nozzle block (BF16). Drawings are required by OQAM Part III, Sec. 3.3. This item will remain open until corrective action is completed. (259/82-34-04).

b. Tool Room Calibration and Control of Critical Structure, System, and Component (CSSC) Tools

The inspector conducted an inspection of the power plant mechanical tool room inventory and control procedures for CSSC tools. The inspection included tool calibration, inventory, and control as required by the plant QA Manual, 10 CFR 50, Appendix B, and Mechanical Maintenance Instruction (MMI) 27. Several deficiencies were noted with compliance to MMI 27 which implements the QA Manual, Part III, Section 3.1. The list below includes deficiencies of MMI 27 observed by the inspector:

- (1) MMI 27 requires "up-to-date and accurate inventory of all CSSC tools" be maintained by the tool room attendant. This was not the case as noted below.
- (2) MMI 27 requires annual calibration of the Standard Measuring Rods (1" to 24") - No record exists to indicate these rods are periodically calibrated. No traceability records were available for the inspector to review.
- (3) The set of Brown-Sharp Jo blocks was incomplete with several blocks missing. No documentation was available to indicate whether the missing blocks were necessary for CSSC use.
- (4) On Attachment B of MMI 27 (Required Inventory of CSSC Tools), two tools are listed as required, but no record was available to indicate to the inspector where these tools were located. The tool room attendant said he did not remember ever seeing these tools. The tools include a 10,000 pound, Model X, Dillion force gage and a Universal Level Protractor (7" to 12").

- (5) The required inventory tool list in MMI 27 has numerous errors on the quantity of tools available for CSSC use. Examples include:
- (a) Inventory shows 27 torque wrenches on site; actually 41 are on site.
 - (b) Dial indicator quantity; greater number available than indicated on inventory list.
 - (c) GEN-A-TAK tachometers, 2 on inventory list; actually 3 available.

The above list is only an example since almost every quantity category was in error.

- (6) Some tools were available for maintenance use but not listed on the attachment B tool list. Examples include:
- (a) Feeler gages not listed but used for CSSC use.
 - (b) Torque screwdrivers not listed but used for CSSC use.

The number of deficiencies noted by the inspector indicated that implementation of MMI 27 was inadequate and violated Technical Specification 6.3.A which requires detailed written procedures related to testing requirements be prepared, approved and adhered to.

The Plant Superintendent was informed that this was a violation at the exit meeting on September 24, 1982. (259, 260, 296/82-34-05).

c. Calibration for Equipment used for Technical Specification Verification

The inspector conducted an inspection of equipment, gages, and instruments used to verify technical specification requirements. The inspector reviewed instrumentation calibration and control for various maintenance disciplines including chemical, mechanical, and instrument sections. Comments on the mechanical tool room area was discussed in item b. The inspector had several other additional concerns. These concerns cross both chemical and operations sections.

Temperature instrumentation is used in the plant to verify technical specification requirements for various areas. The inspector noted that the temperature indicators had no calibration requirements and/or traceability records available to assure the instrumentation would meet accuracy criterion requirements of 10 CFR 50, Appendix B, Criterion XII and QA-TR-75-1. Uncalibrated thermometers were used in several areas including:

- (1) Standby liquid control pump suction temperature (SI 3.4.c.2)
- (2) Primary coolant pH measurements (SI 3.6)

(3) Primary coolant conductivity measurements (SI 3.6).

The above list is not all inclusive, but only an example of technical specification related instrumentation that has not been calibrated and/or traceable to assure accuracy. The inspector informed the Plant Superintendent on September 17, 1982 that the above item was a violation of 10 CFR, Appendix B, Criterion XII and QA-TR-75-1, Section 17.2.12. (259, 260, 296/82-34-06).

d. Preservation of Composite Samples

During a review of calibration procedures for chemical laboratory equipment, the inspector made some additional observations concerning the method used to verify the radioactive liquid waste sampling and analysis requirements of Technical Specification 4.8.A.3. It was noted that the procedure used to prepare the composite sample (BF TI 38, RLM 1131) did not require a preservative additive to the composite sample in order to prevent sorption of various nuclides onto the walls of the composite sample container. Therefore, when an analysis of the composite liquid is performed, recovery of all the radioactivity initially in the sample may not be ensured leading to uncertainty in the ability to comply with Technical Specification 4.8.A.3. The inspector requested an evaluation to determine if the composite sample should be acidified to prevent sorption.

The Plant Superintendent was informed of this open item on September 24, 1982. (259, 260, 296/82-34-07).

11. Plant Physical Protection

During the course of routine inspection activities, the inspectors made observations of certain plant physical protection activities. These included personnel badging, personnel search and escort, vehicle search and escort, communications and vital area access control.

No violations or deviations were identified within the areas inspected.