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

Report Nos.: 50-338/88-01 and 50-339/88-01

Licensee: Virginia Electric and Power Company
Richmond, VA 23261

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

Facility Name: North Anna 1 and 2

Inspection Conducted: January 16 - February 23, 1988

Inspectors: _____ 3/30/88
J. L. Caldwell, Senior Resident Inspector Date Signed

_____ 3/30/88
L. P. King, Resident Inspector Date Signed

Approved by: _____ 3/30/88
F. Cantrell, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine inspection by the resident inspectors involved the following areas: plant status, unresolved items, licensee action on previous enforcement matters, licensee event report (LER) followup, review of inspector follow-up items, monthly maintenance observation, monthly surveillance observation, ESF walkdown, and operator safety verification. During the performance of this inspection, the resident inspectors conducted reviews of the licensee's backshift operations on the following days - January 18, 24, 28, 29, 31, February 1, 2, 3, 5, 6, 9, 11, 12, 15 and 16.

Results: One violation with two examples for failure to follow procedure and failure to have an adequate procedure.

REPORT DETAILS

1. Licensee Employees Contacted

*E. W. Harrell, Station Manager
*R. C. Driscoll, Quality Control (QC) Manager
*G. E. Kane, Assistant Station Manager
*M. L. Bowling, Assistant Station Manager
J. A. Still, Superintendent, Operations
M. R. Kansler, Superintendent, Maintenance
*A. H. Stafford, Superintendent, Health Physics
*D. A. Heacock, Superintendent, Technical Services (Acting)
*J. L. Downs, Superintendent, Administrative Services
J. R. Hayes, Operations Coordinator
E. S. Hendrixson, Engineering Supervisor (Acting)
D. E. Thomas, Mechanical Maintenance Supervisor
G. D. Gordon, Electrical Supervisor
L. N. Hartz, Instrument Supervisor
F. T. Terminella, QA Supervisor
J. P. Smith, Superintendent, Engineering
D. B. Roth, Nuclear Specialist
J. H. Leberstein, Engineer
*G. G. Harkness, Licensing Coordinator
*D. B. Roth, Nuclear Specialist
*T. R. Maddy, Superintendent, Security
*G. D. Miller, Licensing Coordinator (Surry)

Other licensee employees contacted include technicians, operators, mechanics, security force members, and office personnel.

*Attended exit interview

NRC Regional Management Site Visit: B. Wilson and F. S. Cantrell conducted a visit of the North Anna Power Station on February 3, 1988.

2. Exit Interview (30703)

The inspection scope and findings were summarized on February 23, 1988, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspectors findings. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection.

(Open) Violation 338/88-01-01: Failure to follow procedure and failure to have an adequate procedure resulting in a 1000 gallon leak from the RCS (see paragraph 8).

(Open) Inspection Follow-up Item 338,339/88-01-02: Disc separated from stem on RTD loop isolation valves.

(Open) Unresolved Item 339/88-01-01: Potential for failure to perform a post maintenance test (see paragraph 9).

3. Plant Status

Unit 1

Unit 1 began the inspection period in Mode 5, day 4, of an unscheduled 27-day outage. Unit 1 entered the outage due to resin being discovered in the secondary systems and the steam generators. On January 23, a 35 gpm leak developed on the "B" Reactor Coolant System (RCS) loop RTD bypass line. The unit was still in Mode 5 with the RCS level being maintained at approximately 10 inches above nozzle centerline. The cause of the leak was the performance of maintenance on the wrong flange in the RTD bypass line (see section 8 for details). The leak was identified and isolated without any affect on the unit or the operating Residual Heat Removal (RHR) pump. As a result, the station manager stopped all work inside containment until the work in containment could be reviewed to ensure that personnel performing the work had conducted proper pre-job planning. Work in containment was allowed to recommence on January 24.

On February 2, a pressurizer Power Operated Relief Valve (PORV) lifted at its low pressure setpoint of 345 psig while starting the "A" Reactor Coolant Pump (RCP) (see section 11 for details). On February 8, day 27 of the resin intrusion outage, the licensee restarted Unit 1. The reactor was taken critical at 0323 on February 8 and achieved 100% power on February 12. The unit is operating at approximately 100% power as of the end of the inspection period.

Unit 2

Unit 2 commenced the inspection period operating at approximately 100% power. On February 12, the licensee voluntarily shutdown Unit 2 based on NRC concerns relating to the ASME Code Section XI compliance with several containment isolation valves (see Inspection Report 338, 339/88-02). The unit was in Mode 3 by 0135, the valves in question were tested and repaired as necessary to ensure compliance with ASME Code Section XI, and the unit was restarted on February 14. As of the end of the inspection period, Unit 2 is operating at approximately 100% power.

Both Units

On January 21, 1988, the NRC conducted an enforcement conference with the licensee in the Region II Atlanta office. The enforcement conference involved a discussion on environmental qualification type violations (see Inspection Report 338, 339/87-32) and the violations associated with inoperable steam flow instruments discovered during the Unit 2 start-up on November 4 (see Inspection Report 338, 339/87-38).

On January 26, Station Management conducted a meeting with all the station supervisors to discuss the significance of the recent problems and

violations that had been identified in the last several months. The meeting was conducted to ensure that station supervision was aware that problems have occurred, that they understood their significance, and finally that they understood the necessity to prevent their recurrence. The resident inspector attended the meeting.

4. Unresolved Items

An Unresolved Item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.

One unresolved item was identified during this inspection and is discussed in paragraph 9.

5. Licensee Action on Previous Enforcement Matters (92702)

(Closed) Violation 338/87-24-01: Failure to have a Safety Evaluation for Leaking Steam Generator Plugs and Foreign Objects. Maintenance procedures have been revised to include criteria for requiring a deviation report to be submitted for any abnormal occurrence. Administrative Procedure 5.3 includes a step in the list of review criteria to instruct the reviewer that a station deviation report be submitted when unexpected activities are encountered.

6. Licensee Event Report (LER) Follow-Up (90712 & 92700)

The following LERs were reviewed and closed. The inspector verified that reporting requirements had been met, that causes had been identified, that corrective actions appeared appropriate, that generic applicability had been considered, and that the LER forms were complete. Additionally, the inspectors confirmed that no unreviewed safety questions were involved and that violations of regulations or Technical Specification (TS) conditions had been identified.

(Closed) LER 338/87-17: Steam Generator Tube Rupture. Responses will be tracked under AIT report 338/87-24 dated August 28, 1988.

7. Review of Inspector Follow-up Items (92701)

(Closed) IFI 338/87-24-08: Review Securing of LHSI Pump Early. The licensee has received concurrence from Westinghouse that the pump was secured in the proper sequence as directed in the Emergency Response Guidelines. The licensee has determined that overheating of the pumps on recirculation is not a valid concern for North Anna. Therefore, the licensee has changed their Emergency Operating Procedure to secure the LHSI pumps after the leak has been isolated.

8. Monthly Maintenance (62703)

Station maintenance activities affecting safety related systems and components were observed/reviewed, to ascertain that the activities were conducted in accordance with approved procedures, regulatory guides and industry codes or standards, and in conformance with Technical Specifications.

Unit 1 outage commenced on January 13 to flush and drain the steam generators due to resin intrusion.

The most significant work accomplished during the outage was:

a. Replacement of "A" reactor coolant pump seal;

b. "C" main steam trip valve overhaul;

c. Motor changeout of "A" recirculation fan;

d. Overhaul of 1-SI-P-1B (LHSI pump B);

e. Flush and fill of steam generators to remove resin fines.

The inspector made containment entries to observe work on items (a) and (c) above. No problems were identified.

The Low Head Safety Injection Pump, 1-SI-P-1B, was overhauled due to its marginal acceptance of the differential pressure criteria during previous periodic tests. (See Inspection Report 338, 339/87-34)

Following the pump overhaul, the inspector observed the installation of 1-SI-P-1B (Low Pressure Injection Pump) and reviewed the purchasing of the spare parts that were replaced on 1-SI-P-1B. It was determined from discussion with the licensee's Engineering and Quality Assurance Departments that several of the parts were purchased from another facility as non-safety related. This included three shaft sleeves and "O" rings. The inspector had a concern that these were purchased as non-safety related parts instead of safety related. The licensee had written a risk release document which was dispositioned by Engineering saying that the non-safety related parts could be used until the next outage. The risk release document is a licensee internal document which allows parts which do not meet all of the requirements to be released for installation pending further engineering review. This review must be completed before the piece of equipment for which the parts were used is declared operable.

The licensee has written a Technical Report No. ME-0011, Rev. 1, which accepts the journal sleeves as meeting the three criterial for commercial grade as described in 10 CFR 21. The licensee then dedicated these sleeves for use as a base component in the LHSI pump based on the dimensional requirements being verified by receipt inspection and receipt of a letter from the pump vendor stating that the material is the same for commercial

as for nuclear grade. The licensee's intention, based on a letter from the vendor verifying the parts as acceptable and Revision 1 of Technical Report ME-0011, is not to replace the journal sleeves, but to accept them as is. This process was discussed with the NRC staff in Region II and determined to be acceptable.

On January 23, with Unit 1 in Mode 5 and vessel level being maintained at approximately 10 inches above nozzle centerline, the operator noticed an increasing reactor sump level. The vessel level which was being monitored by a standpipe located in the containment with a television monitor in the control room also indicated a decreasing level. The operators secured letdown, increased makeup to the vessel and entered 1-AP-16, Excessive Primary Leakage. Shortly after discovering the loss of water from the primary, the operators were contacted by mechanics in the containment and informed of a leak from a loop B RTD bypass line flange which the mechanics could not isolate. The operators maintained vessel level well above that necessary to provide Net Positive Suction Head (NPSH) to the operating RHR pump, continued to monitor the operation of the RHR pump and dispatched four operators into the containment to isolate the leak.

The leak was isolated approximately 30 minutes after discovery by an operator shutting one of the RTD bypass line isolation valves (1-RC-59) inside containment. The leak was determined to be approximately 35 gpm and a little over a 1000 gallons had leaked into the containment sump. The Health Physics (HP) Staff conducted sampling activities and determined that an airborne condition did not occur and that there was no indication of any radioactive release.

Following the leak isolation, the operators vented the operating RHR pump and determined that no air or gases had entered the pump. Also the Shift Supervisor had entered containment and determined that the standpipe level scale (ruler) had been installed approximately six inches above where it should have been, therefore, actual vessel level was being maintained at approximately 16 inches instead of 10 inches above nozzle centerline. Based on the above and the fact that the elevation of the flange which caused the leak was actually above the top of the nozzle there did not exist a potential for a loss of all RHR.

The inspector reviewed the licensee's procedures for installation of the standpipe and the level scale (ruler). The instructions for installation of the standpipe were contained in 1-OP-5.4, Draining the Reactor Coolant System, which stated, "Request the planning dept. to generate repetitive work orders to remove blank flanges and install the desired spool pieces and level hose." There were no other instructions for installation with the exception of a signoff in 1-OP-5.4 for the level hose installed between 1-RC-104 and pressurizer vacuum breaker tee. The inspector determined, based on discussion with the operators, that the ruler is installed by the operators without any procedure. The standpipe, a tygon hose, is connected to valve 1-RC-104 which penetrates the Reactor Coolant System (RCS) at an elevation approximately nozzle centerline. Consequently, the operators locate the ruler next to the tygon hose so that the bottom of the ruler is located approximately the same elevation as the

valve's, 1-RC-104, penetration into the loop. Since there is no formal method or procedure to install the standpipe and level scale, then there are no checks, signoffs or second verification to ensure that the standpipe and level scale is installed properly. The failure to have an adequate procedure to ensure proper installation of the RCS level standpipe and reference level scale will be identified as the first example of Violation (338/88-01-01).

The licensee determined the cause of the leak to be the failure of the mechanics to perform maintenance on the right flange inside containment. The mechanics were requested to repair a leak on flow element flange 1-RC-FE-1491 per work order 5900070293. The mechanics were to perform their repair per Mechanical Maintenance Procedure, MMP-C-P-4, Disassembling, Inspection, Repairing, Reassembling Safety-Related Piping System Bolted Flanges in General.

There were two flanges located in the same general area on the loop B RTD bypass line, one to the flow element 1-RC-FE-1491 which was the flange that was supposed to be worked and the other to flow orifice 1-RC-RO-1. Both flanges had their lagging removed, neither had identification tags installed and the wrong flange 1-RC-RD-1 was the only one with boric acid on it because the other flange had been cleaned in preparation for work. Consequently, the mechanics choose the flange to work, based on the boric acid buildup and the fact that they found several loose bolts, instead of leaving the containment to make sure which was the right flange. The licensee also determined that the location of the item to be worked or whether it would be identified was not discussed during the mechanics pre-work briefing.

The inspector questioned why maintenance on a loop RTD bypass line flange had not had isolation set prior to the start of work. The licensee informed the inspector that isolation had been considered but based on the elevation of the flange and the fact that vessel water level was being maintained well below that elevation, the Shift Supervisor considered isolation unnecessary. The inspector is aware of a desire on the part of the licensee not to use the RTD bypass line isolation valves because most of them have had their discs separated from the valve stem. This condition was discovered by the licensee back in 1985 but was determined to be acceptable as long as flow through the RTD line was sufficient to keep the loop RTD's operable. Consequently closing these valves may prevent them from being reopened by the RTD bypass line flow which would result in inoperable RTD loop protection signals. During the restart following the outage sufficient flow was developed in the "B" loop RTD bypass line indicating that the valves did unseat and continued operation with these valves was considered acceptable. Based on the continued acceptable RTD bypass flow through these valves and the high dose that would be encountered during their repair or replacement, the licensee has elected not to perform permanent repairs at this time. However, the licensee informed the inspectors that they intend to make permanent repairs in the future and are still in the process of determining the best method. The inspector reviewed the licensee justification for operation

with inoperable valves and requested regional review of this problem. This is identified as inspection followup item (338,339/88-01-02).

The failure of the licensee to properly isolate and perform work on the correct component per Maintenance Work Order 5900070293 and MMP-C-P-4 resulting in approximately a 1000 gallon leak from the RCS constitutes a failure to follow procedure. This failure to follow procedure will be identified as the second example of Violation (338/88-01-01).

As a result of the event, the Station Manager stopped all work inside containment until the event could be fully evaluated and until all other work could be reviewed to ensure that proper pre-job planning had been performed. Work was allowed to recommence on January 24. It should also be noted that this event occurred just prior to the scheduled licensee management meetings with all station personnel to discuss the importance of attention to detail and proper adherence to procedures. This particular event was used as one of the examples of the problems that had occurred stressing the importance of following procedures. The meetings commenced on January 26, two days after the flange leak incident.

All three steam generators were flushed and drained to remove any intrusion of powdex resins. The feedwater and condensate lines were also flushed and sampled. An inspection of the condensate polishers indicated that several internal candles had come loose at the bottom allowing resin fines to escape. The licensee has had a manufacturer's representative in to look at the problem. Procedures and tests are being developed to prevent recurrence. The licensee is writing a voluntary LER.

The "C" Main Steam Trip Valve (MSTV), 1-MS-TV-101C, was investigated to determine possible problems due to unusual noise. After the investigation, which was inconclusive, the valve failed to pass the periodic test procedure 1-PT-212.9 for valve stroke. The closing time took greater than six seconds on several attempts to perform 1-PT-212.9. This is greater than the maximum five seconds allowed by Technical Specifications requiring the valve to remain inoperable.

The inspector reviewed work request 530643 to overhaul the C MSTV. The licensee replaced the springs in both actuators for the valve and the valve still failed. An engineering work request was written which increased the size of the bleed-off line from the actuators from a one-half inch line to a one inch line and an additional solenoid valve was installed (via an approved modification). Retest of the valves then indicated a 3.9 second closure which was acceptable.

The inspector reviewed work request 371640 and observed the work on main steam non-return valve (1-NRV-102C) on Unit 1 steam generator "C" outlet. The non-safety related valve had been previously Furmanited to stop a leak and the Furmanite was being removed to allow repacking the valve for the permanent repair.

The inspector also observed replugging of leaky tubes on the first stage feedwater heater 2-FW-E-1A for Unit 2.

The inspector reviewed and observed work being performed per work request 238703 on Unit 2 auxiliary turbine driven feedpump. The pump was being repacked, the oil was drained and replaced, and a leaky lube oil cooler was removed, plugged and reinstalled. The inspector observed the surveillance test performed after the work had completed (see Surveillance Section for 2-PT-71.1).

9. Monthly Surveillance (61726)

The inspectors observed/reviewed technical specification required testing and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation (LCO) were met and that any deficiencies identified were properly reviewed and resolved.

The inspector observed the following surveillances:

a. 2-PT-71.1, Test of Auxiliary Turbine Driven Feedpump. The test failed due to a high differential pressure which caused the relief valve to open. The governor was readjusted and the pump was retested satisfactorily. During the course of the test, the motor driven auxiliary feedpump room filled with steam. The licensee traced the problem to the drain lines from the turbine driven feedpump to the motor driven feedpump room being crosstied and isolated by a foot valve which stuck open. This allowed drains from the turbine driven auxiliary feedpump to back up into the motor driven pump room. The licensee worked on the foot valve and the volume of steam was reduced. The licensee stated the amount of steam still leaking was insignificant and would be removed by the exhaust system.

b. On February 3, 1988, the inspector observed Periodic Test 1-PT-212.4 to determine closing time of 1-MOV-FW-154C, the main feedwater isolation valve for "C" steam generator. This valve failed the periodic test by closing in excess of the required maximum of five seconds. A deviation report and work request was submitted to Engineering who dispositioned them, stating under 6.5 seconds was acceptable for the safety analysis (FSAR allowed closure time is 9 seconds).

c. On February 3, 1988, at 1817, the Unit 1 reactor coolant pump "C" was secured to stroke 1-TV-CC-102A and 1-TV-CC-100C using periodic test 1-PT-212-1. No problems were identified.

d. On February 11, 1988, as a result of a concern by an NRC Quality Assurance Audit Team, the licensee decided to stroke 2-TV-CC-203 A and B, which are the component cooling water from the residual heat removal and excess letdown heat exchanger (see Inspection Report 338, 339/88-02).

The resident inspector entered the Unit 2 outside penetration area with a licensee engineer to witness the stroking of the valves using Periodic Test 2-PT-212.1.

When the stroke test was performed on 203A, the valve closed limit switch light never actuated in the control room. It was observed by the inspector that the valve started to close approximately 30 seconds after the solenoid was deenergized and the valve rotated 90 degrees to the close position. A retest of the valve using a stopwatch in the penetration area indicated the valve closed in 47.8 seconds. Valve 203 B was also tested and closed in 62.5 seconds. This was above the required 60 seconds in Technical Specification 3.6-1.

The licensee engineer and inspector noted that one-fourth inch piping was installed on the outlet port of the solenoids. The inspector questioned if a modification had been made and was informed that the valves were modified during the Unit 2 outage. The inspector asked the licensee to retest the valves without the tubing and research the stroke times before and after the modification change. The research showed the times had changed significantly after the modification. The licensee wrote an engineering work request and removed the tubing and the valves retested at 16.5 and 24.4 seconds, respectively.

The inspector obtained copies of engineering work requests 86-498 A, B, and C, which installed the tubing on the discharge of the solenoid valves. It was determined that "ASCO" recommended to the licensee that the exhaust port of their catalog NP-1 valves should be fitted with downward pointing street elbows to prevent moisture from entering the internal areas of the valve. It stated that moisture entering the internal areas of the valve could cause degradation of internal parts, galling of piston, scale buildup and mechanical failure of the valve.

In addition, QDR 35.1 and ASCO qualification reports AQR-67368 and 21678 require the solenoid operated valves be vented and arranged such that chemical spray will not enter the system through any vent opening.

A review of the licensee Engineering Work Request that installed the modifications revealed that the licensee allowed the use of tubing to fitting adapters as well as street elbows to be installed. The tubing restricted the air flow causing the valves to close more slowly. A further review indicated that Administrative Procedure 3.8, Attachment 1 (Design Procedure Input Checklist) indicated on page 3 that test requirements including in plant tests was marked not applicable for all three engineering work requests 86-498 A, B and C.

The inspector was concerned that modifications had been made to the valves without testing. The Technical Specification requires the valves to be operable in Mode 1 thru 4.

The inspector was informed that some of the valves were tested by Operations during performance of routine periodic test before entering Mode 4 and even though the valves passed, some of the stroke times had increased. The licensee did not identify at that time that the stroke times had increased due to the modification. The licensee is investigating to determine if any modifications were made after leaving Mode 5. Any modifications made after leaving Mode 5 would require post modification testing prior to the valve being declared unoperable. This will be identified as Unresolved Item (URI) 339/88-01-01, pending inspector review to determine if the modifications were installed after leaving Mode 5 and if post maintenance testing was performed.

e. On January 29, the inspectors witnessed Special Test 1-ST-77 which performed a retest on the LHSI pump 1B following its overhaul (see Maintenance, Section 8). The test first placed the LHSI pump in the recirculation mode and completed 1-PT-57.1B, ECCS Subsystem Low Head SI Pump (1-SI-P-1B) satisfactorily. Then with the unit in Mode 5, the pressurizer level at 10% and the pressurizer PORVs blocked open, the licensee opened the LHSI pump discharge valve to perform a full flow test of the pump which was not required by regulations. Shortly after the discharge valve was opened, and flow and pressure data were taken, the LHSI pump was secured to prevent filling the pressurizer solid (approximate 40 second run time).

Based on full flow data and associated discharge pressure data taken, the pump was determined to be operating well above the design operating curve. The licensee determined that the flow reading was correct, based on a comparison with the change in pressurizer level, and in line with the expected flow rate for those conditions. However, the discharge pressure was too high. The licensee determined, based on a calculation of the horse power needed to develop the recorded discharge pressure and flow rate, that the pump had an efficiency greater than one, which is impossible. Since the flow rate had been determined to be accurate, the licensee concluded that the discharge pressure data at full flow was not correct. Using the data recorded from the recirculation phase of the pump operation, both at full recirculation, approximately shutoff head and full flow, the licensee was able to calculate, based on some conservative assumptions, a best estimate of the discharge head of the pump at full flow. This discharge head and flow data point was just below the design head curve but above the curve used for the basis for Emergency Core Cooling System (ECCS) performance. After discussion with the vendor, a review of the vibration data which was very low, achieving a satisfactory flow rate, the satisfactory performance of the Technical Specification required surveillance, and an engineering review of the calculational basis for the estimate of the pump head at full flow conditions, the licensee declared the LHSI pump 1B fully operational. The licensee has been unable to determine the cause of the incorrect discharge pressure reading.

f. On January 29, the inspectors witnessed the stroke time testing of MOV 1890D, a LHSI pump discharge valve. The test which was conducted per 1-PT-213.8, Valve Inservice Inspection (Safety Injection System) was performed satisfactorily.

No violations or deviations were identified.

10. ESF System Walkdown (71710)

The following selected ESF systems were verified operable by performing a walkdown of the accessible and essential portions of the systems on February 16, 1988.

The inspectors walked down the valve alignment of the Unit 1 Low Head Safety Injection System using valve checkoff list 1-OP-7.1A. The manual valves inside containment and the valves in the safeguard valve pit area were not checked. No problems were identified.

The inspectors informed the licensee of the following observations:

a. The valve area had various tools and trash laying around;

b. Staging was installed in the Low Head Safety Injection (LHSI) pump cubicles;

c. Valves 1-SI-217 and 1-SI-314 need caps installed;

d. Valve 1-SI-307 (Recirculation Line Vent) had boron residue on the pipe cap and packing gland indicating a leak.

The licensee has removed the tools, trash, and staging from the LHSI area. The inspectors also requested that the licensee perform safety evaluations in the future prior to installing any equipment such as staging around safety related equipment. The licensee has committed to performing these safety evaluations.

No violations or deviations were identified.

11. Operational Safety Verification (71707)

By observations during the inspection period, the inspectors verified that the control room manning requirements were being met. In addition, the inspectors observed shift turnover to verify that continuity of system status was maintained. The inspectors periodically questioned shift personnel relative to their awareness of plant conditions.

Through log review and plant tours, the inspectors verified compliance with selected Technical Specification (TS) and Limiting Conditions for Operations.

In the course of the monthly activities, the resident inspectors included a review of the licensee's physical security program. The performance of various shifts of the security force was observed in the conduct of daily activities to include: protected and vital areas access controls, searching of personnel, packages and vehicles, badge issuance and retrieval, escorting of visitors, patrols and compensatory posts. In addition, the resident inspectors observed protected area lighting, protected and vital areas barrier integrity and verified an interface between the security organization and operations or maintenance.

On a regular basis, Radiation Work Permits (RWP) were reviewed and the specific work activity was monitored to assure the activities were being conducted per the RWPs.

The inspectors kept informed, on a daily basis, of overall status of both units and of any significant safety matter related to plant operations. Discussions were held with plant management and various members of the operations staff on a regular basis. Selected portions of operating logs and data sheets were reviewed daily.

The inspectors conducted various plant tours and made frequent visits to the control room. Observations included: witnessing work activities in progress; verifying the status of operating and standby safety systems and equipment; and confirming valve positions, instrument and recorder readings, annuciator alarms, and housekeeping.

The following comments were noted:

On February 2, with Unit 1 in Mode 5 preparing to return to power operation, a Power Operated Relief Valve (PORV) lifted at it's low pressure setpoint. The Unit was solid with pressure approximately 320 psig and the "B" Reactor Coolant Pump (RCP) operating just prior to the event. The licensee had just started the "A" RCP and the operators were increasing pressure to maintain the necessary differential pressure across the number one seal on the "A" RCP. By the pressure indication available to the operator in the control room, primary pressure appeared to be stable around 335 psig. However the PORV lifted at its setpoint of 345 psig. The operators immediately began reducing pressure by increasing letdown to reclose the PORV but also tried to maintain the necessary 200 psig across the "A" and "B" RCP number one seals. The PORV reclosed but the operators were unable to maintain the necessary differential pressure across the number one seals and the "A" and "B" RCPs had to be secured. Initial NRC review of the events surrounding this value lifting indicated no operational problems.

The licensee has determined several corrective actions which should prevent recurrence of PORV activations during solid plant operations. These corrective actions will be detailed in the LER 88-008 to be issued by the licensee before March 2. The inspector will review and follow up on these corrective actions during the associated LER review and close out.

On February 12, the licensee voluntarily shut Unit 2 down in response to questions raised by the NRC concerning compliance with ASME Code Section XI on certain containment isolation valves (see Inspection Report 338, 339/88-02 for details). These containment isolation valves were associated with component cooling water to the RCPs and should not be stroke tested with the RCPs running. Consequently, the licensee shut the unit down to allow securing of the RCPs for stroke testing and repairs as necessary of the component cooling water containment isolation valves.

The inspectors witnessed the testing of several of the valves per 1-PT-212.1, Valve Inservice Inspection (Component Cooling System). All of the valves were tested satisfactorily with the exception of TV-CC-201B which closed in 62.4 seconds. The Technical Specification (TS) requirement for this valve is less than 60 seconds and the results from the last satisfactory test performed on October 25, 1987, indicated the valve closed in 6.6 seconds. The valve was declared inoperable and the appropriate TS action statement was entered.

The licensee removed, overhauled and reinstalled the solenoid valves associated with TV-CC-201B and all other valves that had previously failed or were in the alert condition. The overhaul and inspection of the solenoid valve TV-SOV-CC-201B did not reveal any problems which would have caused the solenoid to stick. The licensee completed retests of the component cooling water containment isolation valves prior to the unit restart. All the valves were tested satisfactorily and TV-CC-201B closed in approximately 6.2 seconds. Unit 2 was restarted on February 14 and placed back on line on February 15, 1988.

No violations or deviations were identified.