UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-280/90-06 and 50-281/90-06

Licensee: Virginia Electric and Power Company
Glen Allen, VA 23060

Docket Nos.: 50-280 and 50-281 License Nos.: DPR-32 and DPR-37

Facility Name: Surry 1 and 2.

Inspection Conducted: February 12-16, 1990

Inspector: E.H. Girard for N. Economos 3/13/90
N. Economos Date Signed

Approved by: E.H. Girard for J. Blake 3/13/90
J. J. Blake, Chief Date Signed
Materials and Processes Section
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope:

This inspection was performed for the purpose of reviewing the licensee's corrective actions(s) on previously identified inspector followup items (IFI) unresolved items (UNR) and enforcement matters as applicable.

Results:

The corrective actions were consistent with the licensee's commitments. The records were readily retrievable, complete, and accurate. Cognizant personnel were made available to review the subject matter and assist in the interpretation of nondestructive records, i.e. radiographs. Four unresolved items and one inspector followup item were closed.

In the areas inspected, violations or deviations were not identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

D. R. Dodson - Corporate NDE Level III Examiner
*R. C. Bilyeu - Licensing Supervisor
*E. S. Grecheck - Assistant Station Manager
*D. S. Hart - Quality Assurance (QA) Supervisor
*M. R. Kansler - Station Manager
R. J. Scanlan - Senior Staff Licensing Engineer
E. W. Throckmorton, Inservice Inspection (ISI)/NDE Service Project Engineer
*T. B. Sowers - Superintendent Engineering
D. W. Wong - ISI Engineer

Other licensee employees contacted during this inspection included security force members, technicians, and administrative personnel.

NRC Resident Inspectors

*W. Holland, Senior Resident Inspector
*J. York, Resident Inspector

*Attended exit interview

2. Action on Previous Findings (92701)

a. (Closed) UNR 281/86-34-03 Reactor Nozzle Indications

This item was identified because the inspector of record determined that the licensee had not assigned, via written procedure, a requirement for technical review of in-process and/or final ISI examination reports. By revision to the procedures listed below, the licensee has addressed the subject concerns.

(1) General Requirements for ISI Nondestructive Examination: NDE 7.2 Rev. 2

(2) Ninety Day Inservice Inspection Report
Virginia Power ISI Manual-Section 7.14 Rev. 3

Also, the completed remote visual inspection of welds discussed for UNR 86-34-02 and this inspector's review of construction records and radiographs completes the actions requested of and committed by the licensee in this area.

b. (Closed) UNR 280, 281/89-05-03, Sampling of Nonsafety-Related Fasteners for Testing from Construction Warehouse for Bulletin No. 87-02

This item was identified when the inspector of record ascertained that certain safety and nonsafety-related fasteners stored in the warehouse were not included in the sampling submitted for testing per the subject bulletin requirements. Consequently, the inspector of record requested, and the licensee agreed to investigate, a) The types and quantity of each group of nonsafety-related fasteners and b) location of equipment where nonsafety-related fasteners were needed. Within these areas, this inspector reviewed the licensee's QA memorandum 589-141, entitled Response to Station Commitment Assignment/Response (SCAR) 89-0105 Commitment 001. This document, was identified as an interim response to the above commitment and described the methodology used by QA to investigate the use of nonsafety-related fasteners referenced in Report 280, 281/89-05. On July 26, 1989, the licensee issued a final report on this matter. In summation, the July 26 report stated that no nonsafety-related (NS) fasteners selected as samples for this investigation were traceable to use in safety-related (SR) or special quality requirement (NSQ) applications.

c. (Closed) Inspector Followup Item (IFI) 280,281/88-39-01, Revise WP-W02 Procedure to Address all Line Items on Weld Joint Record

This item was identified when the inspector of record noted that the controlled weld joint record (CWJR), used to document quality control inspections conducted during weld fabrication did not, in all cases, fully identify each of the two components being welded. This was noted, even though the line item had been signed-off by Q.C. This matter was discussed in detail with the licensee (see Report 88-39) who agreed to revise the subject procedure to include this and other related attributes on the CWJ record.

The revised subject procedure was approved for field use on April 17, 1989. The inspector reviewed the revised procedure and found it satisfactory.

d. (Closed) UNR 280,281/88-39-02, Fabrication Preservice and Repair Records of Rejected Welds

This matter refers to an inspection performed in response to information received from the NRC resident inspector involving rejectable weld indications found in socket welds of the Unit-2 Loop Fill Header. For further details see Report 88-39 paragraph 3.

The subject item was identified to assure that certain concerns which the licensee agreed to take action on, were implemented. Specifically these actions were as follows:

(1) Document in detail the defect removal, evaluation, and measurements taken during the repair of the rejected welds.

(2) Following grinding, measure welds, fitting and/or piping to assure design thickness has not been violated.

(3) Provide original fabrication records of all rejected welds.

(4) Provide Preservice Inspection records of all rejected welds, as applicable.

On January 13, 1989, the licensee submitted a summary report which was reviewed in the office by the inspector. While on site between February 12-16, 1990, the inspector reviewed background information on these welds, nondestructive examination results and evaluations which indicated that none of the indications were service related and had no direct impact on nuclear safety.

e. (Closed) UNR 281/86-34-02, QA Records Do Not Agree with Visual Examination Conclusions

This item was identified as a result of the October 1986 remote reactor vessel inservice examination of the outlet nozzle-to-safe end, dissimilar metal (DM) welds during which ultrasonic indications were noted in loop "A" (vessel azimuth 144.83 degrees). These indications were present along the entire inner surface of the weld. Meaningful visual examination of the weld's inside diameter condition during the 1986 examination was limited to an air pocket at the top of the weld. Based on the results of the limited visual examination and the nature of the ultrasonic responses, it was concluded that these indications were caused by inside diameter weld geometry. Review of the fabrication data by the NRC did not indicate weld geometry present in any of the outlet nozzle-to-safe end welds (See Report 88-15, paragraph 3.a.). As a result of these findings, the NRC was not in complete agreement with the conclusion drawn during the 1986 examination; therefore, requiring that a more conclusive visual examination of the outlet nozzle-to-safe end welds be performed.

During the Fall 1988 Unit-2 refueling outage, Westinghouse (W) with the aid of a remote control Deep Sea Mini Rover submersible and a high resolution color TV Camera recorded, on video-tape, the physical condition of the root surface of these DM welds for the outlet nozzels in Loops "A", "B" and "C". On February 14, 1990, this inspector observed the aforementioned video-tape and noted the following:

> Field weld #1 on loop A appears to have weld metal added to the I. D. 360°. The weld metal appeared to be added in a narrow

band at the weld root from 0° azimuth to about 260° azimuth (looking from the nozzel into the pipe going clockwise). At 260°, the weld area appeared to widen and become more pronounced. Individual stringer beads were visible from 260° to 0°. The weld contour was generally rough and made a sharp re-entry angle into the base metal, on the pipe side.

Field weld #13 on loop B was built up 360°. The weld build up was ground flat/flush to slightly convex. There were several areas around the build up with an irregular surface condition.

Field weld #25 on loop C was built up in two areas from about 0° to 45° and from 135° to 270°. The weld build up was ground Flat to slightly convex. There were several areas around the build up with an irregular surface condition.

A review of construction radiographs confirms the root conditions described above and explains the ultrasonic indications observed during the subject examination.

3. Exit Interview

The Inspection Scope and Results were summarized on February 16, 1990, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.