

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

050272-840822 050311-840813  
050272-840829 050311-840826  
050272-841013 050311-840905  
050272-841020 050311-840906  
050272-841022 050311-840924  
050272-841023 050311-841004

Report Nos. 50-272/84-36  
50-311/84-35

Docket Nos. 50-272  
50-311

License Nos. DPR-70  
DPR-75

Licensee: Public Service Electric and Gas Company  
80 Park Plaza  
Newark, New Jersey 07101

Facility Name: Salem Nuclear Generating Station - Units 1 and 2

Inspection At: Hancocks Bridge, New Jersey

Inspection Conducted: September 25 - October 25, 1984

Inspectors: ju Bentley Hellman 11/7/84  
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Inspection Summary:

Inspections on September 25 - October 26, 1984 (Combined Report Numbers 50-272/84-36 and 50-311/84-35)

Areas Inspected: Routine inspections of plant operations including: status of previous inspection items, review of periodic and special reports, licensee event report review, operational safety verification, surveillance observations, maintenance observations, operating events, startup testing following refueling, main steam line radiation monitor operability, and boric acid crystal buildup on safety related components. The inspection involved 191 inspector hours by the resident NRC inspectors.

Results: One violation involving failure to comply with the Technical Specification requirements for containment isolation valves was identified (paragraph 5). Other concerns discussed requiring licensee action included implementation of emergency procedures for use of the Unit 1 reactor head vents, replacement of the remaining ECCS throttle valves, development of a program for control of the placement of scaffolding in the vicinity of safety related equipment (paragraph 1), review of documentation to assure that all 4KV and 480 volt switchgear has been properly maintained as safety related (paragraph 7), submittal of LERs for the trips on both units (paragraph 8), development of a program to prevent leaks which cause boric acid crystal buildup on safety related equipment (paragraph 10), and resolution of the Steam Generator tube inspection per Technical Specification 4.4.6.3c (paragraph 8b).

The licensee also committed to implement the actions required by the proposed Technical Specification on main steam line radiation monitors until the Technical Specification is issued (paragraph 9).

## DETAILS

### 1. Persons Contacted

Within this report period, interviews and discussions were conducted with members of licensee management and staff as necessary to support inspection activity.

### 2. Status of Previous Inspection Items

(Closed) Unresolved Item (311/83-19-04): This item involved the installation of cargo nets and other corrective actions to protect the Refueling Water Storage Tanks in the event of failure of the masonry block walls forming a weather enclosure between the auxiliary building and the controlled facilities building. The inspector verified that the cargo nets and bracing shown in the drawing attached to the licensee's December 8, 1982, letter is installed.

(Closed) Inspector Followup Item (311/84-13-06): This item involved a water hammer in no. 23 feedwater line which occurred when stopcheck valve 23BF22 failed to check while stroke testing feedwater regulating valve 23BF19. The inspector reviewed licensee engineering evaluation S-2-F300-MGE-021 Revision 0, Feedwater System Transient April 6, 1984. The inspector also verified that the requirement to positively close the feedwater stop check valves prior to testing the feedwater regulating valves has been implemented.

(Closed) Unresolved Item (311/83-19-02): This item involved failure to properly control containment access through an inoperable air lock with a failed door seal. The inspector reviewed the revised surveillance procedure SP(0)4.6.1.3.a which requires that air locks be tagged out of service when test failures of the door seals occur. The inspector also noted that a Technical Specification change has been issued reducing the test pressure from 47 psig to 10 psig and that the general employee training has been modified to include instructions for operation of air lock doors. These measures should reduce the incidence of air lock door seal failures.

(Closed) Inspector Followup Item (311/83-24-07): This item also involved failure to properly control containment access through an inoperable air lock with a failed door seal. Inspector review of item 311/83-19-02 above also applies to this item.

(Closed) Violation (311/84-15-07): This violation involved the failure of the Site Operations Review Committee (SORC) to review a post trip review report prior to restart when the cause of the trip was not clearly understood. The inspector reviewed the revised post trip review procedure AD16, which now requires that SORC review of post trip reports and make recommendations to the General Manager - Salem Operations regarding restart.

(Closed) Violation (311/84-15-06): This violation involved the failure to follow an operating procedure which required that a manual isolation valve

downstream of the feedwater regulating valve be closed when the condensate cleanup demineralizer is in service. Failure to close this valve contributed to a water hammer event when the downstream check valve failed to close while stroke testing the feedwater regulating valve. The inspector reviewed the revisions to the procedures for stroke testing the feedwater regulating valves, SP(O)4.0.5.V-MD, and for cooling down the facility, IOP 5, which require that the stop check valves be closed while testing feedwater regulating valves and while in cold shutdown.

(Closed) Violation (311/83-31-01): This violation involved failure to review and approve vendor laboratory analysis procedures as required by Technical Specifications (TS). This violation was withdrawn by NRC Region I letter dated August 21, 1984 in which is stated the licensee position that the TS requirement applies only to procedures used on site and that, for activities offsite, licensee in-process Quality Assurance reviews of procedures are sufficient.

(Closed) Inspector Followup Item (311/84-19-02): This item involved Site Operations Review Committee (SORC) review of high head safety injection throttle valves manufactured by Rockwell International which had disks that were backed off the disk nuts. The inspector reviewed the SORC minutes for meetings 84-066A of May 30, 1984, and 84-068 of June 4, 1984, and found that they accurately reflected the discussions at the meeting.

(Closed) Inspector Followup Item (311/83-26-01): This item involved the premature lift of four SG code safeties during surveillance testing. Subsequent investigation by the licensee and the vendor indicated that the premature lift set was caused by improper installation of the air set device with studs that were too short. The licensee corrected the problem by using longer studs and is investigating purchasing a training film to prevent recurrence.

(Closed) Unresolved Item (311/79-18-04): This item involved the need for the licensee to discuss with NRR the failure to construct a planned boat launching facility and picnic area near the facility as described in section III.A.b.c of the SNGS Environmental Report, Operating License Stage. The licensee has elected not to construct this facility in proximity to the plant. Given the minimal safety and environmental significance of this item, no further NRC concern is warranted.

(Closed) Unresolved Item (311/83-24-04): This item involved an inadvertent pressurizer overpressure protection system actuation during the performance of manual safety injection surveillance test SP(O)4.3.2.1.a as described in LER 311/83-29. Although the procedure required that the centrifugal charging pumps be removed from service for the test, one was inadvertently restored during a delay in the test. To prevent recurrence the licensee issued an on-the-spot-change to the procedure adding a precaution to insure the centrifugal charging pumps are removed from service just prior to actuating the safety injection signal.

(Closed) Inspector Followup Item (311/83-36-01): This item involved the trip of 2C diesel generator while accelerating to speed during a surveil-

lance test and the fact there had been several valid test failures of Unit 2 diesel generators at the time. The specific case is being tracked under open item number 311/83-37-02. The more general issue of diesel generator surveillance testing requirements was addressed by a recent licensee letter to NRR dated September 26, 1984 in response to generic letter 84-15.

(Closed) Unresolved Item (272/84-04-04): This item involved repair of a through wall crack at the joint connecting a vent line with valves 1SJ298 and 299 to the boron injection tank (BIT) injection line. During the current Unit 1 refueling outage the licensee removed the temporary encapsulation repair and installed a permanent repair involving removal of the pipe nipple and installation of the vent valve directly on the BIT line. The licensee feels this will minimize the affect of the BIT line vibration and prevent further cracking. This solution was also applied to other vent and drain connections in the charging system to eliminate this recurrent problem. The inspector reviewed DCR 1EC1822 which documented the permanent repair of 1SJ298 and 299.

(Closed) Unresolved Item (311/84-23-05): The licensee counseled the individuals involved in the need for thoroughly evaluating problems like the crack in the charging pump suction header to ensure that timely corrective action is taken. In this case it was two shifts before a shutdown was initiated after a maintenance supervisor evaluated the leak because of operator complacency associated with recurrent charging system vent and drain line pipe cracks. This issue was discussed in the SALP report.

(Open) Inspector Followup Item (272/84-08-07): This item involved the installation of the Reactor Vessel Head Vents and the ability to restore the valves to an operable status. During the Unit 1 fifth refueling outage the RV head vents were satisfactorily preoperationally tested. Since there still is no guidance for emergency use of the vents, administrative controls similar to those previously established for Unit 2 have been effected. This includes tagging and lifting the leads from the control room key lock switches to prevent valve operation. This item remains open pending future review to ensure that the valves are properly tested in accordance with the Inservice Test program and that proper guidance for usage is available in the new emergency procedures.

(Closed) Inspector Followup Item (272/84-13-07): This item involved the resolution of the core exit thermocouple (CET) support column that was bent on March 25, 1984 during placement of the RV head. The licensee elected to repair the column and replace the 13 failed CETs during the refueling outage. Therefore, it was not necessary to redefine the core axes to obtain 4 operable qualified CETs per quadrant of the core. Following the repair the licensee determined that 10 of the 13 CETs were made operable.

(Closed) Inspector Followup Item (272/84-08-04): This item involved the replacement of the resistance temperature detector bypass loop isolation valves (Rockwell-International 2-inch stainless steel globe valves) which had experienced a separation of the stem from the disk. During the fifth

refueling outage, the valves were replaced with a valve of different design manufactured by Yarway Corporation. During functional testing following completion of the work, 2 flow orifices were installed backwards. This resulted in low flow indication on 2 of the RTD loops. It appears that this was an original construction deficiency that just recently became evident due to the different flow characteristics of the newly installed valves. The flow orifices were reversed and proper flow characteristics were established.

(Closed) Inspector Followup Item (272/84-04-03): This item involved the erratic seal leakoff indications on the No. 13 Reactor Coolant Pump during the last operating cycle. The licensee replaced the seal package during the refueling outage and there has been no recurrence of the loss of flow.

(Closed) Inspector Followup Item (272/83-38-02): This item involved the failure of the No. 14 Containment Fan Coil Unit (CFCU) fan suction expansion joint. A temporary repair was made at the time of failure to restore operability of the CFCU. During the refueling outage, Design Change Package ISC1357 was implemented for all Unit 1 CFCUs, which replaced these expansion joints with joints of a different material to prevent recurrent failures. The inspector had no further questions at this time.

(Open) Inspector Followup Item (272/84-23-02): This item involved failures of the Safety Injection (SI) System flow throttle valves as reported in Unit 1 LER 84-012. Corrective actions taken during the refueling outage included implementing Design Change Package IEC-1907. This replaced valves 11-14SJ16, which are the high head SI throttle valves. The new design included a new throttle valve and also a manual isolation valve for each of 4 injection loops. The latter was intended to prevent excessive use of the throttle valves as blocking points for maintenance. During functional testing of this modification two flow orifices were found installed backwards which prevented the system from meeting the Technical Specification acceptance criteria. The flow orifices were re-installed properly and the valves were successfully retested. In LER 84-012 the licensee stated that the remainder of the affected ECCS flow throttle valves will be replaced later. The inspector will continue to follow the licensee's actions to ensure valve integrity.

(Closed) Inspector Followup Item (272/84-13-05): This item involved structural modifications to the Service Water Intake Structure to meet flood protection requirements as discussed in Unit 1 LER 84-009. During the refueling outage Design Change Package IEC-1837 which raised the flood protection for the intake structure to elevation 128', in accordance with Design Evaluation S-C-2180-CDM-228 was implemented. This will provide sufficient protection from the maximum probable wave occurrence.

(Open) Inspector Followup Item (272/84-32-02): This item involved the placement of scaffolding in the vicinity of safety related equipment which could jeopardize the operability of the equipment in the event of a seismic event. The licensee eventually removed the scaffolding in question

from the Unit 1 electrical penetration area and some additional scaffolding which had been placed subsequently in the Unit 1 4KV switchgear room. However, this item remains open pending the development of a program to control the placement of scaffolding in the vicinity of safety related equipment.

### 3. Review of Periodic and Special Reports

Upon receipt, the inspectors reviewed periodic and special reports. The review included the following: inclusion of information required by the NRC; test results and/or supporting information consistent with design predictions and performance specifications; planned corrective design predictions and performance specifications; planned corrective action for resolution of problems, and reportability and validity of report information. The following periodic reports were reviewed.

- Unit 1 Monthly Operating Report - September 1984
- Unit 2 Monthly Operating Report - September 1984

No violations were observed.

### 4. Licensee Event Report (LER) Review

The inspectors reviewed LER's to verify that the details of the events were clearly reported. The inspectors determined that reporting requirements had been met, the report was adequate to assess the event, the cause appeared accurate and was supported by details, corrective actions appeared appropriate to correct the cause, the form was complete and generic applicability to other plants was not in question. Details of onsite followup are included, if applicable.

#### Unit 1

- 84-19 Impingement of Sea Turtle in the Circulating Water Intake
- 84-20 Containment Airlocks - Design Deficiency

This report details a deficiency in both Units 1 and 2 Containment Airlock design. Additional details of this event are document in paragraph 9 of NRC Inspection Report 50-272/84-32, 50-311/84-32.

#### Unit 2

- 84-20 Component Cooling System Valve Not Locked - Required Surveillance Not Performed

This report described a missed valve position check surveillance on the spent fuel pool heat exchanger (SFPHX) flow control valve, 2CC37, required when the valve was inadvertently left unlocked. Licensee investigation

determined that this throttle valve should not be maintained locked and that it should be checked on the monthly valve lineup surveillance. It further identified a procedural inadequacy which incorrectly required that another valve 2CC38, the SFPHX outlet valve be throttled instead of 2CC37. The procedural inadequacy has been corrected. The inspector verified that the corrective actions have been completed.

84-21 Reactor Trip from 100% - Low-Low Level No. 24 Steam Generator

This report details a trip of the reactor from 100% power due to low low level in No. 24 Steam Generator caused by a failed speed pick up sensor. The report indicated that replacing the speed sensor corrected the problem. However, after another speed sensor failure on September 4, 1984, the licensee found that the speed sensor failures were caused by a loose mounting bracket as indicated in the inspector review of this event documented in paragraph 9B of Inspection Report 50-311/84-32. The licensee reported this information in LER 84-22.

84-22 Reactor Trip from 54% - Steam Flow/Feed Flow Mismatch Coincident with Low Level in No. 24 Steam Generator

This report detailed a reactor trip from 54% power due to steamflow/feedwater mismatch coincident with low level in No. 24 Steam Generator caused by an apparent trip of No. 22 Steam Generator feedwater pump from feedwater system flow oscillations from the introduction of air into the system when No. 22 condensate pump shaft sheared. Inspector review of this event is documented in paragraph 9B of Inspection Report 50-311/84-32.

84-23 Plant Vent Sample Pump Inoperable

This report detailed the inadvertent deenergization of the plant vent sample pump in a remote location which resulted in a failure to have available a charcoal cartridge for required monthly and quarterly composite iodine samples. Due to two previous occurrences, the licensee has initiated a design change to provide a low flow alarm and a requirement that the charcoal cartridge from radiation monitor 2R41B be retained as a backup for composite samples.

5. Operational Safety Verification

a. Control Room Observations

Daily, the inspectors verified selected plant parameters and equipment availability to ensure compliance with limiting conditions for operation of the plant Technical Specifications. Selected lit annunciators were discussed with control room operators to verify that the reasons for them were understood and corrective action, if required, was being taken. The inspectors observed shift turnovers biweekly to ensure proper control room and shift manning. The inspectors directly observed operations to ensure adherence to approved procedures.



b. Shift Logs and Operating Records

Selected shift logs and operating records were reviewed to obtain information on plant problems and operations, detect changes and trends in performance, detect possible conflicts with Technical Specifications or regulatory requirements, determine that records are being maintained and reviewed as required, and assess the effectiveness of the communications provided by the logs.

On October 19, 1984 a review of the control room logs indicated that containment isolation valve 1CV68 had failed an operability test at 9:30 p.m. on October 18, 1984 with the unit in the startup mode, when it failed to stroke closed following maintenance to stop a packing leak on October 18. The maintenance activity was authorized per Work Order No. 84-10-17-039-6. With the valve inoperable since it did not meet its closure time requirement, the operators successfully tested valve 1CV69 for closure response time. This valve is another outside containment automatic isolation valve that is in series with 1CV68. Technical Specification 3.6.3.1, Table 3.6-1 would permit the use of either 1CV68 or 1CV69 as the outside containment automatic isolation valve. However, the licensee failed to recognize that valve 1CV69 had not been successfully Type C leak rate tested in accordance with Technical Specification 3.6.1.2 and 10 CFR 50 Appendix J. In fact during the refueling outage, which ended October 22, 1984, valve 1CV69 had failed its Type C test and was not repaired because 1CV68 had passed and was the only operable isolation valve required. Since 1CV69 could not pass the leak rate test, it was not operable as a containment isolation valve. This information was not available or provided to Control Room operators. Since both 1CV68 and 1CV69 were inoperable and no actions were taken to restore their operability within 4 hours or properly isolate the affected penetration, per Technical Specification 3.6.3.1 the unit should have been placed in Hot Standby within the next 6 hours by 7:30 a.m. on October 19, 1984. After the licensee was informed of this by the resident inspector, corrective measures involving isolation of the penetration were taken at about 10:00 a.m. on October 19, 1984. However, 1CV69, the inoperable isolation valve by virtue of its failure of the Type C test was the valve used by the licensee to provide isolation until 1CV68 was repaired and tested at 4:19 p.m.

The recorded leak rate for valve 1CV 69 was "greater than 20,000 SCCM" (the instrument limit). Valve 1CV 68 was tested at 367 SCCM and check valve 1CV 74 (inside containment valve) tested at 850 SCCM. Based on total "as left" Type C leakage, a margin of over 100,000 SCCM remained to the 0.6 La limit.

While the Technical Specification action statements permit isolation by an untested manual or automatic valve, it is not reasonable to use a valve which has failed its leakage test to provide isolation as was done in this case. Thus the licensee exceeded the time limits permitted by the action statement for over 8 hours. This is a violation. (272/84-36-01).

c. Plant Tours

During the inspection period, the inspectors made observations and conducted tours of the plant. During the plant tours, the inspectors conducted a visual inspection of selected piping between containment and the isolation valves for leakage or leakage paths. This included verification that manual valves were shut, capped and locked when required and that motor operated valves were not mechanically blocked. The inspectors also checked fire protection, housekeeping/cleanliness, radiation protection, and physical security conditions to ensure compliance with plant procedures and regulatory requirements.

d. Tagout Verification

The inspectors verified that selected safety-related tagging requests were proper by observing the positions of breakers, switches and/or valves.

6. Surveillance Observations

The inspectors observed portions of the surveillance procedures listed below to verify that the test instrumentation was properly calibrated, approved procedures were used, the work was performed by qualified personnel, limiting conditions for operation were met, and the system was correctly restored following the testing:

- Delta I Monitor Calibration per 2IC 16.1.008
- 24 Steam Generator Pressure Protection Channel I Functional Test per 2PD 2.6.060
- 23 Steam Generator Level Protection Channel I Functional Test per 2PD 2.6.055
- Pressurizer Pressure Protection Channel I Calibration Check per 2PD 2.2.017
- Fuel Handling Building Ventilation Radiation Monitoring System Channel 2R5 Functional Test per 2PD 4.2.006

No violations were observed.

7. Maintenance Observations

- a. The inspectors observed portions of various safety-related maintenance activities to determine that redundant components were operable, these activities did not violate the limiting conditions for operation, required administrative approvals and tagouts were obtained prior to initiating the work, approved procedures were used or the

activity was within the "skills of the trade," appropriate radiological controls were properly implemented, ignition/fire prevention controls were properly implemented, and equipment was properly tested prior to returning it to service.

- b. During this inspection period, the following activities were observed:
- Repairs to the operator on Service Water valve 11SW58 per Work Order No. 84-09-18-057-0
  - Troubleshooting Control Rod 2A4 during Rod Drop Testing per Work Order No. 84-09-17-008-6
  - 480V Breaker Maintenance per Work Order No. 84-07-25-822-9
  - Repairs to No. 21 Component Cooling Water Pump inboard bearing and outboard seal per Work Orders 99100614 and 0099 00264-7 respectively
  - Repairs to 2A diesel generator lube oil heater failure alarm per Work Order 0099 129698

The troubleshooting of Rod 2A4 was a result of an inadvertent rod drop while conducting the rod drop tests prior to Unit 1 startup. Apparently a fuse had blown in the stationary gripper coil which caused the rod to drop while its respective Rod Group was being pulled out in preparation for testing. The fuse was replaced and the rod was successfully tested. The inspector was concerned with the potential for drive mechanism damage because the rod did not drop all the way in the core but hung up at about 80 steps and then dropped the remainder of the way. Both the licensee's Engineering Department and the Westinghouse representative felt that there may have been potential for some damage to the drive mechanism but that this apparently did not occur. This is based on successful movement of the rod subsequent to the drop. The inspector will review the results of the testing during a future inspection (272/84-36-02).

During the review of documentation for the 480V Breaker Maintenance, the Work Order was found classified as non-safety related. A review of the MEL showed that all 4KV and 480V switchgear are classified safety related even though the system in which the component is used might be non-safety related. The maintenance was done on the 2H13X breaker on the non-vital Group H bus. Maintenance Department personnel had identified this apparent discrepancy during the Managed Maintenance Program review and a letter was sent to the maintenance planners to classify the Work Orders as safety related. This was to provide flexibility in use of breakers in either safety related or non-safety related applications. This guidance was implemented after the initiation of Work Order No. 84-07-25-822-9. The

procedures used by the maintenance personnel to perform the activity are classified safety related and QC hold points have been observed. Only the final QA review of the documentation has not been done on the maintenance conducted on non-safety related breakers. The licensee is reviewing the documentation to establish that all the affected switchgear have been properly maintained prior to using the breakers interchangeably in safety related and non-safety related applications.

In addition, the station QA department reviewed this concern and identified potential changes to the Field Directive explaining proper use of the MEL to prevent future misclassifications. This misclassification of work is a licensee identified violation. The inspector will review the completion of licensee's corrective actions described above during a future inspection (272/84-36-03).

## 8. Operating Events

### A. Unit 1

At 4:35 p.m. on October 13, 1984, the licensee took the reactor critical after the completion of the cycle 5 refueling and modification outage which began on February 24, 1984. Major jobs completed during the outage in addition to the refueling, included main generator rewind, control rod guide tube split pin replacement, steam generator eddy current testing, containment integrated leak rate test, and wiring of the shunt trip attachments on the reactor trip breakers into the reactor protection system. At 4:05 p.m. on October 14, the licensee shut down the unit to hot standby when unable to repair a failed reactor coolant pump thermal barrier component cooling return containment isolation valve, ICC131, within the time permitted by the Technical Specification action statement. The valve failed while reopening it after a system transient, involving starting another service water pump which caused component cooling flow oscillations through the No. 12 plate type heat exchanger, closed it. Reactor restart was delayed following repair of the valve when the A bypass reactor trip breaker failed to close during testing.

Following repairs to the ICC131 and the reactor trip switch which prevented closure of a bypass reactor trip breaker during testing, the licensee restarted the reactor again at 10:43 p.m. on October 15, 1984, and resumed low power physics testing.

While preparing to roll the generator on October 20, 1984, with the reactor critical in the startup mode, 11, 12, and 13BF13, feedwater isolation valves, closed for no apparent reason. After investigation failed to reveal the cause, while rolling the generator up to speed, the licensee shut down the unit to hot standby at 3:17 a.m. on October 21. Subsequent licensee testing could not reproduce the

event, but did demonstrate that the valves would isolate on the required high high steam generator level signals on several occasions. The licensee declared the valves operable, took the reactor critical at 9:28 p.m. on October 21, and synchronized to the grid at 3:47 a.m. on October 22.

At 3:44 p.m. on October 22, 1984, the reactor tripped from 8 percent power while performing the overspeed trip test on the turbine on turbine trip greater than P7. This permissive should not have been satisfied with power less than 10 percent.

At 2:42 p.m. on October 23, 1984, the licensee took the reactor critical following replacement of a defective first stage turbine impulse pressure transmitter which caused the trip on October 22. After completion of main generator fiber optics testing, the generator was synchronized to the grid at 10:07 p.m. The inspector will review the reactor trip further after the LER is submitted.

B. Unit 2

On September 24, 1984, the licensee identified a primary to secondary leak of about 6 gallons per day (GPD) on No. 24 Steam Generator (SG). This is about one percent of the Technical Specification limit of 500 GPD. The identification was based on the presence of tritium and sodium-24 in SG samples and elevated readings on the blowdown and air ejector radiation monitors, R15 and R19D. Neither of the Salem units has any prior history of SG tube leakage. The licensee plans to locate and plug the leak if possible during the outage which started October 4, 1984. If the leak cannot be located the licensee plans to plug the Row 1 tubes which are the most likely leakers.

As a result of a review of Technical Specifications for this event, it was determined that the licensee may have been required to conduct a special steam generator tube inspection prior to plant restart following an event on July 25, 1984, in which an automatic Safety Injection occurred following a depressurization of the RCS due to a failed open valve in the steam space of the pressurizer. Additional details of this event are documented in NRC Inspection Reports 50-311/84-27 paragraph 9b and 50-311/84-32 paragraph 4. Technical Specification Surveillance Requirement 4.4.6.3c requires a special tube inspection after a Loss of Coolant Accident with Engineered Safety Features actuation. The licensee had not considered this requirement prior to restart. The licensee's position was that a LOCA had not occurred and that a depressurization event, as described in the facility FSAR, had occurred. However, the licensee did not know if this type of event should require the steam generator tube inspections. Subsequently, the inspector found that the event was

classified as a small break LOCA in Westinghouse Topical Report WCAP 9804, which has been endorsed by the licensee. During the current refueling and modification outage the licensee plans to conduct an inspection of the No. 24 Steam Generator tubes. Prior to restart, the licensee should determine if any additional testing is warranted upon resolution of the bases for Surveillance Requirement 4.4.6.3c. This matter is considered unresolved pending this resolution (50-311/84-35-01).

At 9:15 a.m., October 4, 1984, the reactor tripped from 100 percent following a turbine-generator trip caused by a generator fault. All safety systems responded normally during the transient. The failure symptoms were similar to those of Unit 1 which forced a seven-month outage including complete rewind of the main generator. Unit 2 was cooled down in anticipation of an extended outage. The entire Westinghouse generator will be replaced with the General Electric generator originally intended for the cancelled Hope Creek 2 unit. The inspector will review the LER on this trip when it is submitted.

#### 9. Startup Testing Following Refueling

The inspectors observed portions of the following prior to startup tests to verify that the testing was properly conducted in accordance with approved procedures, that proper acceptance criteria were met and that the systems were properly restored to service.

- Hot Rod Drop Functional Tests per 1PD 5.2.001 and Work Order No. 84-09-17-008-6
- Individual Rod Position Indication Calibration per IIC 8.1.002 and IIC 8.1.003 and Work Order No. 84-08-30-034-2
- Resistance Thermocouple Detector Cross Calibration per IIC 2.5.001 with "on-the-spot-change" dated October 12, 1984

The inspector will review the documentation for these tests during a future inspection (272/84-36-04).

The inspector also witnessed portions of the low power physics testing, and reviewed selected procedures and results for consistency with Technical Specification requirements. After witnessing a portion of control rod bank worth measurement testing per part 20 of the Reactor Engineering Manual Rod Swap Reactivity Measurement, the inspector reviewed the results for the entire test and found that shutdown bank A did not meet the review criteria of plus or minus 15 percent established in the Rod Exchange Inference Procedure D056-03004B. Although the review criteria result was +16.1 percent indicating slightly excessive positive control rod worth and

shutdown margin, shutdown bank A did meet the test acceptance criteria and the review criteria for all rod banks combined of plus or minus 10 percent was met. As required by safety evaluation NFG 008 revision 2, PSE&G Rod Exchange Methodology, this discrepancy was presented to the Station Operations Review Committee (SORC) with a recommendation that no corrective action was required. SORC concurred with this recommendation.

10. Main Steam Line Radiation Monitor (MSLRM) Operability

While preparing for startup following refueling the licensee had difficulty restoring the MSLRMs to service. The licensee's position on these monitors seemed to be that they had been installed by the end of the fourth refueling outage as required by NUREG 0737 commitments in their letter dated June 11, 1982, but that there were no operability Technical Specification requirements for them yet. However, the inspector pointed out that the Order Confirming Licensee Commitments on Post-TMI Related Items dated March 14, 1983 makes maintenance of these monitors a requirement. The inspector and the licensee agreed that it would be reasonable to impose the operability requirements of the proposed Technical Specification (TS) in LCR 83-14 on the MSLRMs until the TS is issued. This would require a minimum of one operable MSLRM per steam line or initiation of an alternative measurement method such as sampling within 72 hours of failure to meet the minimum requirement. In addition, a report will be required within 14 days detailing corrective action if the minimum requirement is not met for seven days.

11. Boric Acid Crystal Buildup on the Safety Related Components

During a tour of the facility by members of an ACRS subcommittee on maintenance activities several months ago, one committee member was concerned about the number of boric acid leaks on valve packing glands and flanges of stainless steel components in safety related systems with carbon steel nuts and bolts. This concern was addressed for reactor coolant pressure boundary components in IE Bulletin 82-02. The licensee immediately cleaned up and attempted to repair the specific components identified at the time but the problem has recurred and continues on other components. While the inspector noted that the problems have been identified on some valves in high visibility areas by the application of EMITS deficiency tags, the inspector noted that many components in other areas such as the RHR pump rooms, the Boron Injection Tank rooms and the containment continue to be encrusted with boric acid crystals. When an ACRS member called to followup on the situation, the inspector informed him that the condition continues with no apparent specific program in place to address it. After discussion with the licensee on the subject, the inspector noted that some valves and flanges had been cleaned and that some additional problems had been identified by the application of new EMITS tags a few days later. The inspector will review licensee efforts to correct the problem during a subsequent inspection (272/84-36-05, 311/84-35-02).

12. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations or deviations. The unresolved item identified during this inspection is discussed in paragraph 8.

13. Exit Interview

At periodic intervals during the course of this inspection, meetings were held with senior facility management to discuss inspection scope and findings. On October 26, 1984, the inspector met with licensee representatives and summarized the scope and findings of the inspection as they are described in this report. The licensee was also afforded an opportunity to identify proprietary information provided during the inspection. No such information was identified.