



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

Report Nos. 50-338/80-20 and 50-339/80-21

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

Facility Name: North Anna Units 1 & 2

Docket Nos. 50-338 and 50-339

License Nos. NPF-4 and CPPR-78

Inspection at North Anna site near Mineral, Virginia

Inspector:

P. J. Bell
~~E. H. Webster~~

5/16/80
Date Signed

Approved by:

P. J. Bell
~~P. J. Bell~~, Section Chief, RONS Branch

5/16/80
Date Signed

SUMMARY

Inspection on April 21-25, 1980

Unit 1 Areas Inspected

This routine, unannounced inspection involved 11 hours on site in the areas of plant operation, Licensee Event Reports, and previous inspection concerns.

Unit 1 Findings:

Of the three areas inspected, no items of noncompliance or deviations were identified in two areas. One item of noncompliance was identified in one area (Infraction - Failure to conduct preoperational testing on design feature specified in the FSAR - paragraph 3).

Unit 2 Areas Inspected

This routine, unannounced inspection involved 20 hours on site in the areas of License conditions completion and previous inspection concerns.

Unit 2 Findings:

Of the two areas inspected, no items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

Licensee Employees

- *W. R. Cartwright, Station Manager
- *J. D. Kellams, Superintendent - Operations
- *E. W. Harrell, Superintendent - Maintenance
- *D. L. Benson, Superintendent - Technical Services
- G. A. Kann, Engineering Supervisor
- H. W. Burruss, Jr., Assistant Engineer
- D. L. Snodgrass, Assistant Instrument Supervisor

Other licensee employees contacted included one technician, three operators, and three office personnel.

Other Organizations

Stone and Webster Engineering Corporation (S&W)

- M. Reynolds, Senior Advisory Engineer
- E. Spurell, Director Site Engineering Office

NRC Resident Inspector

M. S. Kidd

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on April 25, 1980 with those persons indicated in Paragraph 1 above. The item of noncompliance was discussed and acknowledged by licensee management.

3. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (338/79-50-06) Conduct of preoperational testing on design feature identified in the FSAR. The inspector completed a review of the licensee's preoperational test program including all preoperational tests which tested the ESF components or circuitry. No evidence was found of testing of the Safety Injection, Containment Depressurization Actuation or Main Steam Isolation reset function to determine whether two separate operator actions are required to return equipment to the 'normal' mode of operation. Discussions with licensee staff indicated that apparently no testing had been conducted to verify this design feature, as stated in the FSAR section 7.3.1.3.5(i) and comment 7.4.

10 CFR 50 Appendix B Criteria XI as implemented by the Topical Quality Assurance Report VEP-3-A section 17.2.11 and the NPSQAM section 11

paragraph 2.1 states that tests during the preoperational period to demonstrate that performance of station systems is in accordance with design intent, as described in the FSAR. Licensee management was informed that failure to test this reset feature during preoperational testing on unit 1 appears to be in noncompliance with the above (Infraction - 338/80-20-01) Unresolved item 338/79-50-06 is closed for administrative purposes. Corrective actions have been verified completed by the licensee as documented in IE Report 338/80-07 paragraph 6.d. However, recent information indicates that the licensee's engineering review, which identified the system deficiencies, may not have been complete, the licensee is requested only to detail those actions taken or planned to ensure that all reset design errors have been identified for correction.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Operations Review (Unit 1)

a. Log Review

The inspector reviewed the operations logs listed below to verify administrative controls were adequately established, and that the facility was being operated in accordance with the operating license and applicable guidelines.

- (1) The shift Supervisor log from April 17-24, 1980.
- (2) The Control Room Operators log from April 15-22, 1980.
- (3) The Control Room Operators Surveillance Sheet on April 24, 1980.
- (4) The Station Generation log on April 24, 1980.
- (5) The Plant Log sheet (1-log-6A, 6C, and 6D) on April 24, 1980.
- (6) The Liquid Waste, Boron Recovery, Gaseous Waste log on April 24, 1980.
- (7) The Action Statement log - all outstanding entries.
- (8) The Emergency Diesel Room Entry log for April, 1980.
- (9) The Routine PT and Work Schedule posted.
- (10) The Jumper log for 1979 and 1980.
- (11) The Blue Tag log (index) for 1979 and 1980.
- (12) The Standing Order Book all entries.

The inspector had the following comments and findings:

- (1) The jumper log and blue tag log contained several administrative errors which indicate low quality reviews. Two jumper log entries made in February, 1979 should have been cleared when an associated design change was installed in the boron recovery and liquid waste annunciator panels in April, 1979, but are still logged as outstanding. The Blue tag log was missing several signatures authorizing the placement of jumpers. The inspector informed

management that the logs would be reviewed in future inspections for better review (338/80-20-02).

- (2) The revised control rod insertion limits requested by the licensee as a technical specification change in letter 118 dated March 11, 1980 (see IE Report 338/80-04 paragraph 7), were documented in standing order No. 44 and were in use by the operator. Open item (338/80-04-02) remains open pending revision of the technical specificat specifications.
- (3) The shift supervisor log no longer indicates a normal shift entry on emergency diesel generator (EDG) controls being in "Auto-Remote". The inspector was shown two annunciators which have been installed on the 21H annunciator board positions 6A and 7A which now annunciate whenever the EDG controls are in any position other than "Auto-Remote". A demonstration by selecting other positions on the 1H and 1J EDG control switches indicated satisfactory control of this function.

No items of noncompliance or deviations were identified.

b. Control Room Operations

The inspector observed plant operation, at 100% power, in the control room area, interviewed the control room operators, and checked a sampling of equipment control positions and parameter readouts to verify operation was in accordance with the operating license.

- (1) The inspector observed the manual start of EDG 1H on April 23 at 7:00 a.m. The surveillance was conducted using procedure 1-PT-82A. This surveillance test is normally ran on each EDG once a month, but due to recent difficultie identified by the licensee in LER 80-37 (also see IE Report 338/80-13 paragraph 6), the 1H EDG is being tested once every 3 days until May 5, 1980 to insure operability of the unit following complete changeout of the diesel governor. The 1H EDG operated satisfactorily indicating no abnormalities on the start. More information on the 1H diesel is presented in paragraph 8B.
- (2) The "PORV" N2 Pressure low" annunciators were both on indicating the N2 bottles supplying the solenoid operator for the open pressure protection low pressure reliefs was below 1950 psiq. Licensee staff explained this abnormality and detailed actions that had been taken to alleviate the low nitrogen pressure condition. This condition does not affect operation of the plant until the reactor coolant systems is below 320 degrees F at which time this nitrogen supply provides motive force for the PORV's at a low pressure set point to provide over pressure protection to the system. Licensee management stated that correction of the low nitrogen pressure condition would not be possible prior to the next outage. However, prior to the next entry into mode 4,

the motive force would be operable to meet technical specification 3.4.9.3. This will be followed up in future inspections (338/80-20-03).

No items of noncompliance or deviations were identified.

6. Licensee Event Reports (Unit 1)

The following LERs were reviewed to verify 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 asterisk, a more detailed review was performed to verify that the licensee had reviewed the events, corrective actions had been taken, no unreviewed safety questions were involved, and violations of regulations or licensee/technical specification conditions had been identified.

- a. LER 80-05/03L-0, dated February 5, 1980: Valve TV-MS-101C inoperable using one train control.
- b. LER 80-024/03L-0*, dated April 2, 1980: One safeguards area ventilation heater inoperable. The licensee engineering staff explained this occurrence was due partially to recent ventilation system flow balancing conducted to make the Unit 2 portions of the ventilation system operable. The resultant flow severed as the pressure switch dropped. The investigation as documented in the LER, resulted in replacing the NEPA filter and extending the pressure switch sensing line further into the ventilation flow path.
- c. LER 80-031/03L-0 dated March 28, 1980: Casing cooling tank level transmitter not seismically qualified.
- d. LER 80-033/03L-0* dated April 3, 1980: Valve lineup error concerning the feedwater system. This administrative error apparently occurred due to a typing error which was not detected during proofreading. The word processing program utilizes magnetic cards for all procedures such that in most procedure changes, only the changed portion is retyped. In this case, however, the valve lineup procedure was completely retyped, which allowed for typographical errors in parts of the procedure other than that part changed. To assure proper proofreading in the future, the licensee has promulgated an administrative procedure change to ADM 13.1 which provides a new form for the typist to indicate to the proofreader that the document was completely retyped and to proofread all portions of the document.

No items of noncompliance or deviations were identified.

7. License Conditions (Unit 2)

The following items identified as items to be corrected by the licensee and verified by IE prior to initial criticality in section 7.3 of the Technical

Specifications, were reviewed by this inspector:

- a. (Closed) TS item 7.3 (12) and item (339/79-56-02) Correction of seismic analyses where inaccurate ARS curves were used. The ARS curve problem was initially reported to the NRC on November 9, 1979 in accordance with 10 CFR 21 and 10 CFR 50.55(e). The inspector reviewed the S&W Advisory Package for item number 193 which documented the modifications or additions of supports to five piping systems in Unit 2 (a similar item was closed for Unit 1 in IE Report 338/80-07 paragraph 6e). Two of the six supports added in this package were field checked previously as documented in IE Report 338/80-07. This inspector field checked supports H-81A and SI-R-82, installed on the component cooling line 6-CC-459 and safety injection line 8-SI-440, respectively. The supports compared favorably with the design drawings MFSK-4862A-2 and MFSK-2694 series respectively, and documentation indicated proper completion of all the supports required.
- b. (Closed) T. S. item 7.3(22) also open item (339/80-17-09) modification of valve LCV-2115A limit switches. The inspector reviewed Rework Control Form RCF E 14732 of November 20, 1979, E&DCR PS 5299-2, Conditional releases CDR 326 and 327 and post maintenance tests 2-TEP-1 and 2-TEP-2 dated December 4, 1979 and 2TIP-4 (CH-011) dated April 1, 1980. This documentation appeared complete and testing adequate for the changeout of the valve position limit switches on valve LCV-215A to more sensitive micro-switches.

8. Previous Inspection Concerns

- a. (Closed) item (338/80-13-01 and 339/80-14-01): Emergency diesel generator high crankcase pressure trips. On April 6, 1980, a Colt Industries technical representative investigated difficulties encountered with the 1H EDG (See LER 80-37). Internal correspondence dated April 18, 1980 describes the technical representative's evaluation of the 1H EDG, tests, and corrective action. One corrective action taken was to increase the orifice size on the turbocharger suction on the crankcase from 5/16 inches to 11/32 inches. Discussions with licensee staff referencing the vendors trip report indicated that the 2J diesel orifice was also changed, from inches 5/16 to 11/32 inches. Subsequent testing by the vendor and the licensee indicate that the crankcase pressure spurious trip problem has been corrected.
- b. (Closed) item (338/79-50-02) Spurious EDG trips. The technical representative referenced to in paragraph 8a, above, replaced the governor on the 1H diesel with that from the 2H EDG. Subsequent venting operations followed by an increased surveillance program since April 8 have demonstrated the 1H EDG reliability in starting without a false start. Pending satisfactory operation through early May in this increased surveillance program, this item is closed.

c. (Closed) item (339/79-39-03, IEB 79-21, and Part 21 Report, Steam generator level indication errors caused by high energy line break. The following references apply to the reporting and correction of this problem:

- (1) Licensee Part 21 report serial 539 dated July 2, 1980.
- (2) Licensee Part 55 reports serials 810 and 810A of October 12, 1979 and February 25, 1980 respectively.
- (3) IEB 79-21 dated August 13, 1979.
- (4) Licensee's reponse to IEB 79-21 dated September 14, 1979.
- (5) IE Report 338/79-52 dated January 16, 1980 paragraph 5h.
- (6) License NPF-7 Technical Specifications Table 3.3-4 item 6a.

The inspector verified completion of the licensee commitments in the above listed references with the following comments and exceptions for Unit 2:

- (1) The instrument calibration procedures ICP-P-2-L-474, 475, 476, 484, 485, 486, 494, 495 and 496 which calibrate the 9 steam generator narrow range level instruments, attachment 5 indicated an incorrect 15% low-low level trip set point. The licensee implemented procedure changes to these procedures on April 22 to change the set point to 18% in accordance with TS table 3.3-4 item 6a. Prior to completion of this while the unit was still in mode 5, the licensee completed recalibration of these level instruments and the inspector verified by sampling 3 of the 9 completed procedures that the new 18% level set point had been established.
- (2) The licensee letter, serial 810 of October 12, 1979 item 4 response, indicated that steam generator level error correction curves, tables, or correction factors would be included in the emergency procedures. Upon review, it was noted that EP-2 "Loss of coolant accident" and EP-3 "Loss of Secondary Coolant" do not contain tables, curves, or correction factors but simply a single, worst case correction factor for steam generator level error for a high energy line break inside containment. It was also noted that more complete correction factors are included in standing Order 31, available in the control room. After discussions with NRC supervision, this item was considered acceptable to keep from making the emergency procedures cumbersome.
- (3) Unit 1 T. S. table 2.2-1 item 13 and table 3.3-4 still indicate the steam generator low-low level set point is 5% despite analysis indicating a minimum of 15% would respond properly in an accident scenario. The licensee requested a change to these technical

specifications in Amendment Request 15 serial 563 dated October 13, 1978 and has changed the steam generator narrow range level instrument calibration procedures to set the low-low level trip set point to 15%. Revisions to TS tables 2.2-1 and 3.3-4 shall be followed as item (338/80-20-04).

This review also includes closeout of IEB 79-21 for Unit 1 based on IE Report 338/79-52 paragraph 5h and completion of E&DCR's P2678-2, P2678A-2, and P2678B-2 for unit 2.

No items of noncompliance or deviations were identified.