



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

Report Nos. 50-280/79-61 and 50-281/79-80

Licensee: Virginia Electric and Power Company
Richmond, Virginia 23261

Facility Name: Surry

Docket Nos. 50-280 and 50-281

License Nos. DPR-32 and DPR-37

Inspection at Surry site near Williamsburg, Virginia

Inspector:

W. H. Miller, Jr.

11/19/79
Date Signed

Approved by

T. E. Conlon
T. E. Conlon, Section Chief, RC&ES Branch

11-19-79
Date Signed

SUMMARY

Inspection on October 17-19, 1979

Areas Inspected

This routine, unannounced inspection involved 24 inspector-hours onsite in the areas of fire protection/prevention.

Results

Of the areas inspected, one apparent item of noncompliance was found (Infraction - Fire door inoperative between Units 1 and 2 switchgear rooms - paragraph 6.a(2)(a)); and two apparent deviations were found (Deviations - Substandard fire doors - paragraph 6.a.(2)(b); and, substandard CO₂ system in service water intake structure - paragraph 6.a.(2)(c)).

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DETAILS

1. Persons Contacted

Licensee Employees

- *W. L. Stewart, Station Manager
- *R. F. Saunders, Superintendent Maintenance
- *J. L. Wilson, Superintendent Operations
- *S. Stevens, Operations Coordinator
- *R. L. Baldwin, Supervisor Administrative Services
- *F. L. Rentz, Resident QC Engineer
- *K. R. Barnett, Fire Marshal - Construction
 - A. L. Parrish, SGRP Manager
- *W. R. Skelley, Staff Assistant (SGRP)
- *J. Moody, Fire Marshal - Operations
- *J. W. Martin, Jr., Corporate QC
- *M. R. Kansler, Associate Engineer
 - C. W. Rhodes, Resident Engineer - Construction
 - R. L. Roberts, Staff Assistant - Material Control (SGRP)
 - H. J. VanDyke, Supervisor Security
 - B. Anderson, QA Records

NRC Resident Inspector

- *D. J. Burke

- *Attended exit interview.

2. Exit Interview

The inspection scope and findings were summarized on October 19, 1979, with those persons indicated in Paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

- a. (Open) Deviation Item (50-281/79-08-01) - Failure to implement the fire protection commitments of document entitled Steam Generator Repair Program for Surry Units 1 and 2. The status of the examples of this deviation are as follows:

- (1) The required temporary fire protection equipment have been provided.
- (2) The construction site fire brigade has been organized, trained and is meeting monthly for drills and training sessions.
- (3) Installation of standpipe system is not complete; however, the system is operational and can be used in the event of fire. The licensee informed the inspector that the following items have to

be completed; two control valves, one check valve and one additional hose station must be installed and the entire system hydrostatically tested at 200 psi for two hours. The licensee advised that each hose station had been equipped with 100 feet of 1½-inch fire hose. The system will be reevaluated during a subsequent NRC inspection.

- b. (Closed) Unresolved Item (50-281/79-46-1), Fire protection requirement for temporary ventilation system for unit 2 containment. Further review of this temporary ventilation system conducted by NRC (IE/HQ and NRR) indicates that neither an automatic fire alarm system nor fire suppression system is required. However, Section 4.5.4 of the document entitled "Steam Generator" Repair Program for Surry Power Station Units 1 and 2" should be revised by the licensee to clearly define the fire protection requirements for this system. This item is closed.
- c. (Closed) Unresolved Item (50-280/79-29-01 and 50-281/79-46-02), Fire brigade training. Licensee has placed a high priority on fire brigade training to insure that all brigade members are adequately trained. A review of training records for June through September 1979 indicated satisfactory attendance at all fire brigade classroom and practice drill training sessions. Adequate procedures have been developed to assure good participation in the future. This item is closed.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. New unresolved items identified during this inspection are discussed in paragraph 6.b.

5. Fire Protection/Prevention - Steam Generator Repair Program (SGRP)

a. Facility Tour

An inspection was made of SGRP Storage Warehouse Nos. 7 and 9. The sprinkler system installation discrepancies previously identified as Inspection Followup Item (50-281/79-08-03) were reviewed and found corrected, except the dry valve enclosure in Warehouse 7 is not weather tight and has not been provided with heat to prevent the valve or appurtenances from freezing during cold weather as required by Section 5-2.5 of National Fire Protection Association (NFPA) Standard 13, "Sprinkler Systems"; and the sprinkler heads adjacent to the unit heaters in Warehouse 9 have not been changed to high degree type heads as required by Section 3-16.6.4 of NFPA-13. The sprinkler systems installed within the construction warehouses are supplied from the operating plant's fire protection system. Therefore, these sprinkler systems should meet the applicable NFPA criteria to assure that reliability of the plant's fire protection water system is not reduced.

b. Records

A review was made of the records maintained on the weekly inspection and tests of the warehouse automatic sprinkler systems and the monthly fire brigade training for 1979. The records reviewed were satisfactory.

Within the areas examined, no items of noncompliance or deviations were identified.

6. Fire Protection/Prevention - Operating Plant

a. Facility Tour

(1) A tour was made of the following plant areas and the fire protection features for these areas were evaluated:

- (a) Auxiliary Feedwater area
- (b) Control Room Complex
- (c) Emergency Switchgear and Relay Rooms
- (d) Outside containment penetration areas
- (e) Cable tunnel and service building cable vault
- (f) Emergency intake structure
- (g) Turbine building basement
- (h) Diesel generator rooms
- (i) Fire protection water system control valves

(2) Findings

- (a) The emergency switchgear rooms for each unit are separated by a fire wall with the communicating door opening protected by a 3-hour automatic closing fire door. However, this door was found to be inoperative since a 4160 volt transformer was stored in the door opening which would not permit the door to automatically close in the event of fire. A fire watch had not been established for this area. Section 3.21.G of the Technical Specifications requires all penetration fire barriers protecting safety related areas shall be functional at all times. In the event a required fire barrier becomes nonfunctional, a limiting condition for operation (LCO) consisting of a continuous fire watch is required to be established on at least one side of the affected penetration. This blocked and inoperative fire door in conjunction with the failure to establish the required LCO for this door is identified as Noncompliance Item (280/79-61-01 and 281/79-80-01), Inoperative fire door between Unit 1 and Unit 2 emergency switchgear rooms. This noncompliance is an infraction. The transformer was, however, relocated prior to the completion of this inspection to permit the door to function properly in the event of fire.

- (b) The swinging type fire doors separating the three diesel generator rooms from the turbine building and the fire door separating the Unit 1 and 2 switchgear rooms from the turbine building are not provided with positive acting latches to maintain these doors in the closed position in the event of fire. Section 9.10.1 of the FSAR states that the fire protection systems and features for the plant including fire barriers will be designed to meet the NFPA standards. Section 516.b of the 1968 edition of NFPA-80, "Fire Doors and Windows", (Section 2-8.2 of the 1977 edition) requires all swinging type fire doors to be provided with an approved positive latching device. The lack of latching devices on the above identified fire doors is a failure to meet a FSAR commitment to the NRC and is identified as Deviation Item (280/79-61-02 and 281/79-80-02), Substandard Fire Doors. This discrepancy may also exist on other fire doors located at the plant.
- (c) The main supply cylinders for the carbon dioxide system at the service water intake structure diesel fuel tank room have been removed for recharging. The licensee advised that these cylinders are to be reinstalled in the near future. Presently, protection of this area is provided from a reserve bank of cylinders. An inspection of this installation indicates that it is not possible to activate the carbon dioxide system from the manual actuation device located within the tank room when the system is supplied from the reserve bank of cylinders. Section IV.E.5 of the licensee's Fire Protection System Review for Surry Power Station (FPSR) dated July 1, 1977 states that the carbon dioxide systems at the plant meet the provisions of NFPA-12, "Carbon Dioxide Systems". Section 1-8.3.4 and 1-9.1.3 of NFPA-12 require carbon dioxide systems to be capable of being activated by manual actuation devices located within the protected area. This manual device is required to be able to activate the bank of cylinders in service. This discrepancy is a failure to meet a commitment to the NRC and is identified as Deviation Item (280/79-61-3 and 281/79-80-3), Substandard Carbon Dioxide System For Diesel Tank Room in the service water intake structure.

b. Fire Protection Systems

The following periodic test procedures and recorded tests on the fire protection systems were reviewed and discrepancies noted:

(1) PT-24.1, Fire Pumps

Tests are conducted weekly and record data was satisfactory except procedure does not require valves to be sealed or locked in the open position.

(2) PT-24.1A, Exterior Fire Protection System

Tests of control valves and hydrants are conducted quarterly in lieu of monthly as is the normal industry practice. Also, control valves are not required to be locked or sealed in the open position as required by the applicable NFPA standard.

(3) PT-24.2A, Carbon Dioxide System for Fuel Oil Pump House

Test data was satisfactory.

(4) PT-24.4A, Fire Protection Systems Mechanical

Test data was satisfactory.

(5) PT-24.4B, Fire Protection Systems (Electrical)

Test data for April and May was not available. The licensee had initiated steps to locate this missing test data. This item is identified as Unresolved Item (280/79-61-4 and 281/79-80-4), Missing periodic test data on fire protection systems, and will be reevaluated during a subsequent NRC inspection.

(6) PT-24.4C, Fire Protection Systems (H.P.)

Test data was satisfactory.

(7) PT-24.4F, Fire Protection Systems Instrumentation

Test data was satisfactory.

(8) PT-24.4I, Fire Protection System (Warehouses)

The test data for May was not available. This is another example of Deviation Item (280/79-61-4 and 281/79-80-4), Missing periodic test data on fire protection systems.

(9) PT-24.6, Records Vault-Halon System

Test data was satisfactory.

(10) PT-24.8, Fire Brigade Equipment Lockers

Test data was satisfactory.

The licensee, as outlined in various sections of the Fire Protection Safety Evaluation Report of September 19, 1979, is to make a number of changes to the fire protection periodic test and administrative control procedures. A portion of these changes must be completed prior to the end of 1979. These items and previous Inspector Followup Item (50-280/

79-29-3 and 50-281/79-46-4), Supervision of Fire Protection Control Valves, are to remain outstanding and will be evaluated during a subsequent NRC inspection.

c. Fire Protection Inspection

A review was made of the licensee's corporate staff audit report of the Surry Fire Protection Program of January 9, 1979. Corrective action had been taken on five (5) of the seven (7) recommendations within the audit report. However, no action has been taken on the items concerning the hydrostatic test and inspection of the hydrogen cylinders located adjacent to the turbine building and the relocation of the combustible materials (primarily record chart paper) located within the control room. This item was previously listed as Inspector Followup Item (50/280/79-29-2 and 50/281-79-46-3), Licensee's corrective action taken on recommendations in fire protection audit, and will remain open for review during a subsequent NRC inspection.

Within the areas examined, except as noted above, no items of noncompliance or deviations were identified.