

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-338, 50-339  
License Nos.: NPF-4, NPF-7

Report Nos.: 50-338/99-07, 50-339/99-07

Licensee: Virginia Electric and Power Company (VEPCO)

Facility: North Anna Power Station, Units 1 & 2

Location: 1022 Haley Drive  
Mineral, Virginia 23117

Dates: October 10 through November 20, 1999

Inspectors: M. Morgan, Senior Resident Inspector  
J. Canady, Resident Inspector  
T. Morrissey, Project Engineer (Sections O8.1, O8.2 and M1.2)  
F. Wright, Senior Radiation Specialist (Section R1.2, R1.3, R1.4 and R1.5)

Approved by: R. Haag, Chief, Reactor Projects Branch 5  
Division of Reactor Projects

Enclosure

## EXECUTIVE SUMMARY

### North Anna Power Station, Units 1 & 2 NRC Integrated Inspection Report Nos. 50-338/99-07, 50-339/99-07

This integrated inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a six-week period of resident inspection; in addition, it includes results of announced inspections by a regional project engineer and a senior radiation specialist.

#### Operations

- Unit 2 reactor startup and subsequent ascension to 30 percent power were well controlled. Operators received training on startup activities prior to the actual startup. The operators demonstrated an appropriate level of understanding of the unit power ascension procedure (Section O1.2).
- Freeze protection procedures were comprehensive and effectively implemented. The overall condition of the plant's freeze protection systems was acceptable. Engineering continues to evaluate long standing heat trace (HT) system deficiencies and the licensee continues in their efforts to improve overall HT system performance (Section O1.3).
- On November 10, Unit 2 power was reduced to about 15 percent and the turbine-generator was taken off-line in order to replace faulty trip block diaphragms. The inspectors noted that operation's activities to reduce and subsequently restore unit power were appropriately performed (Section O1.4).

#### Maintenance

- Observed maintenance activities which included replacement of the Unit 2 main turbine auto stop oil trip block diaphragms and repair of a turbine building oil room fire damper were properly performed. Personnel performing the repair work were knowledgeable and followed specific work package and technical manual instructions (Section M1.1).
- Periodic tests for the 1H emergency diesel generator battery, the station blackout diesel, and leak testing of instrument air check valves were properly performed. Plant test procedures were properly followed by knowledgeable workers who used self-checking techniques prior to component/system operation (Section M1.2).

#### Engineering

- An Appendix R fire damper in the Technical Support Center ventilation system failed its functional test due to the surrounding duct work interfering with the damper's movement. A non-cited violation was identified for failure to install the fire damper in accordance with a license condition and the Updated Final Safety Analysis Report (Section E2.1).
- An unresolved item was identified to review if a 10 CFR 50.59 evaluation was required for a modification which restored an Appendix R fire damper to operable status (Section E2.1).

Plant Support

- Licensee procedures and documents reviewed for the preparation, packaging and transportation of the solid waste disposal of the burnable poison rod assemblies (BPRAs) met licensee and regulatory requirements for controlling solid radioactive materials. BPRAs processing was efficient and performed in accordance with approved procedures. Radiological protection controls were appropriate for the radiological conditions and hazards associated with the process (Section R1.2).
- Documentation of radioactive material shipments met NRC and Department of Transportation requirements (Section R1.3).
- The waste gas treatment system was adequately maintained and capable of performing functions described in the licensee's Updated Final Safety Analysis Report (Section R1.4).
- Operability of the Post Accident Sampling System was demonstrated. The staff demonstrated appropriate proficiency in operating the Post Accident Sampling System equipment (Section R1.5).

## Report Details

### Summary of Plant Status

Unit 1 operated at or near 100 percent power for the entire inspection period.

Unit 2 began the inspection period shutdown for a scheduled refueling outage. The unit was returned to service on October 10 and full power was reached on October 17. On November 10, power was reduced to 15 percent to replace faulty turbine-generator (TG) electro-hydraulic (EHC) system auto stop oil (ASO) diaphragms that had been installed during the recent refueling outage. The diaphragms were replaced and full power was restored on November 12. The unit remained at 100 percent power for the remainder of the inspection period.

### I. Operations

#### **O1 Conduct of Operations**

##### **O1.1 Daily Plant Status Reviews (71707, 40500)**

The inspectors conducted frequent control room tours to verify proper staffing, operator attentiveness, and adherence to procedures. The inspectors attended plant status meetings to maintain awareness of facility operations and reviewed operator logs to verify operational safety and compliance with plant technical specifications (TSs). Instrumentation and safety system line-ups were periodically reviewed to assess operability. Frequent facility tours were conducted to observe equipment status and housekeeping conditions. Licensee plant issues were reviewed to ensure that potential safety concerns were properly reported/resolved. The inspectors witnessed daily plant operations and determined that these operations were appropriately conducted in accordance with regulatory requirements.

##### **O1.2 Unit 2 Startup From Refueling Outage (RFO) Observations**

###### **a. Inspection Scope (71707)**

The inspectors observed numerous Unit 2 startup activities.

###### **b. Observation and Findings**

On October 10 the inspectors observed the Unit 2 restart following the fall RFO. Operators who performed the unit startup had received training on expected startup activities prior to performing the actual startup. The unit startup was performed in accordance with operating procedures and applicable TS requirements. The inspectors evaluated reactivity management, main TG startup activities, supervisory oversight, and overall operator attentiveness. No problems were identified by the inspectors.

On October 10 after the main TG was synchronized to the grid, the inspectors observed power ascension to a planned chemistry hold point of 30 percent power. The inspectors observed the presence of management oversight. The inspectors observed the transfer of house loads from the reserve station service (RSS) transformers to the unit station service transformers. Senior reactor operators (SROs) were involved in the transfer evolution and provided effective oversight. Communications between the control board

reactor operator and the SRO were effective during the transfer. The evolution was carefully performed.

On many occasions during the ascent to 30 percent power, the inspectors independently checked redundant indications of reactor and secondary plant power. Indications were consistent and expected for conditions. Through the review of the unit power ascension procedure and discussions with operators, the inspectors confirmed that appropriate emphasis was placed on verification of unit power by redundant indications. Operating procedure guidance for the startup was comprehensive and operators were knowledgeable in this area.

c. Conclusions

Unit 2 reactor startup and subsequent ascension to 30 percent power were well controlled. Operators received training on startup activities prior to the actual startup. The operators demonstrated an appropriate level of understanding of the unit power ascension procedure.

O1.3 Freeze Protection Readiness

a. Inspection Scope (71714, 37551)

Throughout the inspection period, the inspectors examined licensee actions, procedures, and equipment needed for plant freeze protection. Several Unit 1 and 2 plant walkdowns were performed. The inspectors also discussed the current condition of the plant's heat trace (HT) system and other freeze protection components with the system engineer.

b. Observations and Findings

The plant procedure for cold weather operation, 0-GOP-4, "Cold Weather Operations," Revision 17, was in effect and had been initially performed on October 24, 1999. This plant procedure is performed monthly during cold weather operations. The inspectors reviewed 0-GOP-4 requirements and independently verified that many procedural actions were completed properly. The inspectors focused their inspection on risk significant areas associated with the following systems/locations: auxiliary feed water pump house, the low head safety injection system, the condensate storage tank, refueling water storage tank (RWST), and the emergency diesel generator. The casing cooling component and the primary grade water storage tank areas were also checked.

Typical checks for buildings, systems, and components included verification of breaker positions for the heater fan units, proper operation of ventilation louvers and dampers, and proper positioning of heater fan switches. Important instrumentation located outside the buildings, instruments exposed to outside ambient conditions, and those instruments which have had a history of freezing (i.e., the RWST level transmitters) were also checked. The inspectors identified no significant problems during their checks. The inspectors determined that 0-GOP-4 had been properly implemented.

The inspectors performed walkdowns of piping insulation and HT circuits for various plant systems exposed to freezing conditions. The inspectors noted that the general condition of these components was acceptable. However, the inspectors discovered several instances where the insulation was degraded. The insulation appeared to have

been walked upon in several locations. This caused a separation of insulation seams and breakage of insulation coatings and sealants. These conditions created potential rain/snow entry points through the flashing and insulation. The inspectors discussed the deficiencies with the system engineer.

The inspectors also discussed with the system engineer the status of preventive maintenance (PM) on the freeze protection portions of the HT system. The engineer successfully demonstrated that quarterly PMs were routinely performed and that each of the HT circuits had been adjusted or replaced in the last two years.

The inspectors discussed with the system engineer the status of efforts to improve the HT system's reliability. As previously discussed in NRC Inspection Reports Nos. 50-338, 339/97-12, Section O2.1 and 50-338, 339/98-10, Section O1.2, the system is antiquated and many of the system's component parts (specifically the system control cards) are either no longer available or they are no longer supported by the vendors. Over the last two years, defective HT system control cards have been replaced with new cards that are manufactured by other vendors. A licensee request for engineering assistance (REA) 97-143 has been written to resolve on-going HT system control card problems and discussions of a permanent resolution to the problem continue. At the end of the inspection period, no design change package had been developed for the REA.

c. Conclusions

Freeze protection procedures were comprehensive and effectively implemented. The overall condition of the plant's freeze protection systems was acceptable. Engineering continues to evaluate long standing HT system deficiencies and the licensee continues in their efforts to improve overall HT system performance.

O1.4 Unit 2 TG Removal from Service To Replace Faulty EHC ASO Diaphragms (71707)

In a vendor letter dated November 4, 1999, the licensee was informed that faulty ASO diaphragms may have been installed in the Unit 2 TG trip blocks during the Fall 1999 RFO. On November 10, licensee personnel and the inspectors through visual inspections of the trip blocks confirmed that the trip blocks contained the faulty diaphragms.

On November 10, Unit 2 power was reduced to about 15 percent and the TG was taken off-line in order to replace the diaphragms. Replacement of the diaphragms was completed on November 11, and the unit was returned to 100 percent power operation on November 12. The inspectors observed portions of the diaphragm replacement activities (See Section M1.1). The inspectors also noted that operation's activities to reduce and subsequently restore unit power was appropriately performed.

O8 **Miscellaneous Operations Issues (92700)**

O8.1 (Closed) Licensee Event Report (LER) 50-338/98-005-00: Safety valve setpoints out-of-tolerance due to set point variance. During the Unit 1 RFO in September 1998, the setpoints for two main steam safety valves (MSSVs) were found out-of-tolerance. These valves were refurbished, tested, and placed back into service.

Based on analysis of MSSV and pressurizer safety valve (PSV) historical data, the licensee established preventive maintenance procedures to disassemble, inspect, repair, reassemble, and test one bank of MSSVs each refueling outage in addition to any valves in the other two banks with an out-of-tolerance setpoint discovered during testing. Over a period of three refueling cycles each of the 15 MSSVs will be refurbished at least once. The same procedures are in place for the PSVs. One of three PSVs is refurbished each RFO. Additionally, the setpoint of each MSSV and PSV is checked every RFO. This program has been in effect for the last two refueling cycles for both units.

The licensee performed an evaluation of having two MSSVs with setpoints out of tolerance and determined the "as found" setpoints would not have subjected the plant to an overpressure condition outside of that previously evaluated in the licensing analysis. After discussing the licensee's program for safety relief valves with the system engineer and reviewing similar LERs submitted by the licensee in the past, the inspectors determined that the licensee's safety valve maintenance program is adequate. This is evidenced by a reduction of MSSVs and PSVs found with setpoints out-of-tolerance. During the previous Unit 1 RFO in May 1997, four MSSVs and one PSVs were found out-of-tolerance and recently, during the Unit 2 RFO in September 1999, no MSSVs or PSVs were found out-of-tolerance.

- O8.2 (Closed) LER 50-339/98-003-01: Large bore snubbers inoperable. During the April 1998 Unit 2, RFO, seven of twelve large bore snubbers failed to meet the acceptance criteria established in the licensee's maintenance program. A licensee evaluation determined that the failure of snubbers to meet the acceptance criteria did not result in the reactor coolant system pressure boundary being in an overstressed condition. The licensee replaced the twelve large bore snubbers with a different model during the RFO in accordance with a previously approved design change. During the September 1999 Unit 2 RFO, the licensee tested nine of the twelve large bore snubbers in accordance with Periodic Test 2-PT-79.3.L.1, "LISEGA Large-Bore Hydraulic Snubber Functional Testing," Revision 2, and found them all to meet the acceptance criteria. The inspectors reviewed the data from the completed procedure and agreed with the licensee's results. Seven of the snubbers tested were replacements for the seven that failed during the April 1998 RFO and two other snubbers were tested to satisfy the 10 percent sampling requirement of the technical specifications. Additionally, 10 of the 12 Unit 1 large-bore snubbers were replaced in previous outages. The remaining two snubbers are scheduled to be replaced during the spring 2000 Unit 1 RFO.

## II. Maintenance

### **M1 Conduct of Maintenance**

#### **M1.1 Observation of Preplanned Maintenance Activities**

##### **a. Inspection Scope (62707)**

The inspectors observed portions of work performed under the following WOs:

- 420152-01 Replacement of Unit 2 Turbine-Generator ASO Trip Block Diaphragms
- 419137-01 Repair of Turbine Building Oil Room Fire Damper (1-FP-FDMP-1033)

b. Observations and Findings

All observed work was properly approved by the operations department and included on the plan of the day. The inspectors found that work performed under these activities was professional and thorough. Work was performed with the work package present and in use. Accompanying documents such as supplemental instructions and technical manual information were properly followed and documentation of performed work activities was complete and contained appropriate details. The inspectors noted that craft personnel were knowledgeable of their assignments and that craft supervisors periodically monitored the work.

c. Conclusions

Observed maintenance activities including replacement of the Unit 2 turbine-generator auto stop oil trip block diaphragms and repair of a turbine building oil room fire damper, 1-FP-FDMP-1033 were properly performed. Personnel performing the repair work were knowledgeable and followed specific work package and technical manual instructions.

M1.2 Periodic Testing (PT) Observations

a. Inspection Scope (61726)

The inspectors observed portions of the following PTs:

- 1-PT-88H, "Emergency Diesel Generator 1H Battery Capacity Test," Revision 6
- 0-PT-82.14, "SBO Diesel Generator Test (Start by Simulated LORSS Power)," Revision 7
- 2-PT-213.25A, "Valve Inservice Inspection (2-IA-TK-5A) Check Valve Verification," Revision 0-P1
- 2-PT-213.25B, "Valve Inservice Inspection (2-IA-TK-5B) Check Valve Verification," Revision 0-P1

b. Observations and Findings

The inspectors verified that the tests were properly approved by station management and documented on the plan of the day prior to performance. The test instructions were being followed, and problems, when encountered during the performance of the work, were properly dispositioned. The test personnel were knowledgeable of their assigned tasks. Workers were observed pointing to label plates prior to operation of components as a way to verify component identification.

c. Conclusions

Periodic tests for the 1H emergency diesel generator battery, the station blackout diesel, and leak testing of instrument air check valves were properly performed. Plant test procedures were properly followed by knowledgeable workers who used self-checking techniques prior to component/system operation.

### III. Engineering

#### **E2 Engineering Support of Facilities and Equipment**

##### **E2.1 Inoperable Technical Support Center (TSC) Appendix R Fire Damper**

###### **a. Inspection Scope (37551)**

The inspectors reviewed the failure of TSC Appendix R fire damper 1-FP-FDMP-1051A to properly close when functionally tested and actions taken to resolved this item.

The inspectors reviewed appropriate plant procedures, the facility operating license, the Updated Final Safety Analysis Report (UFSAR), station fire protection 10 CFR 50 Appendix R report, and the national fire protection association (NFPA) codes.

###### **b. Observations and Findings**

In the late 1980's as part of their response to NUREG 737, "Clarification of TMI Action Plan Requirements," the licensee reconfigured a space adjacent to the control room building to be a TSC. Appendix R fire damper 1-FP-FDMP-1051A was installed at that time as part of the TSC ventilation system. This fire damper serves to isolate the TSC ventilation from the turbine building. The fire damper is an accordion-style damper which is installed horizontally inside the ventilation duct. The fire damper is designed to spring close along a duct work mounted track whenever a fusible link opens.

Since initial installation and construction testing, the fire damper, along with other Appendix R fire dampers, have only been visually inspected every 18 months to demonstrate operability. A licensee fire protection (FP) program self-assessment determined that functionally testing Appendix R fire dampers every four years would better demonstrate their operability. On October 19, 1999, fire damper 1-FP-FDMP-1051A failed to fully close during its first functional test under the new program. A second mechanical fire damper, a non-Appendix R damper associated with the main turbine lube oil storage area, also failed its function test. Both the TSC and lube oil storage area dampers failed in a similar manner. The licensee determined that the duct work surrounding the fire damper was deformed and restricted the damper's movement. The licensee attributed the deformation, in part, to expansion of fire retardant foam and sealant used around the duct work adjacent to the damper.

To square up the duct work and correct the problem, stiffeners, i.e., steel rods, were installed inside the duct work. The TSC fire damper was functionally retested and returned to service on October 22. The installation of the stiffeners was discussed and justified by engineering transmittal (ET) ME-99-017, "Ventilation Duct Stiffening Device for Repair of Fire Dampers 1-FP-FDMP-1033, 1-FP-FDMP-1051A," Revision 0. The installation of the stiffeners was performed under work order (WO) 419138-01. The licensee performed functional testing of all Appendix R dampers and no other functional failures were found.

North Anna Unit 1 license condition 2.D(3).u, amendment number 162, which refers to fire protection, states, in part, "VEPCO shall implement and maintain in effect all provisions of the approved fire protection program as described in the UFSAR for the facility." The facility's UFSAR, Section 9.5.1.1, Revision 35, further states that the way

the station's program for FP complies with General Design Criterion 3 is contained in the plant's 10 CFR 50 Appendix R report. Chapter 12 of the Appendix R report, page 12-28, Revision 16, states, in part, that "fire dampers are installed in the penetrations of fire rated barriers (and they are) mounted in a sleeve." The failure to properly install fire damper 1-FP-FDMP-1051A is identified as a violation of license condition 2.D(3).u, amendment number 162. This Severity Level IV violation is being treated as a non-cited violation (NCV), consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Plant Issue 1999-2648 and is identified as NCV 50-338, 339/97007-01.

The inspectors discovered that following the unsuccessful functional test, the modification which restored the fire damper to service did not install sleeving as called for in the station's Appendix R report. The inspectors' review of ET ME-99-017 and discussions with the engineer (who complete the activity screening checklist to determine if an evaluation per 10 CFR 50.59 was required) revealed that the station's Appendix R report contents had not been considered. The inspectors also determined that the required sleeving was not installed on other Appendix R dampers. Additional NRC review is required to determine if the licensee has complied with 10 CFR 50.59, "Changes, tests and experiments." Pending this additional review, this item is identified as unresolved item (URI) 50-338, 339/97007-02.

c. Conclusions

An Appendix R fire damper in the Technical Support Center ventilation system failed its functional test due to the surrounding duct work interfering with the damper's movement. A non-cited violation was identified for failure to install the fire damper in accordance with a license condition and the Updated Final Safety Analysis Report. An unresolved item was identified to review if a 10 CFR 50.59 safety evaluation was required for the modification, which restored the damper to operable status.

#### IV. Plant Support

### **R1 Radiological Protection and Chemistry (RP&C) Controls**

#### **R1.1 General Observations (71750)**

On numerous occasions during the inspection period, the inspectors reviewed radiation protection (RP) practices including radiation control area entry and exit, survey results, and radiological area material conditions. No discrepancies were noted, and the inspectors determined that RP practices were proper.

#### **R1.2 Solid Radioactive Waste Controls**

##### **a. Inspection Scope (86750)**

The inspectors reviewed and evaluated radiological controls and solid radioactive waste processing, transportation and disposal activities for irradiated burnable poison rod assemblies (BPRAs) against applicable regulatory requirements and licensee procedures.

The inspectors observed and reviewed radiological controls and monitoring at the work site including radiological surveys, radiation work permits, and pre-job briefing records for the project. Conduct of radiation surveys to determine BPRAs dose profiles and the crushing and shearing processes were observed directly. Approved procedures, a safety evaluation for the process, and shipping records for BPRAs disposal were reviewed and evaluated.

b. Observations and Findings

The licensee built and maintains an Independent Spent Fuel Storage Installation (ISFSI) to free space in the spent fuel pool for storing and movement of off-loaded fuel bundles. Fuel bundle insert components were not previously permitted to accompany spent fuel assemblies placed in the spent fuel dry storage casks at the ISFSI. The licensee removed approximately 60 BPRAs each fuel cycle and had accumulated approximately 300 irradiated BPRAs.

A vendor prepared the BPRAs for packaging, transportation and final disposal at a licensed radioactive waste disposal site. High radiation levels associated with the BPRAs required extensive radiation shielding and all handling, crushing, shearing, and cask loading operations were performed underwater. The BPRAs were identified by a serial number and surveyed at several points to develop a dose profile for each assembly. The dose profiles were used to determine the radioactivity and waste characterization of the assemblies needed for transportation and radioactive waste disposal requirements. The vendor's process crushed the assemblies and then cut them into small pieces where they fell into a shipping liner located in the spent fuel pool. The filled liners were placed in an approved shipping cask in the spent fuel pool for transportation. The radioactivity of each cask transported was significant, approaching 6,000 curies in some casks with a disposal volume of approximately 58 ft<sup>3</sup>. The licensee had shipped five BPRAs casks and was filling the last liner during the inspection.

c. Conclusions

Inspectors found all licensee procedures and documents reviewed for the preparation, packaging and transportation of the solid waste disposal of the burnable poison rod assemblies (BPRAs) met licensee and regulatory requirements for controlling solid radioactive materials. BPRAs processing was efficient and performed in accordance with approved procedures. Radiological protection controls were appropriate for the radiological conditions and hazards associated with the process.

R1.3 Transportation of Radioactive Materials

a. Inspection Scope (86750)

The inspectors reviewed licensee transportation shipping papers and other shipping records for compliance with applicable NRC and Department of Transportation shipping requirements.

b. Observations and Findings

No shipments of radioactive materials were made during the inspection. From a review of records for several radioactive material shipments, the inspectors verified that the

required paperwork was properly completed in accordance with applicable requirements. The process of preparing typical radioactive material shipments, including quality control measures, were discussed with licensee personnel during the review.

c. Conclusions

Documentation of radioactive material shipments met NRC and Department of Transportation requirements.

R1.4 Radioactive Waste Gas Storage Tanks (WGSTs)

a. Inspection Scope (84750)

The inspectors reviewed and evaluated the status of radioactive gas decay storage systems. The inspectors reviewed drawings, calibration records, and the operability of the gaseous radioactive waste treatment system with the assigned system engineer.

b. Observations and Findings

There were no significant problems identified with the system components. The inspectors verified that the monitoring equipment in the control room was operable and operations had abnormal response procedures for system alarms and failures. System pressure gauges were tested as required by licensee procedures, and the tanks and tank relief valves were inspected and tested periodically. The inspectors visually inspected the system with the exception of the WGSTs which located in a confined space. The WGSTs tanks are double walled tanks. The inner tank wall is stainless steel and outer wall is carbon steel. The inner and outer tanks each have relief valves and rupture disc assemblies with the relief valve set to lift before the disk ruptures. The inspectors found that the two WGSTs (A & B) had been recently inspected by a State of Virginia inspector. The state inspector had identified three code violations on the B tank. Identified problems included corroded bolts on the large manway cover and blistered paint on the outer tank shell. The licensee performed corrective actions for these problems. The licensee also replaced a corroded drain valve and pipe on the B tank. The B tank passed a hydrostatic test September 9, 1999. Certification of both tanks was approved by the state inspector.

The inspectors also reviewed the locations of possible hydrogen accumulations throughout the plant that were defined in the licensee's safety procedures. The licensee also had hydrogen monitoring equipment to locate possible hydrogen leaks in those areas.

c. Conclusions

The waste gas treatment system was adequately maintained and capable of performing the functions described in the licensee's Updated Final Safety Analysis Report.

R1.5 High Radiation Sample System (HRSS)

a. Inspection Scope (84750)

The licensee's capability to operate the Post Accident Sampling System (PASS) was reviewed and evaluated.

b. Observations and Findings

The inspectors determined that the licensee performed a series of surveillances on the PASS. The inspectors reviewed the licensee's surveillance procedures and discussed the system's performance with licensee personnel. The inspectors observed a weekly sampling instrumentation operability surveillance of the PASS. The inspectors verified that the licensee could operate the system in non-accident conditions and verified that the monitoring system instrumentation was operable. During the surveillance, chemistry personnel demonstrated appropriate knowledge of the system equipment and procedures. The inspectors also observed verification of correct valve operations and repeat back of actions taken by licensee personnel performing the surveillance.

The inspectors reviewed the results of the most recent full scale test of the PASS, a May 1999 drill, in which objectives were fully met.

c. Conclusions

Operability of the Post Accident Sampling System was demonstrated. The staff demonstrated appropriate proficiency in operating the Post Accident Sampling System equipment.

**S1 Conduct of Security and Safeguards Activities (71750)**

On numerous occasions during the inspection period, the inspectors performed walk-downs of the protected area perimeter to assess security and general barrier conditions. No deficiencies were noted. The inspectors concluded that security posts were properly manned and that the perimeter barrier's material condition was properly maintained.

**V. Management Meetings**

**X1 Exit Meeting Summary**

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on November 23, 1999. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

**PARTIAL LIST OF PERSONS CONTACTED**

Licensee

- W. Anthes, Outage Assistant Superintendent, Planning
- M. Boatwright, Supervisor Chemistry
- J. Breeden, Supervisor of Radioactive Material Transportation
- D. Christian, Vice President, Nuclear Operations
- B. Foster, Superintendent Station Engineering
- C. Funderburk, Manager, Station Nuclear Safety and Licensing
- J. Hayes, Director, Nuclear Oversight
- D. Heacock, Manager, Station Operations and Maintenance
- E. Henderixson, Supervisor, Plant Auxiliary System

P. Kemp, Supervisor, Licensing  
 L. Lane, Superintendent, Operations  
 T. Maddy, Superintendent, Station Security  
 W. Matthews, Site Vice President  
 F. Mladen, Supervisor, Mechanical Maintenance  
 B. Morrison, Supervisor, Electrical Systems  
 H. Royal, Superintendent, Nuclear Training  
 D. Schappell, Superintendent, Site Services  
 R. Shears, Superintendent, Maintenance  
 A. Stafford, Superintendent, Radiological Protection

#### INSPECTION PROCEDURES USED

IP 37551: Onsite Engineering  
 IP 40500: Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems  
 IP 61726: Surveillance Observations  
 IP 62707: Maintenance Observations  
 IP 71707: Plant Operations  
 IP 71714: Freeze Protection  
 IP 71750: Plant Support Activities  
 IP 84750: Radioactive Waste Treatment, Effluent, and Environmental Monitoring  
 IP 86750: Solid Radioactive Waste Management and Transportation of Radioactive Material  
 IP 92700: Onsite Followup of Written Reports of Nonroutine Events at Power Reactor Facilities

#### ITEMS OPENED AND CLOSED

##### Opened

50-338, 339/99007-01	NCV	Failure to install an Appendix R fire damper in accordance with the license condition and the Updated Final Safety Analysis Report (Section E2.1)
50-338, 339/99007-02	URI	Review if a 10 CFR 50.59 evaluation was required for a modification, which restored a TSC fire damper to operable status (Section E2.1)

##### Closed

50-338/98-005-00	LER	Safety valve setpoints out-of-tolerance due to setpoint variance (Section O8.1)
50-339/98-003-01	LER	Large bore snubbers inoperable (Section O8.2)
50-338, 339/99007-01	NCV	Failure to install an Appendix R fire damper in accordance with the license condition and the Updated Final Safety Analysis Report (Section E2.1)