



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

Report Nos.: 50-259/84-27, 50-260/84-27, and 50-296/84-27

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

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

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

Facility Name: Browns Ferry

Inspection Dates: August 7-10, 1984

Inspection at Browns Ferry site near Decatur, Alabama

Inspector: W. H. Miller, Jr. 8-27-84
Date Signed

Approved by: T. E. Conlon 8-28-84
Date Signed
T. E. Conlon, Section Chief
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection involved 30 inspector-hours on site in the areas of fire protection/prevention, followup on previous inspector findings and followup on licensee identified items.

Results: Of the areas inspected, two apparent violations were found (Strainers for All Fire Protection Sprinkler Systems Are Not Included in Maintenance Procedure MMI 122 - paragraph 3.e; and Failure to Meet Fire Brigade Requirements of Procedure BF-14.47 - paragraph 5.b.(1)). No apparent deviations were found.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *J. R. Pittman, Asst. Plant Superintendent
- J. E. Swindell, Asst. Plant Superintendent
- *K. R. Smallwood, Operations
- *C. G. Wages, Mechanical Maintenance
- *W. A. Roberts, Compliance
- *S. B. Logan, Safety
- *D. Thompson, Electrical Maintenance
- *R. Westbrook, Fire Protection Engineer
- J. Walker, Compliance
- G. Baine, HP

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 10, 1984, with those persons indicated in paragraph 1 above. The licensee acknowledged the following inspection findings:

- a. Violation (259, 260, and 296/84-27-01), Strainers For All Fire Protection Sprinkler Systems Are Not Included In Maintenance Procedure MMI 122 - paragraph 3.e.
- b. Unresolved Item (296/84-27-02), Fixed Spray Fire Protection System Not Provided For Cable Trays Along South Wall of Turbine Building Elevation 586 - paragraph 5.a.
- c. Violation (259, 260 and 296/84-27-03), Failure To Meet Fire Brigade Requirements of Procedure BF-14.47 - paragraph 5.b.(1).
- d. Inspector Followup Item (259, 260 and 296/84-27-04), Annual Fire Truck Maintenance and Test Records Not Available For NRC Review - paragraph 5.b.(2).

3. Licensee Action on Previous Enforcement Matters

- a. (Open) Unresolved Item (259 and 260/81-35-04 and 296/81-35-02), Procedure SI 4.11.D.3 - Failure to Properly Identify all Fire Protection Valves. TVA has evaluated this item and identified other problems. Corrective action is in process and being tracked by Corrective Action Report 82-147FS, and scheduled to be completed by October 1, 1984. This item remains open.

- b. (Open) Unresolved Item (259, 260 and 296/82-13-02), Fire Protection Drawing Discrepancies. TVA's review and appropriate corrective action have not yet been completed. This item remains open.
- c. (Open) Unresolved Item (259, 260 and 296/82-15-07), Fire Suppression System for Cable Tunnel Referenced by Technical Specification (TS) 3.11 is not installed. TVA states that a commitment was not made to provide a fire suppression system for the cable tunnel. This item is to remain open pending TVA's written confirmation that a suppression system is not required for this area and the requirement for this system is deleted from the TS.
- d. (Open) Unresolved Item (260/82-15-08), Fire Protection Piping Corrosion. TVA's evaluation of this item is scheduled to be completed in early 1985. This item remains open.
- e. (Closed) Violation (259, 260 and 296/83-57-03), Inadequate Procedure for Flushing and Cleaning Fire Protection System Strainers. Procedure MMI 122, High Pressure Fire Protection System Flush, Strainer Inspection and Strainer Cleaning, was revised on January 17, 1984, to include sufficient data to assure that the procedure requirements are satisfactorily accomplished.

The inspector reviewed the inspection and test requirements of the revised procedure for systems 1L and 2L on 565' elevation of the reactor buildings. These requirements appeared adequate to assure that the intent of the procedure would be accomplished. This item is closed.

However, while reviewing procedure MMI 122, the inspector noted that several fire protection sprinkler systems for safety-related areas such as the cable spreading rooms, vital battery rooms, and intake pumping station were not included in the procedure. The licensee stated that the strainers for the spreading and battery rooms were inspected and cleaned periodically under a maintenance work request, but the system for the intake structure apparently had not been inspected or cleaned since the system was installed in 1981. TS 6.3.A.10 requires detailed written fire protection and prevention procedures which are reviewed by PORC and approved by the plant superintendent prior to implementation. The failure to include all of the safety-related fire protection sprinkler systems in the strainer maintenance and cleaning program is identified as violation (259, 260 and 296/84-27-01), Strainers For All Fire Protection Sprinkler Systems Not Included In Maintenance Procedure MMI 122.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraph 5.a.

5. Fire Protection/Prevention Program (64704)

The licensee's implementation of the fire protection/prevention program was evaluated. The areas reviewed were as follows:

a. Plant Tour

A tour was made of the reactor building and control building for each unit. As a whole, the general plant housekeeping for Units 1 and 2 was satisfactory and for Unit 3 was considered normal for operations being conducted during an outage. No improper storage of combustible materials, use of flammable and combustible liquids or gases, or welding and cutting operations were noted.

A total of three fire detection alarm panels and 15 sprinkler or cable tray water spray systems were inspected and found to be in service. However, it was noted that water spray suppression systems were not provided for the cable tray penetrations from the turbine building into the Unit 3 cable spreading room as stipulated by TS Section 3/4.11. TVA report, Browns Ferry Nuclear Plant Design Changes for the Recovery from the Fire of March 22, 1975, Section 5.2.1(2) states that a fixed water spray system will be provided for "all penetrations from cable spreading room into the turbine building... which contain congested cable trays, where trays make each other inaccessible and make fire fighting difficult." The areas to be provided with the fixed spray system are shown by the Recovery Plan figures 5.2-1 through 5.2-15. Figure 5.2-5 shows the systems provided for the penetrations from the turbine building into the Unit 1 and 2 cable spreading room, but these figures do not indicate that spray systems are to be provided for the penetrations into the Unit 3 spreading room. Following this inspection, TVA reviewed the fire protection commitments for Unit 3 and has determined that a commitment was not made to provide sprinkler protection for these penetrations. Pending written confirmation of this evaluation and appropriate revisions to TS Section 3/4.11, such that the fire protection portions of the TS conform to TVA's commitments and "As Constructed" plant conditions, this discrepancy is identified as Unresolved Item (296/84-27-02), Fixed Spray Fire Protection System Not Provided for Cable Trays Along South Wall of Turbine Building Elevation 586'.

b. Fire Brigade and Equipment

(1) Training and Drills

The primary fire brigade is composed of operational personnel and includes a total of 27 assistant shift engineers who serve as brigade leaders and 111 auxiliary unit operators who are brigade members. Supplemental assistance is also available from maintenance support, security, health physics, and chemistry personnel. The drill and training records for five team leaders and ten brigade members were reviewed for 1983 and the first six months of

1984. Standard Practice Procedure BF-14.47, Fire Training, states that each brigade member is to participate in two drills per year and regular classroom training sessions every three months to review the concepts presented in the initial fire brigade classroom training course. Of the 15 brigade members reviewed, five of the quarterly training sessions were missed in 1983 and six were missed so far in 1984. Further review indicated that for all members and leaders, a total of 62 sessions were missed in 1983 and 41 sessions have been missed thus far in 1984. The failure to have all brigade members attend the quarterly training sessions is a violation of the fire protection and prevention procedure requirements of TS 6.3.A.10 and is identified as violation (259, 260, and 296/84-27-03), Failure to Meet the Fire Brigade Requirements of Procedure BF-14.47.

A review of the medical records for the above 15 fire brigade members indicated that eight of the members had not received a medical evaluation for performing strenuous activities within the past 12 months as stipulated by Procedure BF-14.47. This discrepancy is another example of above violation (259, 260, and 296/84-27-03).

Also, two of the above 15 fire brigade members were not qualified to use a respirator within plant areas containing airborne radioactivity as required by Procedure RCI-3, Respiratory Protection Program, since their respirator medical evaluation was out of date. This discrepancy is considered part of the above violation (259, 260, 296/84-27-03).

(2) Fire Fighting Equipment

An inspection was made of the site fire apparatus which is a 1981 International truck equipped with a 750 gpm front mounted pumper. This apparatus is equipped with normal fire fighting equipment such as 2½ and 1½ inch fire hose, nozzles, ladders, and various accessories. The pumper appeared to be in good condition and properly maintained. The licensee stated that the pumper is annually sent off site to the Power Service Shop located at Muscle Shoals, Alabama, for maintenance and pump functional and capacity tests. However, records were not available on site to determine the type maintenance and test performed and the frequency that these are conducted. The inspector suggested that data on the offsite maintenance and tests performed be obtained and reviewed to verify that the maintenance and tests being performed are in conformance with normal fire protection practice. Also, records should be retained on site to verify that the tests are performed within the specified frequency. This is identified as Inspector Followup Item (259, 260, 296/84-27-04), Annual Fire Truck Maintenance and Test Records Not Available for NRC Review, and will be reviewed during a subsequent NRC inspection.

(3) Fire Brigade Drill

The inspector witnessed a fire brigade drill conducted on August 9, 1984, at 5:24 a.m., at Units 1A and 1B recirculation motor generator set. A total of 12 primary brigade members, six health physics, one chemical laboratory, 11 maintenance support, and six security personnel responded to this drill. The response was in conformance with the pre-fire plan for this area and sufficient turnout equipment and fire fighting equipment was brought to the simulated fire location. The drill was considered satisfactory. However, it was noted that the pre-fire plans on the fire brigade equipment carts from the control room and the equipment locker in the turbine building were not controlled documents and were not up-to-date. There apparently was no commitment to provide an up-to-date pre-fire plan at these locations. Therefore, in lieu of providing up-to-date fire plans, the licensee elected to eliminate these plans on the brigade equipment carts and equipment lockers.

Except as noted above, no additional violations or deviations were identified within the areas examined.

6. Inspector Followup Items (IFI)

- a. (Closed) IFI (259, 260, 296/83-48-03), Fire Brigade Drill Discrepancies. During the 1983 site emergency drill, the fire brigade responded without full turnout gear and respiratory equipment. TVA stated that this was due to the drill being conducted at the same time as a site evaluation alarm drill was conducted. Therefore, personnel were not available to transport the necessary equipment to the location of the simulated fire. A drill was conducted during this inspection, all the brigade responded and the required turnout clothing and self-contained breathing apparatus were provided. Refer to paragraph 5.b(3) for additional information. This item is closed.
- b. (Open) IFI (259/84-15-05), TS Fire Protection Organizational Discrepancies. TS 4.11.4 requires a monthly plant "walkthrough" inspection by the "Safety Engineer." Currently, this inspection is accomplished by the "Safety Engineering Supervisor" which is actually the same position as the former "Safety Engineer." TVA is to revise this portion of the TS to eliminate this discrepancy. This item will remain open until the TS has been revised.
- c. (Closed) IFI (259, 260, 296/84-17-06), Diesel Driven Fire Pump Capacity Test. A full capacity flow test was conducted on the diesel driven pump on June 13, 1984, to verify that the pump, with the recently installed diesel driver, would deliver the required fire flows. The pump tests were conducted with an incorrect gage, 100 psi in lieu of 200 psi, but the recorded test data for the high flow at low head

pressure appeared to indicate that this pump assembly would deliver acceptable flow rates. This test did not satisfy the TS surveillance requirements and those stipulated by Procedure SI 4.11.A.1.d(a) since test data was not obtained at the middle and low flow rates at the corresponding middle and high pressure rates. The licensee stated that the required surveillance test is to be conducted at the stipulated time. Therefore, this item is closed.

- d. (Closed) IFI (259, 260, and 296/84-17-08), Licensee to Review Diesel Fire Pump Starting Contactor and IE Circular 79-13. The licensee inspected the diesel fire pump engine on August 9, 1984, and verified that the engine starting contactor was the replacement contactor as specified by IE Circular 79-13. This item is closed.

7. Licensee Reported Item

(Closed) Licensee Event Report (259/82-46), Fire Protection Panel 1-25-311 Common Control Card (Gamewell) Intermittent Trouble Alarm. The inspector reviewed TVA's report dated July 29, 1982. The licensee's action of replacing the control card and use of firewatch until the system was restored to service was satisfactory. This item is closed.