



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

**AUG 18 1981**

Report No. 50-259/81-23, 50-260/81-23, 50-296/81-23

Licensee: Tennessee Valley Authority

Facility Name: Browns Ferry

Docket No. 50-259, 50-260, 50-296

License No. DPR-33, DPR-55 and DPR-68

Inspection at Browns Ferry Site near Decatur, Alabama

Inspector: *J. R. Albani* For 8/14/81  
 W. H. Miller, Jr. Date Signed

Approved by: *J. R. Albani* For 8/14/81  
 T. E. Conlon, Section Chief Date Signed  
 Engineering Inspection Branch  
 Engineering and Technical Inspection Division

SUMMARY

Inspection on August 4-7, 1981

Areas Inspected

This routine, unannounced inspection involved 30 inspector-hours onsite in the areas of fire protection/prevention.

Results

Of the areas inspected, no violations or deviations were identified.

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## REPORT DETAILS

## 1. Persons Contacted

## Licensee Employees

\*H. J. Abercrombie, Plant Superintendent  
 J. L. Harness, Assistant Plant Superintendent  
 \*Joe D. Ferguson, Assistant Outage Director  
 \*R. Hunkapillar, Assistant Operations Supervisor  
 \*R. Cole, QA  
 \*J. R. Norris, QA  
 \*R. Phifer, Safety Supervisor  
 \*T. Keckeisen, Fire Protection Engineer  
 \*R. E. Thompson, Supervisor Fire Protection Engineering/Chattanooga  
 \*T. L. Chinn, Compliance Staff Supervisor  
 W. Percle, Outage-Electrical  
 T. Marshal, Outage-Electrical  
 T. Childers, Outage  
 J. M. Price, Training Officer  
 E. G. Thornton, Training Officer/Operations

## NRC Resident Inspector

\*R. F. Sullivan

\*Attended exit interview

## 2. Exit Interview

The inspection scope and findings were summarized on August 7, 1981 with those persons indicated in paragraph 1 above.

## 3. Licensee Action on Previous Inspection Findings

- a. (Closed) Unresolved Item (259/77-23-10, 260/77-23-10 and 296/77-23-10)-Completion of general fire prevention training for all employees: All employees receive a course in general safety and fire prevention prior to receiving a plant security badge. Employee retraining is conducted quarterly through the general safety meetings. The inspector reviewed approximately 100 training records and verified that the required training was being conducted. This item is closed.
- b. (Closed) Violation Item (259/81-01-01, 260/81-01-01 and 296/81-01-01)-Sprinkler system not provided for the intake pumping station: An automatic preaction sprinkler system has been provided for this cable tunnel area beneath the RHR service water pumps. This system does not fully conform to the provisions of NFPA-13, Automatic Sprinkler Systems, in that the sprinkler piping system is not supervised as required by Section 5-3.5.204 NFPA-13. However, the licensee is not committed to this code. Therefore, this item is closed.

- c. (Closed) Violation Item (259/81-01-02, 260/81-01-02 and 296/81-01-02)- Fire suppression systems for cable spreading rooms do not conform to license conditions: The licensee requested by letter from L. M. Mills, TVA to H. R. Denton, NRR dated March 4, 1981, that the facility operating licenses be revised to make the automatic water spray system for the cable spreading rooms the primary extinguishing system and the manual carbon dioxide system the secondary system. A reply to this request has not been received. Furthermore, this item was reduced from a violation to an unresolved item by NRC's letter from V. Stello, NRC/IE to W. F. Willis, TVA dated June 3, 1981. This item is to remain open pending revisions to the operating license.
- d. (Open) Unresolved Item (259/81-01-03, 260/81-01-03 and 296/81-01-03)-Combustible ceiling in control rooms: A design charge request (DCR No. 2454) has been issued to replace this ceiling with a noncombustible type ceiling. Most of the ceiling material will be replaced upon receipt of the new ceiling material. The ceiling directly over the control panels is to be replaced when the units are shut down. The completion schedule of this modification as listed in a letter from L. M. Mills, TVA to R. L. Tedesco, NRR of May 22, 1981 as follows: Unit 1 May 1983, Unit 2 July 1982 and Unit 3 January 1982.
- e. (Closed) Violation Item (259/81-01-04, 260/81-01-04 and 296/81-01-04)- Substandard fire barrier enclosures for battery rooms: The fire doors into the battery rooms contain louvered openings which are provided with fire dampers. All duct penetrations into each battery unit complex have been equipped with fire dampers. This item is closed.
- f. (Open) Deviation Item (259/81-01-05, 260/81-01-05 and 296/81-01-05)-Use of unapproved automatically activated deluge valves in the HVAC fire protection sprinkler system: The licensee has issued a design change request (DCR No. P 2424) to replace these valves with standard fire protection valves; however, the schedule date of completion has not been established.
- g. (Open) Violation Item (259/81-01-06, 260/81-01-06 and 296/81-01-06)-Failure to follow the fire protection procedures: This violation contained two examples, the status of which are as follows:
- (1) Fire Brigade Drills: Between February 6, through March 2, 1981 all fire brigade members participated in at least one fire brigade drill. The inspector reviewed the drill and verified that the make up drill and the normal scheduled first and second quarter drills were conducted. This item is closed.
  - (2) Uncoated Cables: The licensee has committed to coat all uncoated cables prior to the end of the Unit 1 refueling outage which is scheduled for September 6, 1981. This item remains open.
- h. (Closed) Violation Item (259/81-01-07, 260/81-01-07 and

296/81-01-07)-Nonfunctional fire doors: The licensee has issued procedures MMI-116, Semi-annual Maintenance of Fire Doors, and SIL 23, Daily Fire Door Inspection which requires semi-annual maintenance inspection for all fire doors and requires all fire doors to be visually inspected daily by the safety group. These procedures should help assure that all fire doors will be functional. This item is closed.

- i. (Closed) Deviation Item (259/81-01-08, 260/81-01-08 and 296/81-01-08)-Failure to complete fire door modifications: All of the required fire doors have been installed. This item is closed.
- j. (Open) Unresolved Item (259/81-01-09, 260/81-01-09 and 296/81-01-09)-Corrective action to be taken on Triennial Fire Protection Audit. Most of the maintenance and procedure change items in the audit have been corrected. Items which require design changes or plant modifications have been forwarded to ENDES for review. This item remains open and will be reviewed during a subsequent NRC inspection.
- k. (Closed) Violation Item (259/81-01-10, 260/81-01-10 and 296/81-01-10)-Failure to determine operability of fire pump A during October 1980. The licensee has revised the surveillance inspection schedule to require the electric driven fire pumps to be tested on Wednesday during the day shifts and the diesel engine to be tested on Tuesday during the evening shift. The schedule should assure that each pump will be tested at the required frequency. The test and inspection records from January through July 1981 were reviewed by the inspector and it was verified that the pumps were being tested at the specified frequency. This item is closed.
- l. (Closed) Unresolved Item (259/81-01-11, 260/81-01-11 and 296/81-01-11)-Fire brigade training records not available on site: The licensee has consolidated all of the fire brigade training records into files maintained by the operations training group. The inspector reviewed the fire brigade training records for 6 fire brigade members and 5 fire brigade team leaders (assistant shift engineers) and verified that the training records were on file. This item is closed.
- m. (Closed) Violation Item (259/81-01-12, 260/81-01-12 and 296/81-01-12)-Failure to provide adequate fire watch while CO2 system was out of service. The licensee has revised procedure BF14.16, Fire Watch, to require that the fire watch assigned to various areas of the plant, be assigned the required keys or card keys for access into the areas to be patrolled. Form BF.31, Removal of Fire Protection Systems from Service, has been revised to require that the areas to be covered by the fire watch to be listed. These changes should assure that adequate fire watches are provided in the future. This item is closed.
- n. (Closed) Deviation Item (259/81-01-13 and 260/81-01-13)-Improper hardware on a fire door between the electrical equipment rooms in the

Units 1 and 2 diesel generator building. Approved type hardware has been provided for this door. This item is closed.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Inspector Followup Items

a. Diesel Fire Pump

The control valve between the air release valve for the diesel fire pump and the pump discharge piping is maintained in the open position. Procedure SI 4.11., Fire Protection System Inspection, has been revised to indicate that this valve is to be maintained in the open position.

b. Outside Fire Protection Equipment Houses

Procedure MMI63, Fire Hose, Cabinets, Reels and Cart Inspection, has been revised to require a monthly inspection of the equipment within the equipment houses. The licensee has evaluated the equipment required for these houses and determined that, in addition to the hose cart and wheeled fire extinguisher, only minimum equipment is required to be maintained since a standard well equipped fire department pumper is maintained on site for response to fires as needed.

c. Administrative Fire Protection Procedures

Procedure BF14.47, Fire Training, has been revised to require each fire brigade member to pass an annual physical for performance of strenuous fire fighting activities, and brigade members to participate in quarterly classes training and fire drills.

d. Fire Pumps

Procedure SI4.11.A.1.6.J., High Pressure Fire Protection System Fire Pump Operability Check has been revised to require the electric pump to be test run for at least 15 minutes. Procedure SI4.11.A.1.b.(a), High Pressure Fire Protection Diesel Driven Fire Pump Operability Check, has been revised to require the diesel pump to be test operated for at least 30 minutes and indicates acceptance and rejection criteria.

6. Fire Protection/Prevention Program Implementation

a. Facility Tour and Observation of Work Activities

The inspector made a tour of the plant to review the corrective action taken on previous identified enforcement items, unresolved items and inspector followup items as identified in Paragraphs 3 and 5. During

this tour the inspector verified that the licensee was adhering to the procedures for the control of combustibile materials, flammable and combustibile liquids and gases, welding and cutting operations and housekeeping operations. All of fire alarm and suppression systems covered by the Technical Specifications were inspected and verified to be in service.

b. Fire Brigade Equipment

The fire brigade is assigned a total of 11 self contained breathing apparatus and 20 spare cylinders. A total of 21 units (7 per control room) and 21 spare cylinders are located in the control room complex. Additional units and spare cylinders are available from the health physics group, if needed. A total of 75 units and 190 cylinders are provided at the site. The cylinder can be refilled by means of a compressor or from two cascade systems. The number of self contained breathing apparatus and spare cylinders exceeds the requirements of the Technical Specifications.

A total of 15 sets of fire fighting gear (coats, pants, boots and helmets) is provided for the brigade members. This equipment appeared to be maintained in a satisfactory manner.

Within the areas examined no violations or deviations were detected.