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

Report Nos. 50-338/81-29 and 50-339/81-26

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

Facility Name: North Anna 1 and 2

Docket Nos. 50-338 and 50-339

License Nos. NPF-4 and NPF-7

Inspection at North Anna site near Mineral, Virginia

Inspector: HC Dance /fn — 1/7/81
M. B. Shymlock — Date Signed

Approved by: HC Dance — 1/7/81
H. C. Dance, Section Chief, Division of Resident and Reactor Project Inspection — Date Signed

SUMMARY

Inspection on November 6 through December 5, 1981

Areas Inspected

This routine inspection by the resident inspector involved 101 inspector-hours onsite in the areas of followup of previous inspection findings, licensee event reports, previously identified items, maintenance and surveillance activities, operational safety, and plant operations.

Results

Of the six areas inspected, no violations or deviations were identified in five areas. Two apparent violations were identified in one area (failure to perform required functional test and failure to implement maintenance procedures - paragraph 10).

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DETAILS

1. Persons Contacted

Licensee Employees

*W. R. Cartwright, Station Manager
E. W. Harell, Assistant Station Manager
*J. A. Hanson, Superintendent - Technical Services
*J. R. Harper, Superintendent - Maintenance
*S. L. Harvey, Superintendent - Operations
*D. L. Smith, Director QA Operations
J. M. Mosticone, Operations Coordinator
F. Terminella, Engineering Supervisor
D. E. Thomas, Electrical Supervisor
*K A. Huffman, Clerk,

Other licensee employees contacted included 12 technicians. 15 operators, 3 mechanics, and 4 office personnel.

*Attended one or more exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 7, 1981, with those persons indicated in paragraph 1 above. The apparent violations identified in paragraph 9 were discussed with station management at that time and acknowledged.

3. Licensee Action on Previous Inspection Findings

a. (Closed) Violation 339/81-16-01: Failure to conduct fire brigade quarterly for each brigade. This violation is closed based on review of the program which the fire marshall has implemented. It identifies the frequency for each brigade to conduct their drill for next year, and also has a formal drill critique form. The plant computer will be used to track completion of drills.

b. (Closed) Unresolved Items 339/79-03-01 and 338/80-42-04: Clarify fire rating of dampers between battery rooms and control room. The licensee (Power Staion Engineering and Construction Group) has issued a memorandum dated September 8, 1981, which addresses these concerns. This memorandum was reviewed by NRC regional personnel. The current installation was reviewed and it was found that the dampers are now held in the open position by means of a fusible link.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Plant Status

Unit 1 and Unit 2 operated at or near capacity load during this inspection period.

6. Followup of Previously Identified Items

a. (Closed) IFI 338/81-02-04, Evaluation of possible damage to core internals due to loose steam generator tube plug. Migration of the steam generator tube plug through the reactor coolant pump vanes was discussed with NRC regional personnel. pump vibration was monitored after plant startup and the indicated readings were normal. The inspector had no further questions.

b. (Closed) IFI 338/81-27-02 Inspection of Reactor Coolant pump closure studs for corrosion. Inspection report and inspection procedure were reviewed. The inspector had no further questions.

c. (Closed) 339/78-36-03, High Density Spent Fuel Racks. This item refers to a licensee report, S/N 666B dated February 7, 1979, on a 10 CFR 5E.55(e) matter concerning the possible weld burn through and the resulting spatter on the interior surfaces of the High Density Spent Fuel Racks. Specific documents were reviewed that contained the procedures directing the rework activity and inspection report documents that covered the rework activities. The racks were reworked and inspected in accordance with requirements.

7. Licensee Event Report (LER) Followup

The following LER's were reviewed and closed. The inspector verified that reporting requirements had been met, causes had been identified, corrective actions appeared appropriate, generic applicability had been considered, and the LER forms were complete. Additionally, for those reports identified by asterick, a more detailed review was performed to verify that the licensee had reviewed the event, corrective action had been taken, no unreviewed safety questions were involved, and violations of regulations or Technical Specification conditions had been identified.

338/81-03	Loop 3 reactor coolant flow found out of tolerance
*338/81-04	Three valve failed to operate during containment depressurization actuation test
338/81-05	Fire barrier open
338/81-06	Pressurizer pressure transmitter out of calibration
*338/81-07	Plugs missing after explosive plugging
338/81-08	Steam generator 'A' level transmitter out of calibration
*338/81-09	Type B&C containment leak test identified several excessive leakage point
338/81-10	Containment purge and exahust isolation system rendered inoperable

338/81-11	Loss of power to common radiation alarm panel
*338/81-12	Full building fans went to their failed and bypassed filter banks
338/81-13	Fire door inoperable
*338/81-14	Closure weights on check valve removed
*338/81-15	PG water isolation valve not shut
*338/81-16	DC Distribution service system surveillance not performed within required time
338/81-17	Excessive RCS leak rate caused by valve packing leaks
*338/81-18	Inadvertant unblocking of low pressurizer pressure safety injection signal
338/81-19	Pressurizer level channel I indicated high
*338/81-20	Emergency bus transformer failed
338/81-21	Rod position indicators showed greater than 12 steps from demand position
338/81-22	T-Hot indication for channel III, Delta T/TAVE protection was found indicating high
*338/81-26	Hydrogen analyzer had not been calibrated correctly
*338/81-27	Oil fire on 1J exhaust manifold due to gasket leak
338/81-28	Snubber was removed from component cooling system
*338/81-29	Pressure transmitter was found out of calibration
338/81-31	Fire damper in cable tunnel failed to shut during operational inspection
*338/81-37	Incorrect number charged bottles in control room air bank
338/81-38	Drifting of both upper and lower N44 detector currents
339/81-01	Tave less than 541°F while reactor was critical
339/81-02	'B' steam generator steam flow channel indication erratic
339/81-04	Flux penalty, failed summing amplifier
339/81-06	Tave less than 541°F while reactor was critical
*339/81-08	Performance test not performed after power escalation
339/81-09	Personnel hatch outer door seal failed performance test
339/81-11	Quench spray valves closed and de-energized to repair valve
339/81-12	Containment pressure protection channel failed low
339/81-13	Containment pressure channel III hi and hi hi alarms locked in
339/81-14	Hi flux rate trip
339/81-15	Hydrogen recombiners removed from service for piping modifications
339/81-16	Loop A temperature indication erroneous
339/81-17	Temperature indicating controller failed high caused hydrogen recombiner to shutdown
*339/81-18	Quench spray valve valved out for maintenance
339/81-22	Surveillance on APDMS was not performed within required time
339/81-24	Quench spray pump and valves removed from service
339/81-25	Bottled air system inadvertently depressurized
339/81-27	APDMS processor overheated
339/81-28	NI power range channels surveillance was not performed in required time interval
339/81-29	Ventilation system valve stuck in midposition

*339/81-30	Casing cooling pump 2-RS-P-3B removed from service
339/81-31	Axial Flux difference outside target band
339/81-32	Level indication on aux shutdown panel out of specifications
339/81-33	Quench spray pump removed from service for maintenance
339/81-34	APDMS printer did not print
339/81-35	Channel A reactor coolant system subchannel declared inoperable
339/81-36	Axial flux difference outside target band
339/81-38	Channel III feedwater flow indication for loop 2 failed high
339/81-39	Blank flange found installed on redundant H2 recombiner return piping
339/81-40	Axial flux difference outside target band
339/81-41	Hydraulic snubber declared inoperative and replaced
339/81-42	Low boron concentration in boric acid storage tank
339/81-43	RWST low boron concentration
339/81-44	Rod position indication on rod D06 was declared inoperative
339/81-45	Instrument drift caused Delta T/Tave protection channel I to read hi
339/81-47	Stop valve - generator trip fail acceptance criteria
339/81-48	High voltage power supply failed on intermediate range WI-N-35
339/81-49	Casing cooling pump declared inoperative when it failed acceptance criteria
339/81-52	Failure of high voltage power suppy in intermediate range NI
339/81-54	On site AC power system was not tested in required time interval

8. Unit 1 Loose Parts Monitor System

On February 20, 1981, during a reactor trip from 100% power, an abnormal noise in 'C' steam generator was detected by the installed loose parts monitoring system (LPMS). This event was reported in LER 80-027 dated May 1, 1980. The unit was maintained in hot standby while investigation of the loose parts was being performed.

An NRC Confirmation of Action letter dated February 26, 1980 listed several items to be conducted that had been discussed with the licensee. Two of the items were; implementation of the eleven Westinghouse recommendations concerning abnormal noise detected, and submittal of a special report to NRC concerning the LPSM alarm on February 20, 1980 including subsequent testing and analysis conducted. This special report was part of LER 80-027. The LER also stated that due to conclusions recently deducted from their ongoing evaluations, that specific changes would be made in the original eleven Westinghouse recommended actions. However those changes would not be made until NRC Region II concurrence was obtained. There were five Westinghouse recommendations that were covered by normal surveillance, that the licensee wanted to remove from the original eleven items. LER 80-027 rev 1 dated October 28, 1981 further documented the licensee continued effort in this area. The evaluation of licensee action related to this area has been reviewed. The information in both LERs was reviewed by the resident and regional personnel. The licensee request to reduce to the six part

surveillance program is acceptable. LERs 80-027, 80-027 Rev. 1 and IFI 338/80-11-02 are closed based on review of this item.

9. Unit 1 Low Head Safety Injection System

On November 17, 1981, while the swing shift was preparing for shift turnover, the Control Room Operator noted two valves (MOV-1862B suction valve for 1B low head safety injection (LSHI) pump and MOV-1885D, 1B LHSI discharge recirculation valves shut) thus causing train B of the LHSI system to be inoperable. These valves were immediately opened. Valve operability test had been conducted earlier that day on valves in that system with valve MOV-1885D being repositioned to satisfy a permissive condition. However these valves were not repositioned at the conclusion of the periodic test as required. The procedure has been revised to specify repositioning.

Administrative Procedure 29.3 'Conduct of Operations, Attachment 1, SRO/CRO Shift Turnover Check List requires verification of MOV-1862B open. The completed check sheet for the shift change between day shift and swing shift on the 17th checked this valve open. However, while the swing shift was preparing the shift turnover check sheet for their relief the mispositioned valves were noted. The licensee identified these errors and has restressed the importance of the shift Turnover Check List in addition to the above procedural change.

10. Unit 2 Inoperable Snubber

On September 11, 1981, while the unit was at 93% power it was discovered that the reservoir on hydraulic snubber 2-SHP-HSS-219A on a main steam line was empty. The snubber was declared inoperable and a 72 hour action statement was entered. The line from the reservoir was removed at the snubber to determine oil level. There was no oil in the line, therefore air was introducted into the control valve block. The snubber was removed and taken to the snubber shop for repairs. The snubber was repaired and returned to service. This event was reported in LER 339/81-071 dated October 8, 1981.

During review of the maintenance records by station QC personnel several problems were noted, the resident inspector also followed several concerns. The snubber in question is an 8 inch Tomkins Johnson cylinder supplied by the Grinnel Corporation. The snubber was removed, repaired and replaced under maintenance report N2-81-0911-2020. The snubber was removed and replaced per mechanical Maintenance Procedure (MMP) MMP-P-HSS-1 and oil was added per MMP-C-HSS-2. However, the repair work on the snubber ie, retorque on cylinder tie rod nuts, purging cylinder, vacuum evacuation, etc, were not accomplished per written approved procedures. This is a violation of Technical Specification 6.8.1 which requires written procedures to be established, implemented and maintained. TS 6.8.2 requires the procedures to be approved. This is violation 339/81-26-02.

The snubber oil level was below the control valve block and maintenance was conducted on the snubber. However, it was not functionally tested to

demonstrate operability prior to returning it to service to clear the action statement. This is a violation of Technical Specification 4.7.10.b which requires affected snubber to be functionally tested. This is violation 339/81-26-01. The licensee did not have a spare 8 inch snubber nor did they have the equipment to functionally test this size snubber.

Followup on the issuance of a revised LER (81-071) will be identified as IFI 339/81-27-03.

11. Plant Operations

The inspector kept informed on a daily basis of overall status of the plant and of any significant safety matters related to plant operations. Discussions were held with plant management and various members of the operations staff on a regular basis. Selected portions of daily operating logs and operating data sheets were reviewed daily during this report period. The inspector conducted various plant tours and made frequent visits to the control room. Observation included: witnessing work activities in progress, status of operating and standby safety systems, confirming valve positions, instrument readings, and recording, annunciator alarms, housekeeping and vital area controls. Informal discussions were held with operators and other personnel on work activities in progress and the status of safety-related equipment or systems.

No violations or deviations were identified.