



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

Report Nos. 50-338/80-35 and 50-339/80-33

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

Facility: North Anna Units 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

Inspectors: *Responsible for* 1/8/80  
 E. H. Webster Date Signed

*Responsible for* 1/8/80  
 A. P. Tatter Date Signed

Approved by: *P. J. Kellogg* 1/8/80  
 P. J. Kellogg Date Signed

SUMMARY

Inspection on October 1-31, 1980

Areas Inspected

Unit 1

This routine inspection by the resident inspectors involved 95 inspector-hours onsite in the areas of Three Mile Island Task Action Items, operational safety, surveillance observation, previous enforcement items and plant tour.

Results

Of the five areas inspected, no violations or deviations were identified.

Areas Inspected

Unit 2

This routine inspection by the resident inspector involved 143 inspector-hours onsite in the areas of license conditions, startup testing. Three Mile Island Task Action Items, plant transients, and plant tours.

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## Summary

2

## Results

Of the five areas inspected, no violations or deviations were identified in four areas. One violation was identified in one area (violation-failure to complete the action statement requirements of Technical Specification 3.7.15 - Paragraph 8).

## DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*W. R. Cartwright, Station Manager
- \*E. W. Harrell, Assistant Station Manager
- \*D. L. Benson, Superintendent, Technical Services
- \*J. R. Harper, Superintendent, Maintenance
- S. L. Harvey, Superintendent, Operations
- J. R. Straton, Mechanical Maintenance Supervisor
- D. E. Thomas, Electrical Maintenance Supervisor
- R. A. Gergquist, Instrumentation Supervisor
- \*J. R. Eastwood, Senior Engineering Technician
- D. M. Hopper, Health Physics Supervisor
- \*G. M. Stokes, Fire Marshall
- \*J. M. Mosticon, Operations Coordinator

Other licensee employees contacted included two technicians, four operators, two security force members, and several office personnel.

\*Attended one or more exit interviews

### 2. Exit Interview

The inspection scope and findings were summarized on October 3, 17, 24 and November 7, 1980 with those persons indicated in Paragraph 1 above. The fire door control issue was discussed on October 24 and November 7, at which time licensee management acknowledged the apparent violation.

### 3. Licensee Action on Previous Inspection Findings

- a. (CLOSED) Unresolved item (338/80-04-03) Overpressure Protection System Operability. This item involved verifying that the overpressure protection system installed during the first refueling outage for Unit 1 was operable prior to plant startup. This issue is discussed in detail in Paragraph 11.e.(3)
- b. (CLOSED) Deviation (338/80-19-01) Failure to Provide Instruction for Continued Ventilation of the Safeguards Building. This item identified a deviation whereby adequate direction had not been provided in operating procedures to allow continued operation of the Safeguards Building Ventilation system after a seismic event. VEPCO letter numbers 657 and 657A dated 8/20/80 and 9/19/80 respectively responded to this deviation stating that 1-AP-36 would be revised and that the Commitment Tracking System would prevent reoccurrence of missed commitments.

1-AP-36 Seismic Event revision 8 dated 8/19/80 was reviewed. The required guidance for ensuring continued ventilation of the Safeguards Building had been incorporated. Administrative Procedure 48.0 Commitment Tracking Program dated 8/6/80 was reviewed and it appeared that this procedure provided adequate guidance for the implementation of this system. In addition the Staff Assistant to the Station Manager, Health Physics Supervisor, Chemistry Supervisor and Engineering Supervisor were interviewed to determine if the implementation of the system was as discussed in ADM 48.0. The inspector had no further questions concerning this area item 338/80-19-01 is closed.

- c. (CLOSED) Deviation (338/80-19-02) Administrative Controls for MOV-SW-210A, 210B, 214A, 214B. IE Inspection Report 80-19 identified a deviation where the licensee had failed to administratively control the Service Water valves to and from the Containment Recirculation air coolers as previously committed. VEPCO letters 657 and 657A dated 8/20/80 and 9/19/80 respectively, acknowledged this deviation and provided the corrective action. This inspector verified that the breaker for the operator of each of the indicated valves, 1-MOV-SW-210A, 210B, 214A, 214B, had been locked open and that the locks and keys were under administrative control as described in Administrative Procedure 29.1 Conduct of Operations dated 7/30/80. In addition the Commitment Tracking System was reviewed as discussed in Paragraph 3.b of this report. Therefore this item (338/80-19-02) is closed.

#### 4. Unresolved Items

None Identified.

#### 5. Unit 2 License Conditions

The below listed issues are conditions required by the NRC in license NPF-7 prior to operation above 90% power. During this reporting period the licensee completed both items, as discussed below, and was authorized to proceed above 90% power on October 10, 1980.

##### a. Voltage Profile Test

License condition 2.C(7) of operating license NPF-7 for Unit 2 requires the licensee to confirm optimum tap settings on the 34.5KV, 4160 volt and 480 volt transformers. Test 1-ST-9 was conducted on September 27 and the results were reviewed by IE:Region II staff.

Prior to conducting this test the licensee found the tap settings for the offsite AC power sources were incorrectly set (see LER 390/80-82) and corrected them on September 26 and 27.

IE:Region II staff confirmed that the test results verified the adequacy of the licensee's electrical transformer load program and the tap settings. License condition 2.C(7) was reported as closed by IE on October 3, 1980.

The tap setting error, reported in LER 80-82, indicates that the transformers were not set to the correct settings because of administrative control errors. The correction of the administrative control for offsite AC power source transformers shall be reviewed when completed in January, 1981 (338/80-35-01 and 339/80-33-01).

b. Feedwater Snubber Inspection

License Condition 2.C(8) requires the licensee to conduct an inspection of the 37 hydraulic shock and sway suppressors (snubbers) prior to exceeding 90% power. On October 7, 1980, with the Unit at 90% power the inspector witnessed a portion of this inspection effort and reviewed the data on all the snubbers. The results indicated two snubbers, numbers 213 and 219 were either completely compressed or very close to it. The licensee subsequently reduced power and feedwater temperature, which reduced the snubber compression and analyzed that several monoball sliding pipe supports were stuck causing unexpected piping deflection. On October 9 seven monoball supports were modified to increase the clearance for the sliding member from the initial .007 inches to .047 inches. When the system was heated back to normal temperatures, the piping exhibited the expected thermal growth and snubber number 213 showed acceptable compression.

Snubber number 219, which had exhibited characteristics of being fully bottomed, was replaced by a fully tested snubber, but was still compressed beyond the point where it could function as designed. The licensee then modified the strut member supporting this snubber to increase the snubber shaft extension, thereby correcting the discrepancy.

In accordance with Technical Specification 4.7.10, the removed snubber number 219, was functionally tested, as found, and was operable. The inspectors requested that the licensee document this occurrence to ensure there is no question in the future regarding T.S. 4.7.10 and the operability of this snubber. License condition 2.C(8) was closed by IE on October 10.

6. Unit 2 Escalation to Power Test Program.

During the period of this inspection report various Startup Tests were observed to verify:



- a. Current revision of the controlling procedure is in use,
- b. Minimum crew measuring requirements are followed,
- c. Test prerequisites and initial conditions are met or waived, proper approvals are indicated,
- d. Special test equipment is properly calibrated and maintained,
- e. Proper data is collected and referenced to common starting point,
- f. Test acceptance criteria is met,
- g. Technical Specifications and Special Test exceptions are adhered to.

The following is a listing of the Startup Tests observed:

- 2-SU-33 Load Swing at 100% power
- 2-SU-34 Large Load Reduction at 100% power
- 2-SU-35 Rod Group Drop and Plant Trip
- 2-SU-36 Shutdown from Outside the Control Room
- 2-SU-37 Unit Trip from 100% power
- 2-SU-38 Station Blackout Test

While observing 2-SU-36 the inspector noted some differences between the Auxiliary Shutdown Panels for Unit 1 and Unit 2 and questions were raised concerning selection of parameters for display on the panels and means for providing adequate electrical isolations between the remote panel and the Control Room. These questions are currently under review by the licensee and item (338/80-35-02, 338/80-33-02) is open pending resolution of these questions.

#### 7. Steam Generator Carryover Test (Unit 2)

As authorized by operating license NPF-7 paragraph 2.C(9) the licensee used sodium-24 to conduct a steam generator moisture carryover test on Unit 2 at 90% and 100% power.

The source material arrived onsite October 17 and was injected into the steam generators at 11:15 a.m. with the plant at 90% power. The inspector witnessed the isotope injection and observed health physics coverage of the test. The inspector was satisfied with licensee radiological controls and techniques to minimize personnel exposure.

The test results were reviewed by the inspector and discussed with licensee staff personnel. The 100% power carryover result of .42% exceeds the acceptance criteria and will result in modifications to the steam generators. Operation at 100% with carryover of greater than

.25% has been analyzed by Westinghouse as acceptable for the rest of the startup program. Westinghouse is supplying design support for the steam generator modifications planned for installation during the November, 1980 outage. Completion of this modification and re-analysis of the Unit 1 steam generator carryover will be followed up in future inspections (339/80-33-03 and 338/80-35-03 respectively)

#### 8. Fire Doors

On October 24 the inspector noted fire door S71-18 to the 2H emergency diesel generator room was ajar. Upon closer inspection, it was noted that the door was pulling apart at the edges and was scrapping on the floor so that it required concerted effort to fully close. The inspector notified the Unit 2 shift supervisor that the door appeared to be nonfunctional and a fire watch was stationed within an hour, as required by Technical Specification 3.7.15.

The inspector reviewed Quality Control Inspection Reports IR-N-79-1231 dated May 31, 1979 and IR-N-80-1453 dated September 9, 1980, both of which identified this door as requiring repair. Upon discussing this with the fire marshal and the QC inspector, it was pointed out that the QC inspectors did not inform Operations of the deficiencies when found, but reported them, via inspection report, to the fire marshal who then determined whether the affected doors were functional, or not, by personal inspection (in most cases, several days later). When asked about door S71-18, the fire marshal explained why he had considered the door functional and a lengthy discussion arose. Utilizing National Fire Protection Association Standard (NFPA) 80, the Fire Inspectors Guide, and Technical Specification 3.7.15, it was determined that a fire door must be capable of closing automatically to its latch (and latching) to be considered functional. At that time, the fire marshal notified Operations of four other doors which also required fire watches on hourly monitoring as required by TS 3.7.15.

The inspector pursued the issue previously opened (item 338/79-06-02) to discern whether technical information defining what was required to make a fire door 'functional' had been promulgated so that QC, the fire marshal and the operators would all be using the same criteria to define 'functional' and so that the requirements of TS 3.7.15 could be met without awaiting fire marshal assessment. Such guidance had not been promulgated, except in part, in the surveillance procedures (PT-105.1.1, PT-105.1.2, and PT 105.1.3) for annual inspection of all fire doors (by the fire marshal)

The QC inspector felt that the fire door S71-18 was not functional at the time of his inspection, but was not positive of the functional requirements or sure of any technical specification action required.

Technical Specification 3.7.15 for Unit 2 requires that a fire watch be posted or verify fire detector operability in the area and establish an

hourly fire watch within one hour of determining the barrier to be non-functional.

Since licensee QC identified the fire door S71-18 as non-functional in May, 1979 and a fire watch or patrol was not posted until October 24, 1980, the action statement for TS 3.7.15 was not met due to a lack of appropriate acceptance criteria. This is a violation (339/80-33-04).

The licensee identified four other fire doors which were also 'non-functional' and took action as required by Technical Specifications, on October 24. One of these doors had been previously identified on a QC inspection report as being degraded, the other three had apparently been identified since September 9.

Another set of doors, not listed on the door plan as fire rated, were marked by a sign as fire doors and were found blocked open on several occasions. These doors, identified as M99-1 on the Unit 1 Rod Control and MG Set House, north side, though not fire rated, appear to function as a barrier for an area protected by carbon dioxide. The licensee related that these doors are not required to be shut to insure adequate carbon dioxide levels in the penetration area, which is below the rod control/MG set house, as demonstrated during their carbon dioxide flood testing. This issue will be followed up, by review of the flood test data, in a future inspection (338/80-35-04).

#### 9. Containment Instrument Air Isolation

While observing the conduct of operations in the Control Room the inspector noted that the automatic closure of the Containment Instrument Air Penetration isolation valves was initiated by different conditions in Unit 1 than Unit 2. TV-IA-102A and 102B, the isolation valves on Unit 1, shut automatically upon a Phase B isolation signal. This is shown in the Instrumentation Manual pages IA 15 and IA 16 Revision 1. TV-IA-202A and 202B, the isolation valves on Unit 2, shut automatically on a Phase A isolation signal as shown in the Instrumentation Manual pages IA12 and IA13 Revision 2. This subject is presently under review by the Licensee. Additionally after reviewing 1-EP-2 Loss of Reactor Coolant Accident Attachment #3, page 1 of 8 dated 7/7/80 requires that TV-1A-102A and B be verified shut upon Phase A isolation. This item is designated as 338/80-35-05, 339/80-33-05 and will remain open until this difference between Unit 1 and Unit 2 is corrected and 1-EP-2 is corrected.

#### 10. Plant Transients

On October 19, Unit 2 experienced a loss of the 2A station service transformer, resulting in a main generator trip, turbine trip and then reactor trip from 100% power. The electrical transient was automatically corrected by circuit switching, and the transformer was not damaged significantly. The fire brigade and local fire department responded although no fire ensued. After minor electrical maintenance to the



transformer, Unit 2 was returned to power early in the morning October 20. Later that morning Unit 2 tripped again during ascension to 30% when a 10-10 'C' steam generator condition occurred. The inspector observed the control room response to this trip noting operator response and use of procedures and plant response as adequate.

#### 11. Followup of Three Mile Island Lessons Learned Task Item Implementation

- a. In July 1979, the NRC published NUREG 0578 which dictated administrative, organizational, hardware and software changes required of all operating reactor plants to correct the causal errors found from the investigation of the accident at Three Mile Island. The following items, listed by NUREG 0578 item numbers, were required to be completed by January 1, 1980.

NUREG 0578 No.	Item
2.1.1	Emergency power supply-pressurizer heaters, relief valve, block valves, and pressurizer level indication.
2.1.2	Program for relief and safety valve testing.
2.1.3a	Direct indication of RV and SV position.
2.1.3b	Instrumentation to detect inadequate core cooling
2.1.4	Diverse containment isolation signals
2.1.5a	Dedicated H penetration schedule
2.1.5c	Review H recombinet operation
2.1.6a	Integrity of systems outside containment that contain radioactive material
2.1.6b	Design review of plant shielding
2.1.7a	Automatic initiation of AFW
2.1.7b	AFW flow indication
2.1.8a	Post accident sampling
2.1.8b	Increased range of radiation monitoring
2.1.8c	Improved iodine sampling
2.2.1a	Shift supervisor responsibilities
2.2.1b	Shift technical advisor
2.2.1c	Shift turnover procedures
2.2.2a	Control room access
2.2.2b	Onsite technical support center
2.2.2c	Onsite operational support center

- b. The above listed items were reviewed for Unit 1 by the Office of Nuclear Reactor Regulation (ONRR), NRC and documented in a letter dated April 23, 1980 as satisfactory, following verification by IE of the following items:

- (1) Procedures for electrical shedding in the use of pressurizer heaters. Procedures 1-EP-2, 3, 4, and 5 prescribe allowed emergency diesel generator loading and load shedding to be accomplished if the EDGs are too heavily loaded.

- (2) Backup methods to determine RV and SV position established. During the inspection documented in IE report 338/80-10, the inspectors found that the backup methods to determine RV and SV positions were covered in training and were understood by all operators interviewed. Combined ONRR and OIE emergency procedure reviews conducted later, in June and July, 1980 determined that procedural steps for this determination were not necessary and that operator knowledge and training sufficed.
- (3) Procedures to manually calculate subcooling implemented. As above, in 2), operator knowledge and training was found to be adequate by ONRR and OIE. Written procedures were not found to be necessary, as the temperature-pressure graphs posted in the control room were self-explanatory.
- (4) Administrative control of the main condensor air ejector vent line.

Pending completion of design change DC80-S11 on Unit 1 during the upcoming refueling outage (item 338/79-46-01) the licensee has established administrative controls (Standing Order 51) to assure proper air ejector discharge in the event of a safety injection and high radiation monitor condition on the air ejector discharge path.

- (5) Verification of environmental qualification study completion. OIE:RII inspectors shall review the November 1980 licensee submittal on electrical equipment environmental qualification to assure the report is complete in its equipment listing and assure the licensee has referenced the correct standards for qualification testing. However, verification of this submittal shall be conducted by ONRR by February 1, 1981 as directed by the NRC Commissioner's Memorandum and Order dated May 23, 1980. OIEs initial assessment of the licensee's report is being tracked under IE Bulletin 79-01B and shall be reported to ONRR for inclusion in the Safety Evaluation Report (SER).
- (6) Verification of modifications to the sampling system completed. IE reports 50-338/80-16, 50-339/80-17, paragraph 5f and 50-338/80-30 and 50-339/80-29 paragraph 10 discussed this item and this report closes one of the two remaining open items addressed.
- (7) Verification of increased range radiation monitors. IE report 50-338/80-16 and 50-339/80-17 paragraph 5g discussed Unit 2 and common monitors installed by the licensee. This inspector verified installation of the Unit 1 high range monitors RM-MS-170, 171, and 172 on the main steam headers by reviewing design change DC 79-66, E&DCR 10097 series and ICP-RM-1-MS 170, 171, and 172. These documents substantiated

the installation of three high range radiation detectors on the steam lines by January 31, 1980. The adequacy of the licensee's effluent monitoring procedures was verified in IE report 50-338/80-21 and 50-339/80-22 paragraph 9.

- (8) Verify equipment and procedures adequate for radioiodine analyses IE report 50-338/80-21 and 50-339/80-22 paragraph 11.b. discussed the adequacy of the Ge(Li) detector and alluded to the silver zeolite cartridges. This inspector has verified silver zeolite cartridges on hand and in emergency kits. IE report 50-338/80-26 and 50-339/80-31 paragraph 5a discusses field iodine sampling capabilities using an RM14 ratemeter, a procedure IE Region II is evaluating. Since that time, the licensee has procured a portable single channel analyzer for radioiodine analysis. IE:Region II analysis of the adequacy of the procedures for radioiodine sampling shall be followed up in future inspections (338/80-32-03 and 339/80-30-03).

No items of noncompliance or deviations were identified and IE verifications as required by the April 23 letter are complete except as noted in Paragraphs b(5) and b(8) above.

- c. In response to concerns that all NUREG 0578 Category A items (see a. above) were completed as required, the following status listing of OIE verifications was compiled. The item numbers are from NUREG 0578, the IE report numbers do not include the respective docket numbers, and items indicated. Some items are also discussed in the following paragraph e.

Item No.	Unit 1 Rpt.	Open Items	Unit 2 Rpt.	Open Items
2.1.1	80-04 para 8d 80-16 para 5a (also see below)		80-17 para 5a 80-20 para 5a (also see below)	
2.1.2	No action required by IE			
2.1.3a	80-16 para 5b (also see below)		80-17 para 5b 80-29 para 9 (also see below)	
2.1.3b	80-16 para 5c		80-17 para 5c	
2.1.4	79-10 para 6 (also see below)		79-15 para 6 (also see below)	
2.1.5a	No action required by IE			
2.1.5c	See paragraph 13 of this report			

2.1.6a	80-30 para 6	80-29 para 6	
2.1.6b	No action required by IE		
2.1.7a	80-16 para 5d	80-17 para 5d	
2.1.7b	80-16 para 5e	80-17 para 5e	
2.1.8a	80-16 para 5f 80-30 para 10 (also see paragraph 14d of this report)	80-17 para 5f 80-29 para 10	80-17-03
2.1.8b	80-16 para 5g See para b(7)above	80-16 para 5g	
2.1.8c	80-21 para 9 80-32 para 6b(4)(b) 80-32-03 See para 6(8) above	80-22-para 9 80-30 para 6.b(4)(b) See para b(8) above	80-30-03
2.2.1a	80-16 para 6d and 6f	80-17 para 6d and 6f	
2.2.1b	80-10 para 5 (Generic item)(Unit 2 rpt)	80-10 para 5	
2.2.1c	80-16 para 6e	80-17 para 6e	
2.2.2a	80-16 para 6g	80-17 para 6g	
2.2.2b	(Unit 2 rpt)80-10 para 9 (Generic item) 80-32 para 6d(5)(b) 80-32-05 80-26 para 5e	80-10 para 9 80-30 para 6d(5)(b) 80-31 para 5e	80-30-05
2.2.2c	(Unit 2 rpt) 80-10 para 8 (Generic item)	80-10 para 8	

d. The above listed reviews and separate reviews by ONRR resulted in ONRR acceptance of the Unit 2 category A item completion as documented in Safety Evaluation Reports (SERs) Supplements 10 and 11 dated April and August 1980, respectively. In these documents three items were identified for IE followup to complete the TMI-2 items for licensing for full power operation.

- (1) Supplement 10 item II.K.1 (NUREG 0660 item number, not a NUREG 0578 item): Verify emergency procedures which specify operation of reactor coolant pumps in accordance with the approved owners group guidelines. This issue was verified and documented in IE reports 338/80-10 and 339/80-08 para-

graphs 5 through 8 and followed up in IE report 338/80-13 and 339/80-14 paragraph 71.

- (2) Supplement II item I.D.1 (NUREG 0660 item number, not a NUREG 0578 item): Verify control room human engineering modifications completed. IE report 50-339/80-29 paragraph 12 documented the IE verification of the control room modifications. Several items of minor significance are still being followed up, as indicated in that report.
- (3) Supplement II item I.E.11 (NUREG 0660 item number related to NUREG 0578 items 2.1.7a and b): two items
  - (a) Verify procedures in place for AFW system operation on loss of the emergency condensate storage tank.
  - (b) Verify procedures in place for redundant independent valve lineup verification for the AFW system.

Both of the above items were verified by IE and documented in IE report 50-339/80-29 paragraph 15.

- (c) IE followup and verification of Category A items not previously inspected or documented (See paragraph c above for those items already closed and the referenced inspection reports).

Upon review of all IE reports on the TMI actions taken as a result of NUREG 0578 and after, the following items were not documented as having been reviewed and verified by IE.

- (1) NUREG 0578 item 2.1.1: Provide redundant emergency power for pressurizer heaters to sustain natural circulation. The inspector verified by reviewing both Units electrical prints and in-plant walkdowns of the panels and breakers that 2 of the 5 pressurizer heaters are power from separate 480 volt emergency buses. Backup heater panel 1 (215 KW) is powered off of the "J" bus and backup heater panel 4(270 KW) is powered off of the "H" bus. Control power comes from three 120Volt AC vital control cabinets. Two of these cabinets can be powered from the "H" bus and one from the "J" bus via stepdown transformers.
- (2) NUREG 0578 item 2.1.1: Provide emergency power to the pressurizer level indication. The three pressurizer level instruments are powered from 3 separate 120Volt vital AC cabinets which receive normal power from separate inverters. Upon inverter failure, two of these cabinets receive power from the "H" bus and one from the "J" bus.
- (3) NUREG 0578 item 2.1.1: Provide reliable power supply to operate the pressurizer PORVs and PORV block valves. The PORV block



valves are motor operated valves which receive power from the emergency buses "H" and "J" and are aligned such that the same bus feeds a PORV solenoid operator as does its PORV block valve operator. This alignment is satisfactory owing to the "fail shut" design of the PORV on loss of power.

The Unit 1 PORV backup motive force arrangement (identical to Unit 2) was described in IE report 50-338/80-04. In that report, unresolved item 80-04-03 was identified owing to the lack of evidence to confirm that this system was operable prior to startup from the refueling outage. During this inspection, design change OC 78-44 was reviewed in its completed form. Documentation confirmed completion of functional test of both PORVs using the nitrogen supply directly and as a backup source. These tests, conducted December 19 and 20, 1979 demonstrated adequate PORV performance under static conditions. Unresolved item 80-04-03 is considered closed and the operability of the system, prior to startup from the first refueling outage both as a redundant motive force and for Mode 5 overpressure protection, is verified. More recent concerns on this systems operability are discussed in paragraph 12.

- (4) NUREG 0578 item 2.1.3a. Installation, calibration and procedures for use of the pressurizer RV and SV position monitoring system. Installation of acoustical valve position monitors was verified as documented in IE report 50-338/80-16 and 50-339/80-17. Calibration of the Unit 2 monitors was documented in IE report 50-339/80-29. The calibration of the Unit 1 monitors using procedure ICP-1-VMS-01 to the revised Babcock and Wilcox alarm set points was verified to have occurred July 3, 1980. The inspector also verified the existence of Alarm Response procedures for both units (1-AR-3 and 2-AR-3 for window D1) and for routine calibration of each monitor (ICP-VMS-01, each unit).
- (5) NUREG 0578 item 2.1.4 Diverse isolation signals to containment penetrations. The original safety injection, phase A and phase B isolation features of both units was evaluated by ONRR to meet the requirements of this item. The design problems, associated now only with Unit 1 SI reset control on the air ejector exhaust valve to containment and the Main Steam Isolation reset control on the main steam trip valves, shall be modified during the Unit 1 refueling outage in December (item 338/79-50-06)

## 12. Pressurizer PORV Backup Motive Power

NUREG 0578 TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations item 2.1.1.3.2 required that the Pressurizer PORVs shall be capable of being supplied from either the emergency or off site power sources. VEPCO letter 806/092779 dated 10/25/79 and VEPCO letter 681 dated 8/24/79 state that the motive power for the PORVs would be upgraded by addition of piping to allow the nitrogen supply

system to be a backup source of motive power. Additionally it was stated that this nitrogen supply system was sized for 120 valve operations. During periods of observation in the Control Room, the inspector noted that both Unit 1 and Unit 2 have locked in low pressure alarms on this backup N supply system and there appears to be no means of determining the Nitrogen pressure and therefore the capability of the system to function as a backup motive force without a Containment entry. This concern has been addressed to Station Management and is designated as followup items 338/80-35-06 and 339/80-33-06. These items will remain open until the above questions have been resolved.

### 13. Engineered Safety System Valve Lineup

While reviewing the valve lineup for the Containment Atmosphere Cleanup (HC) System the inspector noted the following problem areas:

- a. The valve lineup check sheet for the Containment Atmosphere Cleanup System. 1-OP-63A Revision 2 dated 7/30/80 did not have listed 1-HC-72, High Suction Inlet Isolation to HC-100 Hydrogen Analyzer.
- b. 2-HC-T-4, Sample Point Isolation Valve, was incorrectly tagged in the field as 2-HC-T-1 Sample Bypass.
- c. 2-HC-T-1, Sample Bypass Valve, was incorrectly tagged in the field as 2-HC-T-4, Sample Point Isolation Valve.

Through further investigation, the inspector determined that although 2-HC-22 was not on the valve lineup sheet, the valve was in its correct position and administratively controlled. Also 2-HC-T-1 and 2-HC-T-4 were verified to be their correct position.

A review of Station Records showed that the last retrievable Valve Lineup Check Off was completed on 2/2/78 prior to modifications made as a result of TMI Requirements. Also that Design Change 80-S12 "Short Term Containment Atmospheric Sampling System" did not require a valve lineup check after completion of the system modifications.

At the close of this inspection period, these items are under review by Station Management. This item (338/80-35-07, 339/80-33-07) is unresolved.

### 14. Previous Inspector Concerns

- a. (Closed) item (338/79-16-03) Completion of overdue surveillance tests. In early 1979, the licensee found that several required surveillance tests would be due prior to the scheduled refueling outage in October. LER 79-031 reported three of these surveillances were overdue and committed to completing all three by May 5, 1979. Subsequently two of these tests were completed in early April, 1979 and the third was authorized an extension until October, 1979 by Amendment 15 to the Technical Specifications. The inspector

reviewed the following surveillance test results to confirm satisfactory completion of all three tests.

- (1) PT 3.3.2 completed April 5, 1979 as required by T.S. 4.3.1.1.1.
- (2) PT 87 completed April 3, 1979 as required by TS 4.8.2.3.2 c and d.
- (3) PT 36.7.3 completed October 2, 1979 as required by TS 4.3.2.1.3

The inspector had no further questions in this area.

- b. (Open) item 338/80-30-06) flow testing auxiliary feedwater pump 1-FW-P-3B. On October 2, 1980, the licensee ran test 1-5T-31, to verify that AFW pump 1-FW-P-3B could maintain 340 gpm flow to the steam generator under accident conditions. This test was required following analyses indicating that the pump would only be capable of 335 pgm under worst case anticipated accident conditions. The test results indicated a flow of 338 gpm at the pump discharge pressure calculated in the analysis, but did not confirm the friction loss calculations in that analysis, which, if inaccurate, would change the calculated pump discharge pressure and therefore, the flow. The licensee committed to conduct another test of the AFW pump to verify the friction line losses during the refueling outage scheduled for late December, 1980. This item remains open pending completion of that test.
- (c) (Closed) item (339/80-29-04) Computer Points Limit Log, IE Inspection Report 338/80-30, 339/80-29,. paragraph 12.f.(2) discussed the Computer Point Limit Log and left this item open pending revision to the Station Administrative Procedures. During this inspection period, Administrative Procedure 29.1 Conduct of Operations revision dated July 30, 1980 was verified to include the requirements for the maintenance of the Computer Point Limit Change Log and for periodic reviews of this log.
- (d) (Closed) items (339/80-29-01) Containment Sampling. I. E. Inspection Report 338/80-30, 339/80-29, paragraph 10 discussed the requirements for Post Accident Sampling of the Containment Atmosphere and that not all required equipment was on site to conduct this sampling. During this inspection period the inspector verified that the required syringes were on hand to allow this type of sampling.

#### 15. Plant Tours

Tours of various plant areas were conducted during the inspection period in conjunction with other inspection activities. The following items, as available, were observed:

## a. Fire Equipment

Operability and evidence of periodic inspection of fire suppression equipment.

## b. Housekeeping

Minimal accumulations of debris and maintenance of required cleanliness levels in systems under or following testing. Observations regarding certain areas were given to station management who acknowledged the inspector's comments.

## c. Equipment Preservation

Maintenance of special preservative measures for installed equipment as applicable.

## d. Component Tagging

Implementation and observance of equipment tagging for safety or equipment protection.

## e. Communication

Effectiveness of public address system in all areas toured.

## f. Equipment Controls

Effectiveness of jurisdictional controls in precluding unauthorized work on systems turned over for initial operations or preoperational testing.

## g. Foreign Material Exclusion

Maintenance of controls to assure systems which have been cleaned and flushed are not reopened to admit foreign material.

## h. Security

Implementation of security provisions for both Units.

Within the above areas, no items of noncompliance or deviations were observed when compared to the applicable station program and procedures.