



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

Report Numbers: 50-321/88-22 and 50-366/88-22

Licensee: Georgia Power Company  
P.O. Box 4545  
Atlanta, GA 30302

Docket Numbers: 50-321 and 50-366

License Numbers: DPR-57 and NPF-5

Facility Name: Hatch 1 and 2

Inspection Dates: June 25 - July 22, 1988

Inspection at Hatch site near Baxley, Georgia

Inspector: *John E. Menning*  
John-E. Menning, Senior Resident Inspector

8-30-88  
Date Signed

Accompanying Personnel: Randall A. Musser

Approved by: *Marvin V. Sinkule*  
Marvin V. Sinkule, Chief, Project Section 3B  
Division of Reactor Projects

8-30-88  
Date Signed

SUMMARY

Scope: This routine inspection was conducted at the site in the areas of Operational Safety Verification, Maintenance Observations, Surveillance Testing Observations, ESF System Walkdown, Radiological Protection, Physical Security, Reportable Occurrences, Action on Inspector Followup Items, and Licensee Action on Previous Enforcement Matters.

Results: No violations or deviations were identified.

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1. Persons Contacted

Licensee Employees

T. Beckham, Vice President-Plant Hatch  
C. Coggin, Training and Emergency Preparedness Manager  
\*D. Davis, Manager General Support  
J. Fitzsimmons, Nuclear Security Manager  
\*P. Fornel, Maintenance Manager  
O. Fraser, Site Quality Assurance Manager  
\*M. Googe, Outages and Planning Manager  
H. Nix, General Manager  
T. Powers, Engineering Manager  
\*D. Read, Plant Support Manager  
\*H. Sumner, Operations Manager  
S. Tipps, Nuclear Safety and Compliance Manager  
R. Zavadoski, Health Physics and Chemistry Manager

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

NRC Resident Inspectors

\*J. Menning  
\*R. Musser

\*Attended exit interview

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

2. Operational Safety Verification (71707) Units 1 and 2

The inspectors kept themselves informed on a daily basis of the overall plant status and any significant safety matters related to plant operations. Daily discussions were held with plant management and various members of the plant operating staff. The inspectors made frequent visits to the control room. Observations included instrument readings, setpoints and recordings, status of operating systems, tags and clearances on equipment, controls and switches, annunciator alarms, adherence to limiting conditions for operation, temporary alterations in effect, daily journals and data sheet entries, control room manning, and access controls. This inspection activity included numerous informal discussions with operators and their supervisors. Weekly, when on site, selected ESF systems were confirmed operable. The confirmation was made by verifying the following: accessible valve flow path alignment, power supply breaker and fuse status, instrumentation, major component leakage, lubrication, cooling, and general condition.

General plant tours were conducted on at least a weekly basis. Portions of the control building, turbine building, reactor building, and outside areas were visited. Observations included general plant/equipment conditions, safety related tagout verifications, shift turnover, sampling program, housekeeping and general plant conditions, fire protection equipment, control of activities in progress, radiation protection controls, physical security, problem identification systems, missile hazards, instrumentation and alarms in the control room, and containment isolation.

In the area of housekeeping the following discrepancies were observed by the inspector and brought to the attention of licensee personnel:

- \* On July 10, 1988, water appeared to be leaking onto the floor from a capture funnel under valve 2C11-F002A. This is a CRD hydraulic system valve on elevation 130 in the Unit 2 reactor building.
- \* On July 13, 1988, apparently used gloves were observed on the floor outside of contaminated liquid sample panel 1P33-P101. This panel is located on the 110 elevation in the southwest diagonal of the Unit 1 reactor building.

During the performance of control room tours, the inspector noted that on a few occasions operations personnel were lax in properly logging the responsible individual as control board operator. Hatch procedure 3OAC-OPS-003-OS, "Plant Operations," paragraph 8.6.2.2 requires that the designated control board operator not leave the front panels without proper relief and documentation in the Plant Operator's Log for extended periods (eg., greater than approximately 5 minutes). This matter has been brought to the attention of licensee personnel.

During this reporting period, the inspector reviewed the licensee's controls on overtime of personnel who perform safety-related functions. Section 6.2.2.g of the technical specifications establishes requirements for the control of such overtime and Section 8.4 of licensee procedure 3OAC-OPS-003-OS, "Plant Operations," provides implementing instructions to support the technical specification requirements. The inspector reviewed an Operations Department Overtime Report for the month of June and determined that the requirements of 3OAC-OPS-003-OS and the technical specifications had been met. Particular emphasis was placed on conformance with the requirement that overtime deviations be approved in advance by the Plant Manager.

The inspector noted during tours of the control room that the condition of critical drawings was deteriorating. The edges of some drawings were crimped and torn. However, no cases were seen in which the deterioration had affected readability. On July 15, 1988, the inspector discussed these observations with the Operations Superintendent. The inspector was told that the current system of maintaining critical drawings in the control

room was interim, and that the department hoped to have an improved system in place prior to the upcoming Unit 1 outage. During these discussions, the inspector also expressed a concern related to the proximity of the drawings to the 603 panels in the control room. The drawings are currently secured by metal "sticks" and maintained in an area immediately behind the 603 panels. The backs of these panels are uncovered. It appeared to the inspector that personnel could inadvertently contact circuits in the panels with the "sticks" and thereby damage equipment or become injured. The Operations Superintendent agreed to consider the inspector's concern relative to the 603 panels.

At 0126 on July 18, 1988, an unanticipated closure of the No. 3 main turbine control valve occurred in Unit 2. The unit was operating at rated power at the time of this event. The EHC system responded by fully opening the other control valves and opening the No. 1 bypass valve. Shift personnel subsequently decreased load with recirculation flow to approximately 450 MWe. The No. 3 control valve was observed to reopen and close again after the initial closing. The licensee determined that the anomalous operation of this control valve was most likely caused by an existing high temperature condition in the main control room. The compressor for control room air conditioner Z41-B003A had failed the previous day. At 0020 on July 18, 1988, the PSW inlet pressure control valve for control room air conditioner Z41-B003B closed and would not reopen. Since only one air conditioner was then operating, temperatures in the main control room increased to a maximum of approximately 95 degrees F. Air conditioner Z41-B003B was returned to service at 0345 on July 18. Shift personnel subsequently increased reactor power with recirculation flow to approximately 90 percent of rated. Power was maintained at that level until control room temperatures dropped to more normal levels. During this time period personnel observed operation of the No. 3 control valve to provide assurance that the anomalous operation was indeed temperature related. At approximately 0930 on July 18, 1988, shift personnel initiated the increase on reactor power from 90 percent to rated.

As reported previously in Inspection Report Nos. 50-321,366/88-14 and 50-321,366/88-17, the licensee continues in their effort to repair the Unit 1 spent fuel pool liner leak. The licensee has discovered an impression in the fuel pool liner bottom surface close to the transfer canal between Unit 1 spent fuel pool and the reactor cavity. This impression is the shape and size of a "Baby's Foot" and is of unknown origin. The licensee has confirmed that this impression is a source of leakage, as the liner leakage rate decreased approximately 15 percent from a previously identified rate of 4.7 gpm when a suction cup device was placed over the area. The licensee is currently seeking a contractor to develop a welding procedure for repair of the area in question. All easily accessible areas of the fuel pool liner have been inspected, but the licensee is taking measures to develop a method to inspect under the

fuel racks if repair of the "Baby's Foot" does not stop the liner leakage. The inspector will continue to monitor the licensee's progress in repairing the spent fuel pool liner leakage.

No violations or deviations were identified.

3. Maintenance Observations (62703) Units 1 and 2

During the report period, the inspectors observed selected maintenance activities. The observations included a review of the work documents for adequacy, adherence to procedure, proper tagouts, adherence to technical specifications, radiological controls, observation of all or part of the actual work and/or retesting in progress, specified retest requirements, and adherence to the appropriate quality controls. The primary maintenance observations during this month are summarized below:

<u>Maintenance Activity</u>	<u>Date</u>
a. Preparations for the removal of the 2D Residual Heat Removal Service Water Motor and Pump for maintenance per MWO 2-88-1809 (Unit 2)	07/05/88
b. Manufacture of a 3" minimum flow line for the 1C Plant Service Water Pump per MWO 1-88-3720 (Unit 1)	07/07/88
c. Thirty-six month inspection of Limitorque operator on HPCI Steam Supply to RHR valve 1E11-F140A per procedure 52PM-MNT-005-0S (Unit 1)	07/10/88
d. Thirty-six month Limitorque Valve Operator Inspection on RCIC Torus suction valve 1E51-F031 per procedure 52PM-MNT-005-0S and MWO 1-88-3247 (Unit 1)	07/21/88

During this reporting period, the inspector noted that repeated problems were experienced with Unit 1 LPCI inverter 1R44-S002. On June 28, 1988, the inverter's output breaker tripped and attempts to restart the inverter were unsuccessful. On July 5, 1988, alarms were received indicating that fuses were blown. On July 15, 1988, the LPCI inverter again tripped and could not be restarted. Related maintenance was performed under MWOs 1-88-3666, 1-88-3768, and 1-88-3990. The inspector noted that in each case fuses were found to be blown and replaced. These recurring problems were discussed with licensee personnel. The inspector learned that the licensee believes that the first problem was caused by high inverter room temperatures. A cooler serving this room was found to be tripped and was subsequently restarted. The licensee indicated that any additional action in this area would be based upon future problems that are identified. The inspector will track additional problems with this LPCI inverter and the licensee's corrective actions.

No violations or deviations were identified.

## 4. Surveillance Testing Observations (61726) Units 1 and 2

The inspectors observed the performance of selected surveillances. The observation included a review of the procedure for technical adequacy conformance to technical specifications, verification of test instrument calibration, observation of all or part of the actual surveillances, removal from service and return to service of the system or components affected, and review of the data for acceptability based upon the acceptance criteria. The primary surveillance testing observations during this month are summarized below:

<u>Surveillance Testing Activity</u>	<u>Date</u>
a. High Pressure Coolant Injection Pump Operability per procedure 34SV-E41-002-1S (Unit 1)	06/30/88
b. Diesel Generator 1B Monthly test per procedure 34SV-R43-002-1S (Unit 1)	07/08/88
c. Calibration of Remote Shutdown Reactor Vessel Level Differential Pressure Transmitter 2C82-N305 per procedure 57SV-C82-003-2 (Unit 2)	07/10/88
d. RHR Service Water Pump 2C Quarterly IST per procedure 34SV-E11-004-2S (Unit 2)	07/21/88

On June 28, 1988, while performing Diesel Generator 1B/2B monthly testing per procedure 34SV-R43-002-2S (The "1B" Diesel Generator is a swing diesel and serves both Units 1 and 2), the voltage regulator failed upscale when placed in automatic. The diesel was declared inoperable, and repair commenced on the voltage regulator. After replacement of the voltage regulator, an operability test was performed per procedure 34SV-R43-002-2S. During this run, a generator field ground annunciator was received in the control room. The licensee performed an extensive investigation into the situation. No grounds could be found in the diesel's circuitry. The licensee has attributed the condition to a "hung up" relay as the condition could not be repeated. All relays that could have caused the alarmed condition were checked and performed satisfactorily. To preclude a recurrence, the involved relays were cleaned to allow for optimum performance. Following a successful operability run, the diesel was declared operable on July 1, 1988.

On July 8, 1988, while performing Diesel Generator 1B/2B monthly testing per procedure 34SV-R43-002-2S, the diesel tripped approximately 1 minute after being tied to the bus. The diesel was declared inoperable.

Following an investigation, the trip was determined to be caused by reverse power. It was determined that the reverse power relay was picked up due to a voltage mismatch in one of the phases between the bus and the diesel. Later the same day, after determining the cause of the trip, the diesel was run satisfactorily and was declared operable.

During this reporting period, the inspector noted that the licensee experienced difficulties on two occasions during the performance of procedure 34GO-OPS-026-2S, "Main Turbine and Auxiliaries Weekly Test." Section E of this procedure provides instructions for the full closure testing of the Unit 2 main turbine stop valves. In essence, test pushbuttons at the turbine control panel for the individual stop valves are depressed and held, and the valve position indications are observed to verify proper closing. The test pushbutton is released when the stop valve reaches the fully closed position. This allows the valve to return to the fully open position. During testing on July 9 and 27, 1988, the No. 3 stop valve did not immediately open after the test pushbutton was released. The valve, in both cases, opened only after repeated operations of the test pushbutton. The licensee had previously experienced difficulties opening this valve during the Unit 2 startup on May 31, 1988. The problem during startup was attributed to a flow blockage. A metal particle was removed from an inlet orifice to the solenoid operated test valve for the No. 3 stop valve. The inspector discussed the recent test problems with the licensee, and determined that the licensee is actively pursuing this matter. The inspector will track the licensee's progress and track any additional testing difficulties with the No. 3 stop valve.

No violations or deviations were identified.

5. ESF System Walkdown (71710) (Unit 2)

The inspectors routinely conducted partial walkdowns of ESF systems. Valve and breaker/switch lineups and equipment conditions were randomly verified both locally and in the control room to ensure that lineups were in accordance with operability requirements and that equipment material conditions were satisfactory. The Unit 2 RHRSW system was walked down in detail.

No violations or deviations were identified.

6. Radiological Protection (71709) Units 1 and 2

The resident inspectors reviewed aspects of the licensee's radiological protection program in the course of the monthly activities. The performance of health physics and other personnel was observed on various shifts to include: involvement of health physics supervision, use of radiation work permits, use of personnel monitoring equipment, control of high radiation areas, use of friskers and personal contamination monitors, and posting and labeling.

No violations or deviations were noted.



## 7. Physical Security (71881) Units 1 and 2

In the course of the monthly activities, the resident inspectors include 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: availability of supervision, availability of armed response personnel, protected and vital access controls, searching of personnel, packages and vehicles, badge issuance and retrieval, escorting of visitors, patrols and compensatory posts.

The resident inspectors verified the absence of obstructions in the isolation zone area on each side of the protected area fence that could conceal an unauthorized entry or interfere with the capability of the detection/assessment system. The adequacy of illumination in the protected area was also verified. On July 14, 1988, the resident inspector visited the central and secondary alarm stations and determined that surveillance equipment was functioning properly.

No violations or deviations were identified.

## 8. Reportable Occurrences (90712 and 92700) Units 1 and 2

A number of Licensee Event Reports (LER) were reviewed for potential generic impact, to detect trends, and to determine whether corrective actions appeared appropriate. Events which were reported immediately were also reviewed as they occurred to determine that technical specifications were being met and the public health and safety were of utmost consideration.

Unit 1: 87-03 Personnel Errors in Technical Specification Amendment Implementation Cause Missed Surveillances

This LER concerns a failure to satisfy all technical specification surveillance requirements for liquid radwaste effluent line radiation monitors 1D11-K604 and 2D11-K604. More specifically, the involved surveillance procedures did not demonstrate automatic isolation of the release pathway when the controls for the monitors were taken out of the operate mode. The licensee also determined that the Unit 1 design did not provide for such an automatic isolation. Corrective action involved modifying the surveillance procedures and changing the design via implementation of DCR 87-13. Procedure 57SV-D11-011-1S, "Liquid Radwaste Effluent Radiation Monitor Functional Test," was revised effective 2/13/87. The revision of procedure 57SV-D11-011-2S, "Liquid Radwaste Effluent Radiation Monitor Functional Test," became effective on 9/2/87. This matter appears to be a violation of the technical specification surveillance requirements.



However, since all the requirements specified in 10 CFR Part 2, Appendix C, Section V, were satisfied, this licensee-identified violation is not being cited. Review of the LER is closed.

87-06 Area Radiation Monitor Signal Causes Control Room Ventilation to Pressurize

This LER identified two instances in which the MCREC system went into the pressurization mode of operation in response to high radiation signals from a refueling floor ARM. In both cases, the high radiation signals were caused by irradiated outage related equipment stored near the ARM combined with spiking of the monitor. The inspectors reviewed the licensee's corrective actions. One corrective action involved a review of the two events by site engineering to determine if additional corrective actions were appropriate. The inspectors reviewed two related reports of this engineering work identified as LR-BOP-004-1087 dated 10/14/87 and LR-ENG-023-1087 dated 10/27/87. The inspectors noted that the licensee has initiated DCR 87-HCD-180 to upgrade the refueling floor ARMs to eliminate spurious actuations of the MCREC system. This DCR will (1) change the ARM upscale trip relay to a time delay drop out type, (2) change the ARM type to cover a range of  $10^{-2}$  to  $10^2$  mr/hr, and (3) modify the actuation logic for ARM upscale trips to require coincident trips before MCREC system pressurization mode actuation. Review of this LER is closed.

87-10 Personnel Error Results in Reduction of Vessel Level and ESF Actuations

The events of this LER were cited as part of violation 321/87-12-01. Review of the LER is closed since this matter was tracked with the violation.

87-11 Inadequate Design for Inverter Cooling Causes Power Failure Resulting in Reactor Scram

This LER concerned failure of the vital AC inverter due to high room temperatures. The high room temperatures were attributed to inadequate ventilation design. In reviewing this matter with licensee personnel, the inspectors determined that the existing inverters may not be used again or replaced. The licensee is currently considering other options for providing power to the vital AC loads. Consequently, the corrective actions identified as Nos. 3, 4, and 5

in the LER are most likely no longer appropriate. The inspectors indicated to the licensee that the LER should be revised to reflect the changes in their plans. Review of this LER remains open.

87-12 Low Setpoints and Closed Damper Cause High Temperature Isolation of Reactor Water Cleanup

This LER concerned an unanticipated isolation of the RWCU system on a high ambient temperature signal. The inspector reviewed the licensee's corrective actions. The long term corrective action to prevent recurrence involved a planned increase in the instrument setpoints for the air temperature sensors in the PWCU area. A proposed change to the technical specification had been submitted to the NRC prior to this event. These changes were issued as Amendments Nos. 144 and 79 to the Units 1 and 2 technical specifications, respectively, on 8/10/87. Review of this LER is closed.

87-13 Feedwater Controller Fails Causing Feedwater Decrease Resulting in Reactor Scram

The events of this LER were previously discussed in NRC Inspection Nos. 50-321/87-21 and 50-366/87-21. The root cause of this event was determined to be equipment failure. Two capacitors in the master feedwater controller amplifier short circuited, resulting in a loss of voltage output signal to the individual feedpump controllers. Corrective action involved replacing the capacitors, functionally testing the control amplifier circuit board, and checking components in the Unit 2 feedwater control control circuitry. Review of this LER is closed.

87-14 Equipment Failure and Instrument Drift Cause Monitor Activation and ESF Actuation

This LER concerned three unanticipated initiations of the MCREC system in the pressurization mode. Operation in this mode was initiated on radiation signals from a refueling floor ARM. The first two events were caused by a leaking GM tube. The third event was attributed to instrument drift. The inspectors reviewed the corrective actions taken by the licensee. A long term solution to the problem of spurious MCREC initiations is discussed above in the review of LER 87-06. Review of this LER is closed.

Unit 2: 87-02

## Personnel Error During Maintenance Combined With Failed Instrument Cause ESF Actuation

This LER concerns auto-initiation of the SGTS during the performance of surveillance procedure 57SV-D11-007-2S, "Refueling Floor Exhaust Vent Radiation Monitor Instrument FT & C." During the performance of this procedure, an I & C technician inadvertently activated the "A" trip system for SGTS initiation while attempting to troubleshoot radiation sensor 2D11-K611A. Power cables were disconnected without the use of procedures or instructions. Corrective action involved reconnecting the cables, repairing radiation monitor 2D11-N012A, and modifying procedure 57SV-D11-007-2S to caution personnel that the SGTS will actuate if more than one refueling floor radiation monitor is removed from service. In reviewing this matter, the inspectors noted that the procedure modification involved Precaution 5.1.1 in Revision 2 of the procedure. Technical Specification 6.8.1.a requires the implementation of procedures recommended in Appendix "A" of RG 1.33, Revision 2, February 1978. Section 9 of Appendix "A" of RG 1.33 recommends that maintenance that can affect the performance of safety-related equipment be performed in accordance with written procedures, instructions, or appropriate drawings. This matter appears to be a violation of Technical Specification 6.8.1.a. However, since all of the requirements specified in 10 CFR Part 2, Appendix C, Section V, were satisfied, this licensee-identified violation is not being cited. Additionally, review of the LEK is closed.

87-06

## Inadequate Design for Inverter Cooling Causes Power Failure Resulting in Reactor Scram

This LER concerns failure of the vital AC inverter due to inadequate room cooling. In reviewing this matter, the inspectors noted that corrective actions Nos. 3 and 4 in the LER were probably no longer appropriate. As discussed previously in the review of Unit 1 LER 87-11, the licensee is considering elimination of the vital AC inverters. The inspectors indicated to the licensee that the LER should be revised to reflect changed commitments. Review of this LER remains open.

87-10

## Failed Instrument Line Leakage Exceeds Allowable Limits Resulting in Reactor Shutdown

This LER concerns a leak in a 1-inch instrument line that connects the 28-inch recirculation discharge piping with a flow transmitter. Failure occurred in the heat affected zone adjacent to a socket weld.

Corrective action involved shutting down the unit and installing a weld overlay. The licensee also intended to subsequently remove and metallurgically analyze the failed area. The LER indicated that the analysis results would be presented in an update to the LER which would be developed by approximately April 25, 1988. The inspectors reminded licensee personnel of the commitment to provide these results. Review of this LER remains open.

87-12 Calcium Deposits Foul Chiller Causing High Room Temperature and ESF Valve Isolation

The events of this LER concern the unanticipated closing of the outboard RWCU suction valve as a result of a high ambient air temperature condition in the RWCU heat exchanger room. The high temperature condition, in turn, was caused by failure of reactor building and radwaste building chiller "A". The chiller was found to be fouled by calcium deposits which tripped the chiller motor. The inspectors reviewed the corrective actions taken by the licensee, which included the installation of a chemical treatment system on the chillers' cooling tower to prevent future calcium accumulations. In reviewing this matter, the inspectors noted that related chemical treatment operations are delineated in procedure 3450-P65-001-2S, "Radwaste Building Chilled Water System." Review of this LER is closed.

87-13 Uninsulated Steam Piping Raises Differential Air Temperature Causing ESF Valve Isolations

This LER concerns an unanticipated isolation of the RCIC system due to missing insulation on some HPCI steam supply piping. Approximately six feet of pipe were not insulated and this piping was near one of the RCIC torus chamber differential air temperature sensors. Plant personnel were unable to determine when or why the HPCI steam supply piping was uninsulated. In reviewing this matter, the inspectors determined that the licensee's corrective actions were both extensive and appropriate. Review of this LER is closed.

87-16 Surveillance Supervisor Makes Incorrect Assumption Resulting in Missed Surveillance Test

The events of this LER concern a failure to satisfy two 92-day technical specification surveillance requirements until the surveillance period and grace

period had elapsed. The surveillances were missed by one day. More specifically, the quarterly surveillance requirements of Technical Specification 4.8.1.1.3.b for diesel generator batteries 2R42-S002A and 2R42-S002C and of Technical Specification 4.8.2.3.2.b for station batteries 2R42-S001A and 2R42-S001B were not met on time. The required surveillances were completed satisfactorily soon after the problem was identified. The inspectors reviewed the corrective actions taken by the licensee. This matter appears to be a violation of the referenced technical specification requirements. However, since all the requirements specified in 10 CFR Part 2, Appendix C, Section V, were satisfied, this licensee-identified violation is not cited. Review of the LER is considered closed.

87-17 Equipment Aging Causes Defective Amplifier Resulting In Loss of Automatic Safety Function

The events of this LER concern a failure of the HPCI system to function properly in the automatic mode of operation during routine surveillance testing. The manual/auto flow controller would not reach 100 percent output in the automatic mode. The flow controller would only achieve 70 percent output. The flow controller did function properly in the manual mode. Investigation revealed a defective amplifier card in the control amplifier module and a defective solder joint in the Hi/Low current limiter of the control amplifier module for controller amplifier 2E41-K616. The inspector reviewed the corrective actions taken by the licensee. Review of the LER is closed.

Three licensee-identified violations that were not cited were identified.

9. Action on Inspector Followup Items (IFI) (92701)

(Closed) IFI 321,356/87-09-01, Ensure that response time of HPCI system is not affected by maintenance. Table 3.3.3-3 of the Unit 2 technical specification specifies allowable response times for the HPCI system. An inspector observed that the existing quarterly HPCI pump operability test did not demonstrate that system response times were acceptable following maintenance. The IFI was opened to ensure that the licensee had a method in place to demonstrate the acceptability of such times. The licensee has modified three procedures to provide this method. Procedure 34SV-E41-002-2S, "HPCI Pump Operability," was revised to include testing of the permissive logic for valve 2E41-F006. The permissive time plus the stroke time of 2E41-F006 must be less than or equal to 29 seconds. Procedure 42SV-E41-002-2S, "HPCI System Logic System Functional Test," was revised to measure the time delay between receipt of a HPCI initiation

signal until 2E41-F006 opens fully. Procedure 57SV-MNT-004-2S, "Instrumentation Time Response Testing Comparison with Technical Specifications," was revised to provide for timing of the initiation logic from sensor actuation to actuation of the last relay. The inspector reviewed procedures 43SV-E41-002-2S, Rev. 5; 42SV-E41-002-2S, Rev.3; and 57SV-MNT-004-2S, Rev. 3. Review of this IFI is closed.

(Closed) IFI 321,366/86-22-05, Provide engineering review of causes of main steamline leak detection instrumentation drift. This IFI was opened following review by an inspector of several MWOs associated with the calibration of turbine building main steamline leak detection instrumentation 1U61-N101A - D. The inspector was concerned about instrument trending, and the causes of observed instrumentation drift. The I&C supervisors indicated at that time that the drift was possibly due to environmental conditions at the time of calibration. The inspector requested a related engineering review and opened the IFI. In following up on this matter, the resident inspector reviewed the results of the licensee's study as documented in letter A04.43 dated November 4, 1987. The licensee determined that environmental conditions at the time of calibration or testing should not be a factor in instrument drift. Rather, instrument drift is attributed to the anticipation characteristics of the switches in question. The vendor advised the licensee that the switches may trip earlier than the desired setpoint when cycled for the first time. The vendor recommended that the switches be cycled several times before setpoint adjustments are made. Review of this IFI is closed.

10. Licensee Action on Previous Enforcement Matters (92702)

(Closed) Violation 321,266/88-07-03, Inadequate APRM surveillance. The GPC letter of response dated May 12, 1988, was reviewed. Corrective action involved revising surveillance procedures to provide for weekly functional testing of the APRM flow referenced thermal power and APRM downscale trips. The inspector verified that required surveillance procedure changes had been made. Procedures 34SV-C51-002-1S, Rev. 2, and 34SV-C51-002-2S, Rev. 3, were reviewed. This item is closed.

(Closed) Violation 321,366/88-07-04, Failure to follow surveillance procedures. The licensee's letter of response dated May 12, 1988, was reviewed. Corrective action involved counselling involved I&C personnel and labeling main control room cabinets on the inside. The labeling of the panels was completed on April 8, 1988, and subsequently verified by the inspector. The item is closed.

(Closed) Violation 366/88-07-05, Inadequate turbine control valve test procedure. The GPC letter of response dated May 12, 1988, was reviewed. Corrective action involved upgrading the inadequate surveillance procedure. The inspector reviewed procedure 34SV-C71-005-2S, Rev. 2, "Turbine Control Valve Fast Closure Instrument Functional Test," and determined that required changes had been made. This item is closed.

(Closed) Violation 321/88-05-01, Bypassing of APRM downscale scram inputs. The GPC letter of response dated March 29, 1988 was reviewed. Corrective action involved revising APRM test procedures and plant startup procedures to provide guidance for bypassing IRMs and APRMs when the reactor is in the RUN mode. The inspector reviewed APRM test procedures 34SV-C51-002-1S, Rev. 2, and 34SV-C51-002-2S, Rev. 3. Plant startup procedures 34GO-OPS-001-1S, Rev. 8, and 34GO-OPS-001-2S, Rev. 4, were also reviewed. Since corrective actions have been completed, this item is closed.

11. Exit Interview (30703)

The inspection scope and findings were summarized on July 25, 1988, with those persons indicated in paragraph 1 above. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection. Dissenting comments were not received from the licensee.

<u>Item Number</u>	<u>Status</u>	<u>Description/Reference Paragraph</u>
321,366/88-07-03	Closed	VIOLATION - Inadequate APRM Surveillance (paragraph 10)
321,366/88-07-04	Closed	VIOLATION - Failure to Follow Surveillance Procedures (paragraph 10)
366/88-07-05	Closed	VIOLATION - Inadequate Turbine Control Valve Test Procedure (paragraph 10)
321/88-05-01	Closed	VIOLATION - Bypassing of APRM Downscale Scram Inputs (paragraph 10)
321,366/87-09-01	Closed	IFI - Ensure that Response Time of HPCI System is not Affected by Maintenance (paragraph 9)
321,366/86-22-05	Closed	IFI - Provide Engineering Review of Causes of Main Steamline Break Detection Instrumentation Drift (paragraph 9)



## 11. Acronyms and Abbreviations

APRM	-	Average Power Range Monitor
ARM	-	Area Radiation Monitor
CRD	-	Control Rod Drive
DCR	-	Design Change Request
EHC	-	Electrohydraulic Control
ESF	-	Engineered Safety Feature
FT & C	-	Functional Test and Calibration
GM	-	Geiger-Mueller
GPM	-	Gallons per Minute
HPCI	-	High Pressure Coolant Injection
I & C	-	Instrumentation and Control
IRM	-	Intermediate Range Monitor
IST	-	Inservice Testing
LER	-	Licensee Event Report
LPCI	-	Low Pressure Coolant Injection
MCREC	-	Main Control Room Environmental Control
MWO	-	Maintenance Work Order
PSW	-	Plant Service Water
RCIC	-	Reactor Core Isolation Cooling
RG	-	Regulatory Guide
RHR	-	Residual Heat Removal
RHRSW	-	Residual Heat Removal Service Water
RWCU	-	Reactor Water Cleanup
SGTS	-	Standby Gas Treatment System