



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report Nos.: 50-338/95-18 and 50-339/95-18

Licensee: Virginia Electric and Power Company
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060

Docket Nos.: 50-338 and 50-339

License Nos.: NPF-4 and NPF-7

Facility Name: North Anna 1 and 2

Inspection Conducted: September 17 through October 21, 1995

Lead Inspector:

R. D. McWhorter For 11/2/95
R. D. McWhorter, Senior Resident Inspector Date Signed

Inspector: D. R. Taylor

Approved by:

G. A. Belisle 11/2/95
G. A. Belisle, Chief Date Signed
Reactor Projects Branch 5
Division of Reactor Projects

SUMMARY

Scope:

This routine resident inspection was conducted on site in the areas of plant status, plant operations, maintenance observations, surveillance observations, on-site engineering, plant support activities, evaluation of licensee self-assessment activities, Licensee Event Report follow up, and previous inspection item follow up. Licensee backshift activities were inspected on September 18, October 19 and 20, 1995.

Results:

Maintenance

Two maintenance and two surveillance activities were observed to be properly performed (paragraphs 4.1, 4.3, 5.1, and 5.2).

The station lubrication program was reviewed and found to be properly implemented (paragraph 4.2).

A non-cited violation was identified for a failure to meet Technical Specification action statement requirements when N-16 radiation monitors were rendered inoperable due to a mispositioned input selector switch (paragraph 9.4).

Engineering

Engineering transmittals were found to be implemented in accordance with station administrative requirements (paragraph 6).

Plant Support

Housekeeping in the plant chemical sampling and analysis areas was good. Reactor coolant sampling and analysis were properly performed (paragraph 7).

Management Safety Review Committee discussions were probing and focused on safety. Information provided to the Management Safety Review Committee concerning problems was disseminated to station personnel and was indicative of a good safety perspective (paragraph 8.1).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- L. Edmonds, Superintendent, Nuclear Training
- C. Funderburk, Superintendent, Outage and Planning
- J. Hayes, Superintendent, Operations
- *D. Heacock, Assistant Station Manager, Nuclear Safety and Licensing
- *P. Kemp, Supervisor, Licensing
- *W. Matthews, Assistant Station Manager, Operations and Maintenance
- D. Roberts, Supervisor, Station Nuclear Safety
- *R. Saunders, Vice President, Nuclear Operations
- D. Schappell, Superintendent, Site Services
- *R. Shears, Superintendent, Maintenance
- *J. Smith, Superintendent, Station Engineering
- A. Stafford, Superintendent, Radiological Protection
- *J. Stall, Station Manager

Other licensee employees contacted included managers, supervisors, operators, engineers, technicians, mechanics, security force members, and office personnel.

NRC Personnel

- *D. Taylor, Resident Inspector

*Attended Exit Interview

Acronyms used throughout this report are listed in the last paragraph.

2. Plant Status

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

Unit 2 operated the entire inspection period at or near 100 percent power except for October 6 and 7, when power was briefly reduced to approximately 90 percent for turbine valve testing and condenser waterbox repairs.

3. Plant Operations (71707)

The inspectors conducted frequent control room tours to verify proper staffing, operator attentiveness, and adherence to approved procedures. The inspectors attended daily plant status meetings to maintain awareness of overall facility operations and reviewed operator logs to verify operational safety and compliance with TS. Instrumentation and

safety system lineups were periodically reviewed from control room indications to assess operability. Frequent plant tours were conducted to observe equipment status and housekeeping. DRs were reviewed to assure that potential safety concerns were properly reported and resolved.

3.1 Human Performance Problems

During previous inspection periods, a series of minor human performance problems were observed by the inspectors and the licensee. As a result of these problems, the licensee stopped work for a full day on August 16, 1995, in order to discuss improving human performance at the site.

During this inspection period, the inspectors continued to assess the licensee's performance in the human performance area. On September 20, the licensee identified that a control room operator improperly entered rod position information into the Unit 2 plant computer during a rod control system surveillance test. The computer manipulation was considered "skill of the craft" and was not specifically delineated by procedure. The inspectors reviewed the error and verified that the computer's TS-required rod position deviation functions were not affected. The inspectors concluded that the event was being examined by the licensee for appropriate corrective actions and that all regulatory requirements were met. The inspectors planned to continue monitoring the licensee's efforts to improve human performance.

3.2 Tagging Verification

On October 5, the inspectors selected two active electrical tagouts and independently verified that they were properly prepared and placed on applicable components. The tagouts were (N)2-95-BY-0001, associated with the Unit 2 emergency switchgear swing battery charger 2-BY-C-3, and (N)2-95-IC-0011, associated with the Unit 2 incore drive motors. No discrepancies were identified.

3.3 Engineered Safety Features System Walkdown

On October 18, the inspectors performed a detailed 1H electrical power supply alignment walkdown during a period in which surveillance testing was being performed on the 1J EDG. The inspectors reviewed 4160 volt and 480 volt breaker alignments for all safety-related distribution panels located inside the protected area. The inspectors compared the distribution system against station electrical drawings and verified that all busses were properly energized with all power supply breakers correctly aligned. No discrepancies were identified.

No violations or deviations were identified.

4. Maintenance Observations (62703)

Maintenance activities were observed and reviewed to verify that activities were conducted in accordance with TS and procedures, and licensee commitments to regulatory guides and industry codes or standards.

4.1 Control Room Chiller Maintenance

On September 27, the inspectors observed control room chiller 0-HV-E-4C, condenser tube cleaning. The work was performed per WO 321385, using MPM 0-0803-01, Periodic Disassembly, Inspection, and Repair of The Control Room Air conditioning Chillers, revision 0. The inspector observed that the tubes looked fairly clean with only minor indications of mud or debris. When the inspectors arrived at the maintenance location the procedure sign-offs were up-to-date and tube cleaning had begun. No discrepancies were identified.

4.2 Station Lubrication Program Review

During the period from October 12 - 18, the inspectors reviewed the station lubrication program in conjunction with corrective action reviews for an event related to improper motor greasing (paragraph 9.1). The inspectors reviewed VPAP-0812, Station Lubrication Program, revision 2, which delineated the program requirements. VPAP-0812 included requirements for evaluating lubrication requirements, maintaining the Station Lubrication Manual, and controlling lubricant field uses. Starting in January 1995, the licensee's program was extensively modified to allow using a computerized Station Lubrication Manual.

The inspectors reviewed the licensee's methods for establishing lubrication manual requirements. The inspectors found that as a part of changing to a computerized manual, a lubrication requirements review was performed. Licensee personnel reviewed vendor manual recommendations, equipment nameplate data, and old lubrication manual requirements. Differences were resolved prior to entering the information into the new computerized manual. Additionally, the licensee was nearly complete with PM program reviews which included deleting all specific lubrication information from PM documents. Instead, the documents would refer maintenance technicians to the lubrication manual to obtain current lubrication information. Several maintenance related documents reviewed by the inspectors verified that this approach was being properly implemented by the licensee.

Additionally, VPAP-0812 delineated a method for controlling ongoing updates to the manual using revision request forms. The inspectors reviewed the revision request forms submitted since the program's revision in January 1995. The inspectors found that the forms were actively being used by field technicians and support

personnel to update the lubrication manual as new information was discovered through various maintenance activities. The inspectors noted that although action to update the manual had been completed on several forms (as evidenced by separate SNSOC reviews and approvals for lubrication manual changes), the final review signatures on the forms were missing. Licensee supervisors stated that the forms would be corrected to show that the action had been completed.

The inspectors also reviewed the DR database for lubrication related problems identified since January 1994. The inspectors found that there were only a few significant lubrication related DRs. The licensee identified that lubricants used in the plant SW pumps and charging pumps did not match vendors' recommendations (DR 94-0241 and DR 94-1917, respectively). The licensee discussed the findings with the vendors, reviewed the pumps' maintenance histories, and concluded that the current lubrication practices were acceptable. The inspectors reviewed the licensee's conclusions and found that they were proper.

4.3 Motor-Driven Auxiliary Feedwater Pump Maintenance

On October 19, the inspectors observed PM activities on the Unit 2 motor driven AFW pump, 2-FW-P-3A. The maintenance was controlled by WO 00328302-01, using procedure 2-MPM-0102-01, Unit 2 Auxiliary Feed Pump Preventive Maintenance, revision 1. Specifically, the inspectors observed an oil change-out and motor-to-pump shaft coupling disassembling and cleaning. Mechanics removed the old oil from the oil reservoir and replaced it with Chevron hydraulic oil AW ISO 32. The inspectors verified that the proper oil was selected as specified by the Station Lubrication Manual. Cleanliness was maintained and closeout inspections were performed by an independent person.

During the motor coupling disassembly and cleaning, it was identified that 3 of 16 insert ring spacers were not installed as shown on Falk limited end float coupling installation instructions. When these spacers were replaced with new ones it was also determined that a coupling gap disc was not installed. The inspectors noted that the procedure did not show or specify the ring spacers or gap disc in the assembly instructions. These items were discussed with the job's supervisor who indicated that a DR was initiated to document the deficiencies (DR 95-1649). The supervisor also discussed procedure inadequacies with the procedures group so that the procedure could be updated. The coupling was reassembled with no further problems. The inspectors verified that vendor specified grease was used and that the Station Lubrication Manual correctly listed the grease type.

The inspectors concluded that the missing spacers and gap disc did not affect pump operability and that corrective action was initiated to ensure correct assembly for future PM activities.

The inspectors further concluded that the maintenance was well performed by knowledgeable individuals and with good supervisory oversight.

No violations or deviations were identified.

5. Surveillance Observations (61726)

Surveillance testing activities were observed and reviewed to verify that testing was performed in accordance with procedures, test instrumentation was calibrated, LCOs were met, and any deficiencies identified were properly reviewed and resolved.

5.1 Control Rod Operability

On September 28, the inspectors observed 1-PT-17.1, Control Rod Operability, revision 16-P1, performance. The test verified each rod's operability by moving each rod at least ten steps in order to meet TS 4.1.3.1.2 surveillance requirements. Prior to test performance, the shift was briefed on DR 95-1508 which described a condition on September 22, where the rods continued stepping after the in-hold-out switch was released. Rod motion was stopped by agitating the switch. The brief discussed actions to be taken in the event of a similar response during the PT.

The test was successfully performed with no abnormalities in rod motion. However, the inspectors noted that although outward rod motion always stopped when the in-hold-out switch was released, the switch appeared to stick slightly. A WR had previously been written for the problem, and an abnormal status item entry was made to inform operators. The inspectors concluded that operators were well informed of the problem and that the test adequately demonstrated control rod operability.

5.2 SW Breaker Testing

On October 13, the inspectors observed technicians performing 1-EPM-1815-01, Protective Relay Maintenance for Breaker 15H5 Service Water Pump 1-SW-P-1A, revision 1, and 1-PT-36.19, Documentation of Functional Test of Close Interlock from Breaker 15H4 to Breaker 15H5, revision 0. The tests and associated maintenance were performed to meet TS Surveillance Requirements 4.8.1.1.2.d.4.a and 4.8.1.1.2.d.6.a regarding load shedding functional verifications.

The inspectors observed technicians cleaning protective relays, checking protective relay setpoints, replacing fuses, and verifying breaker interlocks. Additionally, the inspectors reviewed the documentation associated with a protective relaying setpoint change being implemented during the maintenance.

The test was successfully completed without equipment problems. The inspectors noted that the breaker's internal material condition and the technicians' work practices were good. During the testing, technicians performed all work in accordance with the procedure, carefully checked the physical tightness of electrical connections throughout the breaker cubicle, and used electrical drawings to verify that test points listed in the procedure were correct. During test performance, the inspectors observed that the procedure could be improved at several steps and discussed these observations with a licensee supervisor, who indicated that such action was already planned and would be taken to improve the procedure.

No violations or deviations were identified.

6. On-site Engineering (37551)

On-site engineering activities were reviewed to determine their effectiveness in preventing, identifying and resolving safety issues, events and problems.

Engineering Transmittals Review

During the week of October 1, the inspectors reviewed approximately 30 ETs to verify that they were being performed in accordance with station administrative procedures. ETs were used to provide technical information for the support of various station activities. For the ETs reviewed, the inspectors verified that the ETs did not constitute a design change, were appropriately reviewed, and were properly screened for 10 CFR 50.59 applicability. The inspectors obtained copies and reviewed in detail the following ETs:

- ET-ME-95-023, revision 0, DCP 95-158, Replacement of 2-SI-100, NAPS, Unit 2: The ET allowed starting the modification field installation prior to the DCP being approved. The inspectors verified that the practice was in accordance with plant administrative procedures and controls.
- ET-CE-95-048, revision 0, Removal of Lateral Restraints in U-1 RC "B" Cubical, NAPS, Unit 1: The ET documented the acceptability of removing abandoned equipment supports and was in accordance with administrative procedures.
- ET-EE-95-016, revision 0, Replacement of Resistor R-28 in the Solid State Protection System 48VDC Power Supplies, NAPS Unit 1 & 2: The resistor was susceptible to overheating as evidenced by discoloration. The ET justified not implementing a Westinghouse recommendation to replace resistor R-28 with a higher ohm rated resistor. NRC Information Notice IN 95-10, Supplement 2, discussed the resistor and proposed corrective action. Testing performed by the licensee's module repair facility identified that

using the higher ohm resistor would correct the overheating, but may cause a different problem.

The ET recommended replacing R28 with a resistor of the same ohm rating but with a higher wattage rating to allow better heat dissipation. Westinghouse latter revised information regarding R28. This revision was consistent with what North Anna had implemented. The inspectors concluded that the licensee's evaluation and justification for the replacement resistor were thorough.

- ET-EE-95-023, revision 1, Reactor Trip Breakers Control Circuit Fuses: The ET justified replacing a fuse in the reactor trip breaker control circuit with one of the same rating but with a time delay. No problems were identified with the ET.
- ET-ME-95-008, Suitability of Letdown Orifice Isolation Valves, NAPS Units 1 & 2: The inspector did not identify any problems with the ET. However, during the review the inspectors noted that the letdown orifice isolation valves on Unit 1 leaked by their seats, potentially up to 60 gpm. This was evidenced by an indicated letdown flow that was greater than 110 gpm with only the 45 gpm letdown orifice in service. An operator work around had been identified with these valves. To address the work around, 1-AP-49, Loss of Normal Charging; and 1-AP-16, Increasing Primary Plant Leakage, were revised to require the upstream letdown isolation valves to be closed when letdown isolation was required. WOs were initiated for the outage.

In addition to the above, the inspectors noted that a potential existed during an SI or Phase A isolation to lift the letdown line and RHR line relief valves. The relief valves were located between the letdown orifice isolation valves and the letdown line containment trip valves, both of which go shut on a Phase A isolation. With the letdown orifice isolation valves leaking by, the pressure build-up downstream would cause the above mentioned relief valves to lift. The condition could be corrected by isolating the upstream letdown isolation valves. This observation was discussed with the licensee, and a review was initiated by engineering. The inspectors were latter informed that annunciator response procedures for letdown relief high temperature were revised to recognize this condition and isolate letdown by closing two upstream letdown isolation valves.

- ET-Mt-94-027, Thermal Barrier Relief Valve Safety Evaluation, NAPS, Unit 1 & 2. No problems were identified.

The inspectors concluded that ETs were being implemented in accordance with station administrative procedures.

No violations or deviations were identified.

7. Plant Support Activities (71750)

Plant support activities were observed and reviewed to ensure that programs were implemented in conformance with licensee policies and procedures and in compliance with regulatory requirements. Activities routinely reviewed included radiological controls, physical security, and fire protection.

Chemistry Activity Reviews

On September 28, the inspectors reviewed the licensee's chemistry program implementation. The inspectors toured plant chemistry sampling and analysis areas with station personnel, reviewed methods for chemistry analysis and log keeping, and observed the general material condition for chemistry equipment and work areas. The inspectors found that the plant chemistry program was being properly implemented and housekeeping was good in the chemistry sampling and analysis areas.

On October 20, the inspectors observed routine RC sampling and analysis for both units. The inspectors found that technicians adhered to approved procedures (CH-11.201/CH-21.201, RCS Letdown - Demineralizer Influent: Sampling Liquid by Purging to Sink, revision 1), and used good contamination control practices and laboratory analysis techniques. The inspectors reviewed analysis results along with past RCS chemistry logs and found that parameters were consistent and were being properly recorded. The inspectors also observed that technicians used 1/2-PT-53.1, Reactor Coolant System Chemistry and Specific Activity, revision 22/16, to verify that parameters were within TS 3.4.7 limits. The inspectors concluded that the RCS sampling and analysis were properly performed.

No violations or deviations were identified.

8. Evaluation of Licensee Self-Assessment Activities (40500)

Self-assessment programs were reviewed to determine if programs contributed to the prevention of plant problems by monitoring and evaluating plant performance, providing assessments and findings, and communicating and following up on corrective action recommendations.

8.1 Management Safety Review Committee Meeting

On October 11, the inspectors attended the licensee's MSRC meeting held at North Anna. The MSRC met as required by TS 6.5.2 to provide independent off-site reviews for designated activities. The inspectors observed the MSRC during scheduled discussions on plant status, TS change requests, high radiation area control assessment, and selected problems experienced during the current Surry refueling outage. MSRC members toured the facility and met with plant staff regarding maintenance rule implementation, plant rework, and operator work arounds. During the meeting, the following proposed TS changes were reviewed:

- North Anna, TSC 329, Steam Generator Inspections.
- North Anna, TSC 323, PORV Nitrogen Accumulator Requirements.
- North Anna, TSC 316, Containment Personnel Air Lock.

The inspectors observed that the discussions were probing and focused on safety concerns. Of particular interest were discussions regarding human performance enhancements at North Anna and problems associated with the current Surry Unit 1 outage. The MSRC members requested a future update on corrective action for the latter issue.

On October 12, the Assistant Station Manager, Nuclear Safety and Licensing, North Anna, presented station senior supervisors a synopsis of the problems that had occurred at Surry based on the information presented to the MSRC. The senior supervisors then requested copies of the material to provide to their staff. The inspectors considered that these actions demonstrated a good safety perspective because lessons learned from problems experienced at Surry were being communicated by managers and supervisors to North Anna station personnel.

8.2 Management Review Board Meeting

On October 17, the inspectors attended a Management Review Board meeting. These weekly meetings provided station senior managers with opportunities to review the status of selected station issues. The inspectors noted that the board reviewed the status of several significant issues including: turbine-driven AFW pump Inconel 718 valve stem use, diesel generator starting, rod control system evaluations, and engineering career paths. The inspectors found that the meetings continued to be a positive initiative by licensee management.

No violations or deviations were identified.

9. Licensee Event Report Follow Up (92700)

The following LERs were reviewed and closed. The inspectors verified that reporting requirements had been met, causes had been identified, corrective actions appeared appropriate, and generic applicability had been considered.

9.1 (Closed) LER 50-338, 339/94-01: Voluntary Report - Emergency Diesel Generator Fuel Oil Transfer Pumps Inoperable.

This LER was voluntarily submitted to describe an event in which four of eight EDG FOTPs were discovered to be inoperable during extreme cold weather. The combination of inoperable FOTPs rendered the 1J EDG inoperable. The licensee's investigations revealed that the FOTP failures were caused by improper pump motor bearing greasing techniques which resulted in excessively high starting loads during the extreme cold weather. The event was

reviewed by inspectors in NRC Inspection Report Nos. 50-338, 339/94-02 and a non-cited violation was issued. Additionally, NRC Information Notice 94-51, Improper Greasing of Double Shielded Motor Bearings, was issued.

As corrective actions to prevent recurrence for the specific event, the licensee replaced the motor bearings for all eight FOTPs and revised FOTP maintenance documents to specify proper greasing techniques. The LER included commitments to complete these specific actions, and the inspectors verified that they had been properly completed.

During this inspection period, the inspectors also reviewed the licensee's implementation of broader corrective actions. In response to the event, RCE 94-03 was completed and approved by the SNSOC on March 14, 1994. The RCE recommended several corrective actions to address the generic implications for other electrical motors including:

- 1) revising generic motor repair procedures to require reporting the type of bearings installed in a motor for updating the Station Lubrication Manual,
- 2) training and procedure revisions specific to the handling of double-shielded motor bearings,
- 3) formation of a task team to review station lubrication practices, and
- 4) identifying other safety related motors which might have double shielded bearings in order to determine if replacements were warranted.

Concerning items 1) and 2) above, the inspectors reviewed procedure O-ECM-1401-03, General Maintenance of Electric Motors, revision 10, and verified that steps were included to caution technicians not to grease double shielded bearings and to require submitting updates to the Station Lubrication Manual when new bearing information was obtained during repair activities. The inspectors also noted that a new procedure, O-EPM-1412-01, General Inspection and Testing of Electric Motors, revision 0, had been written to replace several older procedures for motor maintenance. The inspectors verified that the new procedure also included the necessary revisions to ensure that periodic motor bearing greasing activities were properly performed.

Concerning item 3), the inspectors reviewed the task team evaluation results and verified the implementation of recommendations. The evaluation reviewed and addressed plant practices in the areas of the required frequency for greasing components, the amounts of grease to be used, ways to prevent mixing greases, and the potential need for periodic replacements

of double shielded bearings in motors. The inspectors found that the evaluation addressed all these issues. The task team's recommendations were either encompassed by existing corrective actions or had been implemented by upgrades to the Station Lubrication Program. In the case of reviewing the frequency for greasing components, the inspectors noted that the task team had not reviewed the frequency for greasing components as extensively as called for in the RCE. However, the RCE team leader had concurred with the task team's approach, and the inspectors concluded that this was appropriate.

Concerning item 4), the RCE recommended identifying other safety related motors which might have double shielded bearings installed and reviewing their status to determine whether bearing replacement was required to ensure continued operability. Closure documentation showed that such a review was started, but the review was limited to identifying motors which operated in a similar environment as the FOTPs (e.g., exposed to outside air temperatures). This limited approach was taken when bearing type identification was found to require motor disassembly because station records could not identify the bearing types installed in plant motors. No additional motors were identified which operated in similar environments and, as a result, no further actions were taken to inspect or replace bearings in other motors. The inspectors inquired how this reduced scope of corrective action was approved, and were informed that this issue had been discussed with station management and approved verbally. The inspectors concluded that this action was adequate when combined with the fact that current motor maintenance procedures required identifying and reporting bearing types for inclusion in the Station Lubrication Manual whenever a motor was disassembled for maintenance.

Based on the results of LER and RCE corrective action reviews and a Station Lubrication Program review (paragraph 4.2), the inspectors concluded that the licensee's corrective actions for this event were properly completed.

9.2 (Closed) LER 50-338/95-01: ESF Actuation Due to Automatic Reactor Trip on Low Flow in the Reactor Coolant System B Loop.

This LER concerned an event on January 27, 1995, in which the Unit 1 reactor tripped on a single loop loss of flow after power was lost to the B RCP. The power loss was caused by a fault in the B MFP motor for which the B MFP power supply breaker did not open quickly enough to prevent a loss of the B station service bus which supplied power to both the B MFP and the B RCP. The inspectors' initial responses to the event and initial licensee corrective actions were discussed in NRC Inspection Report Nos. 50-338, 339/95-01. The licensee also completed additional long term corrective actions based on the results of a Category 1 RCE.

The inspectors reviewed the RCE results and the completion status of the associated corrective actions. The RCE found that the B MFP fault was caused by a failure of the motor leads during pump starting. The failure occurred in a mechanical cable connection which was covered by a plastic sleeve. The most probable cause was found to be a high resistance condition caused by loosening of the mechanical connection over the life of the motor. As corrective action, the licensee planned inspections to remove the plastic sleeve and inspect connection tightness for the remaining MFP motors. PM procedures were updated to include removing the plastic sleeves and checking the connection torque. The inspectors verified that the licensee updated the procedures, completed the inspections for the Unit 2 MFP motors during the spring 1995 refueling outage, and planned to complete the inspections for the remaining Unit 1 MFP motors during the next scheduled refueling outage. The MFP motors were the only motors in the plant identified as using this type connection.

The RCE could not identify any abnormalities with the MFP breaker which would have definitively caused its delay in opening during the event. Following the event, all involved breaker components were inspected and found to operate satisfactory. However, the RCE determined that the most probable cause for the fault was a high resistance connection in the ground fault protection circuitry. A loose connection on an auxiliary relay was found following the event, and testing revealed that a only a small increase in resistance at that connection could cause the relay to fail to actuate properly. As corrective action, the licensee modified electrical switch gear PM procedures to require checking all electrical connections on the back of protective relay cases. The inspectors verified that these procedures had been revised. Additionally, the inspectors observed this activity being performed as a part of SW pump breaker surveillance testing on October 13 (paragraph 5.2). The inspectors concluded that the licensee's corrective actions had been properly completed.

9.3 (Closed) LER 50-339/95-01-01: Main Steam and Pressurizer Safety Valve Setpoints Out of Tolerance Due to Setpoint Drift.

This LER was a revision to a previous LER which concerned the fact that the setpoints for two pressurizer safety valves and two main steam safety valves were found to be outside the setpoint tolerances allowed by TSs. The revision corrected a statement concerning corrective actions taken by the licensee. The original LER had stated that the pressurizer safety valves had been refurbished prior to retesting. A recent licensee QA audit identified that this statement was inaccurate in that no refurbishment had occurred. The statement was erroneously placed in the LER due to a mis-communication between the LER writers and personnel responsible for the safety valve testing. The original LER was closed in NRC Inspection Report Nos. 50-338, 339/95-15.

The inspectors reviewed the revised LER in light of the new information. The LER stated that the two pressurizer safety valves had both met TS criteria on three subsequent tests without refurbishment. The inspectors inquired as to how the licensee was able to meet regulatory requirements without refurbishing the valves. The licensee explained that although the as-found valve setpoints fell outside the one percent allowed by TS, all ASME Section XI code requirements were met. Specifically, the code did not require that the valves be refurbished unless a three percent acceptance criteria was exceeded. The code allowed a valve to be considered acceptable if at least two successive tests fell within the acceptance criteria. Since the subsequent retests for each valve had met the one percent acceptance criteria and the three percent criteria had never been exceeded, the licensee concluded that a refurbishment was not required. The inspectors reviewed the TS and ASME Section XI codes and concluded that the licensee's actions met regulatory requirements.

9.4 (Closed) LER 50-338/95-04: Missed Surveillance of N-16 Radiation Monitors Due to NI Power Selector Switch Malfunction.

This LER reported an event which rendered all Unit 1 N-16 radiation monitors inoperable and subsequently missing surveillance requirements specified in TS action statement 3.4.6.4.a. The N-16 radiation monitors provided the control room with a continuous readout of primary to secondary leakage and alarmed if leakage exceeded a preset value. The monitors calculated leakrate based on reactor power level and received this input from power range instrumentation channels N43 and N44. Channel selection was determined by a three-position rocker type switch located on the N-16 instrumentation panel. The third position (neutral position) did not provide a reactor power input into the N-16 detectors and rendered the detectors inoperable when selected. Following the NI calibrations completion on September 4, the switch was inadvertently left in the neutral position. This condition was discovered on September 7, by an STA performing a functional check of reactor power input to the N-16 detectors.

The licensee attributed the event's cause to the fact that the switch on the N-16 instrumentation panel was sticking in the neutral position. Troubleshooting identified that the selector switch was difficult to make up when depressed to the N-43 position. As corrective action, the licensee replaced the defective switch, revised NI channel functional testing and calibration procedures to verify a valid power input when selecting a power range input into the N-16 detectors, and revised periodic test procedures for primary to secondary leak rate determination. The inspectors verified that the above corrective actions were completed and concluded that the actions were

adequate to prevent recurrence. The inspectors also concluded that the safety significance of this event was minor since other means for detecting primary to secondary leakage were available to alert operators.

The regulatory requirements were reviewed. TS 3.4.6.4 requires that one of the two N-16 radiation monitoring systems, either the N-16 continuous readout and alarm radiation monitors on each steam line or the N-16 continuous readout and alarm radiation monitor on the main steam header, be operable. Action statement "a." requires that if both N-16 radiation monitoring systems are inoperable, increase the frequency of the condenser air ejector grab samples as required by specification 4.4.6.3.b to at least once during each four hour interval. Contrary to these requirements, from September 4 through September 7, 1995, both N-16 radiation monitoring systems were inoperable and the surveillance frequency for condenser air ejector grab samples was not increased as required by TS 3.4.6.4.a. This licensee-identified and corrected violation is being treated as a non-cited violation, consistent with Section VII of the NRC Enforcement Policy. This non-cited violation is identified as NCV 50-338/95-18-01: Failure to Meet TS Action Statement 3.4.6.4.a Requirements For Inoperable N-16 Radiation Monitors. This non-cited violation is considered to have occurred in the maintenance area.

One non-cited violation was identified.

10. Previous Inspection Item Follow Up (92902)

The following previous inspection item was reviewed and closed.

(Closed) IFI 50-338, 339/94-05-01: Review DR Resolution of SAVS Single Failure.

This IFI was opened to review the radiological consequences resulting from a single failure that could effect both SAVS trains. The inspector reviewed the USFAR chapter 15 accident analysis and noted that the LPZ boundary dose was evaluated for a continuous filtered ESF leak rate of 900 cc/hr and a single pump seal failure resulting in a 50 gpm leak that lasted 10 minutes.

The licensee reviewed the radiological consequences for the ESF leakage assuming complete SAVS failure. This failure would result in the Safeguards Building ventilation exhaust being unfiltered. The 50 gpm leak for 10 minutes due to a pump seal failure was not considered since this would constitute a second single failure. The licensee evaluated the ESF leakage to the Safeguards Building and demonstrated that no off-site or Control Room dose limits were exceeded. The dose calculations were based on a previous calculation and documented in the

response to DR 94-317. The inspectors reviewed this DR and verified that the leakage assumed by the accident analysis to the Safeguards Building was bounded by the calculation.

No violations or deviations were identified.

11. Exit Interview

The results were summarized on October 25, 1995, with those persons identified in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection results addressed in the Summary section and those listed below.

<u>Type</u>	<u>Item Number</u>	<u>Status</u>	<u>Description</u>
NCV	50-338/95-18-01	Closed	Failure to Meet TS Action Statement 3.4.6.4.a Requirements For Inoperable N-16 Radiation Monitors (paragraph 9.4).
LER	50-338, 339/94-01	Closed	Voluntary Report - Emergency Diesel Generator Fuel Oil Transfer Pumps Inoperable (paragraph 9.1).
IFI	50-338, 339/94-05-01	Closed	Review DR Resolution of SAVS Single Failure (paragraph 10).
LER	50-338/95-01	Closed	ESF Actuation Due to Automatic Reactor Trip on Low Flow in the Reactor Coolant System B Loop (paragraph 9.2).
LER	50-339/95-01-01	Closed	Main Steam and Pressurizer Safety Valve Setpoints Out of Tolerance Due to Setpoint Drift (paragraph 9.3).
LER	50-338/95-04	Closed	Missed Surveillance of N-16 Radiation Monitors Due to NI Power Selector Switch Malfunction (paragraph 9.4).

Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

12. Index of Acronyms

AFW	AUXILIARY FEEDWATER
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
CC/HR	CUBIC CENTIMETERS PER HOUR

CFR	CODE OF FEDERAL REGULATIONS
CTS	COMMITMENT TRACKING SYSTEM
DR	DEVIATION REPORT
EDG	EMERGENCY DIESEL GENERATOR
ESF	ENGINEERED SAFETY FEATURE
ET	ENGINEERING TRANSMITTAL
FOTP	FUEL OIL TRANSFER PUMP
GPM	GALLONS PER MINUTE
I&C	INSTRUMENTATION AND CONTROLS
IFI	INSPECTION FOLLOWUP ITEM
LCO	LIMITING CONDITION FOR OPERATION
LER	LICENSEE EVENT REPORT
LPZ	LOW-POPULATION ZONE
MFP	MAIN FEEDWATER PUMP
MSRC	MANAGEMENT SAFETY REVIEW COMMITTEE
NCV	NON-CITED VIOLATION
NI	NUCLEAR INSTRUMENT
NO.	NUMBER
NRC	NUCLEAR REGULATORY COMMISSION
PM	PREVENTIVE MAINTENANCE
PORV	POWER-OPERATED RELIEF VALVE
PT	PERIODIC TEST
QA	QUALITY ASSURANCE
RC	REACTOR COOLANT
RCE	ROOT CAUSE EVALUATION
RCP	REACTOR COOLANT PUMP
RHR	RESIDUAL HEAT REMOVAL
SAVS	SAFEGUARDS AREA VENTILATION SYSTEM
SI	SAFETY INJECTION
SNSOC	STATION NUCLEAR SAFETY AND OPERATING COMMITTEE
SSPS	SOLID-STATE PROTECTION SYSTEM
STA	SHIFT TECHNICAL ADVISOR
SW	SERVICE WATER
TS	TECHNICAL SPECIFICATION
TSC	TECHNICAL SPECIFICATION CHANGE
UFSAR	UPDATED FINAL SAFETY ANALYSIS REPORT
WO	WORK ORDER
WR	WORK REQUEST