



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

Report No. 50-281/79-08

Licensee: Virginia Electric and Power Company  
P. O. Box 26666  
Richmond, Virginia 23261

Facility Name: Surry Nuclear Plant, Unit 2

Docket No. 50-281

License No. DPR-37

Inspection at Surry Site near Surry, Virginia

Inspector:

*W. H. Miller, Jr.*  
W. H. Miller, Jr.

*3/19/79*  
Date Signed

Approved by:

*R. M. Conner*  
J. C. Bryant, Section Chief, RC&ES Branch

*3/19/79*  
Date Signed

SUMMARY

Inspection on February 13-16, 1979

Areas Inspected

This routine unannounced inspection involved 27 inspector-hours onsite in the area of fire protection/prevention, including procedures, equipment installation and fire brigade organization and training.

Results

No apparent items of noncompliance were identified. One apparent deviation was found (lack of fire protection system and equipment for construction area in Unit 2 containment and lack of an organized construction site fire brigade for steam generator repair program).

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## DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*W. L. Stewart, Station Manager
- \*R. L. Baldwin, Supervisor, Administrative Services
- \*F. L. Rentz, Resident QC Engineer
- \*J. W. Martin, Jr., Supervisor, QA
- \*R. M. Smith, H. P. Supervisor
- \*P. P. Nottingham, Assistant H. P. Supervisor
- \*T. J. Kenny, Outage Coordinator
- \*W. W. Cameron, System Superintendent, Technical Services
- \*J. Pickworth, Senior Engineer Technician, QC
- \*E. Heiland, Engineering Technician
- \*R. F. Saunders, Superintendent, Maintenance
- \*J. L. Wilson, Superintendent, OPS
- \*A. L. Parrish, SGRP Manager
- \*M. Terrier, System Fire Protection Engineer
- \*Y. P. Mangum, Resident Engineer Project Control
- \*T. J. Hronec, Safety/Security Coordinator
- \*C. W. Rhodes, Resident Engineer, Construction
- \*J. Bolin, Engineering Technician
- \*B. R. Sylvia, Director, Nuclear Operations
- \*J. Goodson, SGRP QC Supervisor
- J. Fisher, Fire Marshal

#### Other Organizations

- J. Ard, Project Manager, Daniel Construction Company
- W. Mallory, Safety Supervisor, Daniel Construction Company
- M. Randolph, Stone and Webster Engineering Corporation

#### NRC Resident Inspector

- \*D. J. Burke

- \*Attended exit interview.

### 2. Exit Interview

The inspection scope and findings were summarized on February 16, 1979 with those persons indicated in Paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

Not inspected.

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 5.

5. Fire Protection/Prevention

a. Containment Area

A tour was made of the containment area of Unit 2 to observe the construction work related to the steam generator repair program, and the fire protection features provided for this area. The licensee's fire protection commitments for this project are described in Section 4.5 of the document entitled "Steam Generator Repair Program for Surry Power Station, Units 1 and 2". A permanently installed dry standpipe system with sufficient hose stations and hose to reach all combustibles within the containment was to be provided during the early stages of the steam generator repair program. Also, this standpipe system and the existing fire protection and related emergency systems were to be augmented during the construction period by the following temporary measures:

- (1) Provision of additional fire hose and related equipment at two hose stations opposite containment and/or at entrances to containment.
- (2) Provision of fire extinguishers throughout containment and provision of additional extinguishers in areas of welding and flame cutting.
- (3) Provision of additional emergency lighting at equipment hatch and steam generator cubicles.
- (4) Provision of portable "bull horns" near the equipment hatch.

Although construction work was in progress, the installation of the standpipe fire protection system had not been accomplished. The licensee advised that this system is currently under design with installation scheduled upon completion of design but the date of installation was not known. Failure to provide the standpipe system during the early stages of the steam generator repair program does not conform to commitments to the NRC and is identified as Deviation Item 79-08-01.

The temporary fire protection measures as outlined above also had not been provided by the end of this inspection. The licensee advised that the additional fire hose, extinguishers, emergency lighting units and portable "bull horns" were to be provided by February 23, 1979. The failure to provide the temporary fire protection measures prior to construction operations does not conform to commitments to the NRC and is another example of Deviation Item 79-08-01.

b. Fire Brigade

Section 4.5.4 of the licensee's document "Steam Generator Repair Program for Surry Power Station, Units 1 and 2" stated that additional fire protection personnel were to be assigned for the replacement activities in the containment. An assistant fire marshall was to be appointed and a fire team leader and at least four fire brigade members (total of 5) were to be provided for each shift. This construction force fire brigade was to supplement the station (Operations) fire brigade and was to be under the direction of the Station Fire Marshall. During this inspection, 16 of the 21 construction force fire brigade members were away from the site for two days for fire training. Apparently no plans had been made by the licensee to provide additional fire protection personnel during this time. The construction fire brigade was inadequately organized with the assistant fire marshal and team leaders not appointed until February 16, 1979. Fire brigade equipment and protective clothing were found still packed in the original shipping cartons. Drills for the entire fire brigade had not been conducted at the site. The station fire brigade had not trained with the construction site fire brigade. The failure to provide a fully trained and organized fire brigade prior to initiation of construction activities within the containment does not conform to commitments to the NRC and is another example of Deviation Item 79-08-01.

c. Procedures

Fire protection and prevention provisions to be implemented during the steam generator replacement activities are described in VEPCO Administrative Instruction No. 2.9.3 entitled "Fire Plan"; however, items in this document were in the early stages of being implemented.

The licensee does not have an adequate procedure which stipulates the requirements for the organization and training of the construction site fire brigade, safeguarding open flame welding and cutting operations, control of combustibles, general housekeeping and maintenance, inspection and test requirements for various fire protection systems provided for the entire construction site. The

licensee advised that a procedure covering these items will be prepared prior to April 1, 1979, and that implementation of all items in the existing and proposed documents will be accomplished prior to that date. Pending review of the final procedure and implementation of existing procedures this item will be carried as Unresolved Item No. 79-08-02.

d. Steam Generator Component Storage

An inspection was made of construction site warehouse Nos. 7, 8 and 9 which are used for storage of equipment and construction materials for the steam generator replacement program. These warehouses were provided with automatic sprinkler protection. The systems in Warehouse Nos. 7 and 9 were installed in December 1978 with final inspection and test for these systems scheduled for February 21, 1979. The following deviations from the requirements of the National Fire Protection Association Standard 13, "Sprinkler Systems" (NFPA-13) were noted:

(1) Warehouse No. 7

- (a) No heat provided for dry pipe valve enclosure
- (b) Dry pipe valve in the wet (operated) position.

(2) Warehouse No. 9

- (a) Intermediate (212°F) degree sprinkler heads installed near unit heaters where high degree (286°F) sprinkler heads are required.
- (b) Upright sprinkler head in the receiving area installed in the pendent position.
- (c) Sprinkler system not installed within Daniel's tool room.
- (d) Partition wall in main office obstructs discharge from adjacent sprinkler heads. Revisions to the system will be required.

The licensee advised that these discrepancies will be corrected during the final inspection and test of these systems, or necessary action will be initiated for the correction of items not covered by the installation contract. This item is identified as Inspector Followup Item No. 79-08-03 pending review of the sprinkler installations after correction of the above discrepancies.

Other than the above listed deviations; within the areas examined, no items of noncompliance were identified.