



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

July 30, 2010

Mr. Dennis R. Madison
Vice President
Southern Nuclear Operating Company, Inc.
Edwin I. Hatch Nuclear Plant
11028 Hatch Parkway North
Baxley, GA 31513

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000321/2010003 AND 05000366/2010003

Dear Mr. Madison:

On June 30, 2010, U. S. Nuclear Regulatory Commission (NRC) completed an inspection at your Edwin I. Hatch Nuclear Plant, Units 1 and 2. The enclosed integrated inspection report documents the inspection results, which were discussed on July 20, 2010, with Sonny Barger and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities and interviewed personnel.

The report documents two NRC-identified findings and one self-revealing finding of very low safety significance (Green). These findings were determined to involve violations of NRC requirements. Additionally, two licensee-identified violations which were determined to be of very low safety significance are listed in this report. However, because of the very low safety significance and because they are entered into your corrective action program (CAP), the NRC is treating these findings as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001, with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Hatch facility. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, RII, and the NRC Senior Resident Inspector at Hatch facility.

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket Nos.: 50-321, 50-366
License Nos.: DPR-57 and NPF-5

Enclosures: Inspection Report 05000321/2010003, 05000366/2010003
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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cc w/encl: (See page 3)

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NAME	EMorris	PNiebaum	DHardage	ANielsen	RLewis	SWalker	TSteadham
DATE	07/29/2010	07/29/2010	07/30/2010	07/27/2010	07/27/2010	07/29/2010	07/27/2010
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Letter to Dennis R. Madison from Scott M. Shaeffer dated July 30, 2010

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000321/2010003 AND 05000366/2010003

Distribution w/encl:

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RidsNrrPMHatch Resource

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-321, 50-366

License Nos.: DPR-57 and NPF-5

Report Nos.: 05000321/2010003 and 05000366/2010003

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch Nuclear Plant

Location: Baxley, Georgia 31513

Dates: April 1 – June 30, 2010

Inspectors: E. Morris, Senior Resident Inspector
P. Niebaum, Resident Inspector
D. Hardage, Resident Inspector
A. Nielsen, Health Physicist (4OA5.2)
R. Lewis, Senior Reactor Inspector (1R17)
S. Walker, Senior Reactor Inspector (1R17)
T. Steadham, Construction Inspector (1R17)
J. Dymek, Reactor Inspector (1R17)
R. Williams, Reactor Inspector (1R07)

Approved by: Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000321/2010-003, 05000366/2010-003; 04/01/2010-06/30/2010; Edwin I. Hatch Nuclear Plant, Units 1 and 2, Flood Protection Measures, Maintenance Effectiveness, Refueling and Other Outage Activities

The report covered a three-month period of inspection by three resident inspectors, two senior reactor inspectors, two reactor inspectors, one construction inspector and one health physicist. One self-revealing and two NRC-identified Green NCVs were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red); the significance was determined using Inspection Manual Chapter (IMC) 0609, 'Significance Determination Process' (SDP); the cross-cutting aspect was determined using IMC 0310, 'Components Within the Cross Cutting Areas;' and that findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review.

Cornerstone: Initiating Events

- Green. A self-revealing NCV of 10 CFR 50 Appendix B, Criterion V, Instructions, Procedures and Drawings, was identified for the licensee's failure to follow their corrective action program procedure, NMP-GM-002, Ver. 4.0, that required severity level 1 and 2 condition reports (CR) to have corrective actions that prevent recurrence. From May 2006 to April 2010 licensee procedure NMP-GM-002, Corrective Action Program, Ver. 4.0, was not followed because corrective actions to prevent recurrence were not implemented prior to failure of Analog Transmitter Trip System (ATTS) card 1B21-N641C. The licensee's immediate corrective actions were to replace the failed card, 1B21-N641C, the adjacent card 1B21-N690C and the high drywell pressure trip cards 1E11-N694A and C. The licensee initiated CR 2010105161 to address this issue.

The performance deficiency is more than minor because it is associated with the Equipment Performance attribute of the Initiating Events cornerstone and adversely affected the Initiating Events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the failure of ATTS card 1B21-N641C resulted in a spurious Loss of Coolant Accident (LOCA) signal that started Emergency Core Cooling System (ECCS) equipment and resulted in a power reduction to approximately 85%. Due to this finding affecting the safety of an operating reactor, the significance of this finding was screened using NRC IMC 0609, Attachment 4, Table 4a. Because the finding contributed to the likelihood of a reactor scram, but did not affect mitigation equipment availability, the finding screened as Green. The inspectors concluded that the performance deficiency does not have an associated cross-cutting aspect because the performance deficiency occurred in 2006 and is not indicative of the licensee's current performance in the area of root cause investigations. (Section 1R12)

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Cornerstone: Mitigating Systems

- Green. The NRC identified a NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, for the licensee's failure implement measures to assure that safety-related cables remained in an environment for which they were designed. Safety-related cables purchased and installed in underground electrical pull boxes at Hatch Nuclear Plant have been subjected to submergence, a condition for which they are not designed. To address this issue the licensee has performed the immediate corrective action of increasing the frequency of measuring water level and pump down of the pull boxes. The licensee initiated CR 2010104298 to address this issue.

This performance deficiency is more than minor because it is associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, it is reasonable to conclude the cables may be in a degraded condition where the continued reliability of the cable cannot be ensured because: 1) the licensee does not have a cable testing/monitoring program to detect degradation of inaccessible or underground power cables; 2) the cables have been subject to a submerged physical environment which is outside the cables design parameters; and 3) there have been documented failures of cables throughout the nuclear industry due to degradation caused by submergence in water. Because the finding affects the safety of an operating reactor, the significance of this finding was screened using the Phase 1 of the SDP in accordance with NRC IMC 0609, Attachment 4, Table 4a. The finding screened as Green, because the finding is a design or qualification deficiency confirmed not to result in loss of operability or functionality. This finding has a cross-cutting aspect in the Work Control component of the Human Performance area, because the licensee did not appropriately coordinate activities by incorporating actions where maintenance scheduling is more preventive than reactive. Specifically, the licensee did not schedule performance of procedure 52PM-Y46-001-0, Inground Pull Box and Cable Duct Inspection for Water, at a frequency that prevented safety related cable submersion (H.3(b)). (Section 1R06)

- Green. The NRC identified a NCV of 10 CFR 50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, for the licensee's failure to prescribe in procedure 34GO-OPS-015-2, Maintaining Cold Shutdown or Refueling Condition, appropriate documented instructions for recording and verifying reactor water level when reactor vessel level is greater than 60 inches and instrument 2B21-R605 is unavailable. To address this issue the licensee performed the immediate corrective action of initiating CR 2010104615 and has generated an action item to upgrade procedure 34GO-OPS-015-2.

This performance deficiency is more than minor because it is associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability of systems (ability of operators to monitor, trend, and maintain reactor water level) to prevent undesirable consequences. Because this finding is associated with the safety of a reactor while the unit was in cold shutdown and on residual heat removal shutdown cooling, NRC

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IMC 0609, Attachment 4, directs using IMC 0609, Appendix G, Shutdown Operations Significance Determination Process, to determine the significance of this finding. In Appendix G, Attachment 1, Checklist 6 was used because during the time period of this finding the unit was in cold shutdown, with a time to boil < 2 hours, and reactor coolant system level < 23 feet above the top of the reactor vessel flange. Each item in Appendix G, Attachment 1, Checklist 6 was determined to have been met, therefore per Figure 1 of Appendix G this finding screened as GREEN significance because a Qualitative Assessment was not required by Checklist 6. This finding has a cross-cutting aspect in the Work Control component of the Human Performance area, because the licensee did not plan and coordinate work activities consistent with nuclear safety including planned contingencies, compensatory actions, or abort criteria. Specifically, the licensee did not plan and coordinate the activity of transitioning the reference leg for reactor water level instrument 2B21-R605 with contingencies, compensatory actions, or abort criteria addressed to ensure measurable reactor water level was available to control room operators (H.3(a)). (Section 1R20)

Violations of very low safety significance, which were identified by the licensee, have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at or near 100% Rated Thermal Power (RTP). On April 16, unit power was reduced to 85% due to a spurious actuation of ECCS when an invalid LOCA signal was received. The unit returned to 100% RTP on April 17. On June 9, the unit power was reduced to 27% RTP in response to a reduction in main condenser vacuum caused by an off gas system transient. On June 10, unit power was returned to near 100% RTP and remained at or near 100% RTP for the duration of the inspection period.

Unit 2 began the inspection period at or near 100% RTP. On April 5, the unit was shutdown to repair two safety relief valves and to replace a leaking fuel bundle. Unit 2 was restarted on April 15 and returned to 100% RTP on April 21. Unit power remained at or near 100% RTP for the duration of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

Offsite/Alternate AC Readiness

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate alternating current (AC) power systems during adverse weather were appropriate. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator (TSO) and the plant to verify that the appropriate information was being exchanged when issues arose that could impact the offsite power system. Aspects considered in the inspectors' review included:

- The coordination between the TSO and the plant during off-normal or emergency events;
- The explanations for the events;
- The estimates of when the offsite power system would be returned to a normal state; and
- The notifications from the TSO to the plant when the offsite power system was returned to normal.

The inspectors also verified that plant procedures addressed measures to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to or during adverse weather conditions. Specifically, the inspectors verified that the procedures addressed the following:

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- The actions to be taken when notified by the TSO that the post-trip voltage of the offsite power system at the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;
- The compensatory actions identified to be performed if it would not be possible to predict the post-trip voltage at the plant for the current grid conditions;
- A re-assessment of plant risk based on maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and
- The communications between the plant and the TSO when changes at the plant could impact the transmission system, or when the capability of the transmission system to provide adequate offsite power was challenged.

Documents reviewed are listed in the Attachment to this report. The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures.

b. Findings

No findings were identified.

.1 Readiness to Cope With External Flooding

a. Inspection Scope

External Flooding. The inspectors performed a review of licensee readiness to cope with external flooding. The inspectors performed walkdowns of the systems listed below to verify that equipment was in place to mitigate the potential impacts from external flooding. The inspectors reviewed licensee procedure 34AB-Y22-002-0, Naturally Occurring Phenomena, to verify guidance existed to cope with an external flood. Additionally, the inspectors reviewed licensee documentation that shows design flood levels for areas containing safety-related equipment. Documents reviewed are listed in the Attachment.

- Unit 1 & 2 plant service water
- Unit 1 & 2 residual heat removal service water

b. Findings

No findings were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial Walkdowns. The inspectors performed partial walkdowns of the following three systems when the opposite train was removed from service, a remaining operable system/train with high risk significance for the plant configuration exists, or a system/train that was recently realigned following an extended system outage or a risk significant single train system exists. The inspectors checked system valve positions, electrical breaker positions, and operating switch positions to evaluate the operability of the opposite trains or components by comparing the position listed in the system operating procedure to the actual position. Documents reviewed are listed in the Attachment.

- Unit 1 automatic depressurization system while the high pressure coolant injection (HPCI) system was out of service for maintenance
- Unit 1 'A' train of residual heat removal (RHR) system while 'B' train of RHR system was out of service for maintenance
- Unit 1C emergency diesel generator (EDG) while the 1B swing EDG was out of service for maintenance

Complete System Walkdown. The inspectors performed a complete walkdown of the following system. The inspectors performed a detailed check of valve positions, electrical breaker positions, and operating switch positions to evaluate the operability of the system or components by comparing the required position in the system operating procedure to the actual position. The inspectors also interviewed personnel and reviewed control room logs to verify that alignment and equipment discrepancies were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

- Unit 1 reactor core isolation cooling system

b. Findings

No findings were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours. The inspectors toured the following five risk significant plant areas to assess the material condition of the fire protection and detection equipment, verify fire protection equipment was not obstructed and that transient combustibles were properly controlled. The inspectors reviewed the site Fire Hazards Analysis, to verify that the necessary fire fighting equipment, such as fire extinguishers, hose stations, ladders, and communications equipment, was in place. Documents reviewed are listed in the Attachment.

- Unit 1 reactor core isolation cooling pump and turbine room, fire area 1203C
- Unit 1 high pressure coolant injection pump room, fire area 1205Z
- Unit 1 'A' residual heat removal pump and 'A' core spray pump area, fire area 1203B
- Unit 1 and Unit 2 DC switchgear rooms, fire areas 1018, 1020, 2018 and 2020
- Unit 2 torus area and steam chase, fire area 2205H

b. Findings

No findings were identified.

1R06 Flood Protection Measures

.1 (Closed) URI 05000321,366/2009005-01, "Submerged medium voltage safety-related cable."

a. Inspection Scope

The inspectors reviewed the documentation provided by the licensee pertaining to safety related electrical cable purchased and installed within underground pull boxes to address the issue identified under URI 05000321,366/2009005-01. The inspectors determined that safety related electrical cables installed at Hatch Unit 1 and Hatch Unit 2 are not designed to be subject to a submerged environment and that data contained within procedure 52PM-Y46-001-0, Inground Pull Box and Cable Duct Inspection for Water, identifies that safety related electrical cables located within underground pull boxes are subject to significant periods of submergence. URI 05000321,366/2009005-01, "Submerged medium voltage safety-related cable" is closed to NCV 05000321,366/2010003-01, "Failure to maintain safety related cables in a non-submerged environment."

b. Findings

Introduction: An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, was identified for the licensee's failure to maintain underground safety related electrical cables in a physical environment for which the cables are designed to operate. Safety-related cables purchased and installed in underground electrical pull boxes at Hatch are not designed to be submerged in water. From plant initial construction to present day, safety-related cables located within underground cable pull boxes have been routinely identified as being submerged in water and those cables have not been inspected or tested for degradation.

Discussion: During initial construction of Hatch Unit 1 and Unit 2 the licensee purchased electrical cable from the Okonite Company. Along with the electrical cable, the Okonite Company provided Hatch with cable test data which concluded that the cables should be capable of a life in excess of a generating station's designed life in an environment of 100% humidity. It should be noted that humidity is defined as the amount of water vapor in air. A humidity of 100% is the maximum amount of water vapor that the air can hold; therefore, a 100% humid environment is not the same as a submerged environment.

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The licensee installed this cabling in safety-related applications throughout Hatch Unit 1 and Unit 2, including areas located within underground conduit and bunkers (also referred as “pull boxes”). Because the pull boxes are not designed to be water tight and do not contain automatic dewatering equipment, the licensee has developed and uses procedure 52PM-Y46-001-0, Inground Pull Box and Cable Duct Inspection for Water, to periodically measure level and pump out the water that accumulates within the pull boxes. The typical periodicity between pull box pump downs has been once per quarter with several inches of water being identified in pull boxes during the implementation of this procedure. Based on the data from the as-found and as-left water levels documented on data sheets from procedure 52PM-Y46-001-0, it was determined that the cables located within the pull boxes have spent a significant amount of time in a submerged environment. The licensee was unable to produce cable design documentation identifying that the cables located within these pull boxes are designed to be submerged, and therefore it was concluded that the cables have been maintained in an environment for which the cable is not designed. On February 7, 2007 the NRC issued Generic Letter 2007-01, Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients, requiring licensee’s to provide a history of inaccessible or underground power cable failures and a description of inspection, testing, and monitoring programs to detect the degradation of inaccessible or underground power cables. On May 4, 2007 Hatch Nuclear Plant responded to Generic Letter 2007-01 and in that response stated, “[Hatch Nuclear Plant] does not have a cable testing/monitoring program to detect the degradation of inaccessible or underground power cables.” The licensee was also unable to provide the inspectors with documentation which could provide reasonable assurance that underground cables are not currently in a degraded condition. The inspectors therefore concluded that the condition of the insulation for the cables located within the underground conduit and pull boxes is indeterminate and the continued reliability of the cables cannot be verified without further cable inspection or testing.

Analysis: Failure to maintain safety-related electrical cables in a physical environment for which the cables are designed to operate is a performance deficiency. This performance deficiency is more than minor because it is associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, it is reasonable to conclude the cables may be in a degraded condition where the continued reliability of the cable cannot be ensured because: 1) the licensee does not have a cable testing/monitoring program to detect degradation of inaccessible or underground power cables; 2) the cables have been subject to a submerged physical environment which is outside the cables design parameters; and 3) there have been documented failures of cables throughout the nuclear industry due to degradation caused by submergence in water. Because the finding affects the safety of an operating reactor, the significance of this finding was screened using the Phase 1 of the SDP in accordance with NRC IMC 0609, Attachment 4, Table 4a. The finding screened as Green, because the finding is a design or qualification deficiency confirmed not to result in loss of operability or functionality.

The inspectors determined this performance deficiency is indicative of current licensee performance, in that water is routinely identified in the pull boxes and the licensee has had recent opportunities to question and identify this issue and failed to do so. Therefore, this finding has a cross-cutting aspect in the Work Control component of the Human Performance area, because the licensee did not appropriately coordinate activities by incorporating actions where maintenance scheduling is more preventive than reactive. Specifically, the licensee did not schedule performance of procedure 52PM-Y46-001-0, Inground Pull Box and Cable Duct Inspection for Water, at a frequency that prevented safety-related cable submersion (H.3(b)).

Enforcement: 10 CFR 50, Appendix B, Criterion III, Design Control, requires in part, that measures shall be established to assure that applicable regulatory requirements and the design basis for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions. Measures shall also be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of structures, systems, and components. Contrary to the above from initial design to present day the licensee failed to correctly translate into specifications, drawings, procedures, and instructions that safety-related cables purchased and installed in underground pull boxes were not suitable for the application of being subject to a submerged environment. Specifically, safety-related cables subjected to submergence have the potential to increase the failure rate of the cable, and affects the long-term reliability of the cable to be able to perform its intended safety functions. To address this issue the licensee has performed the immediate corrective action of increasing the frequency of measuring water level and pump down of the pull boxes. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CR 2009111808 and CR 2010104298, this violation is being treated as an NCV, consistent with the Enforcement Policy. NCV 05000321,366/2010003-01, "Failure to maintain safety-related cables in a non-submerged environment."

1R07 Heat Sink Performance (71111.07T)

.1 Triennial Review of Heat Sink Performance

a. Inspection Scope

The inspector reviewed operability determinations, completed surveillances, vendor manual information, associated calculations, performance test results and cooler inspection results associated with the emergency diesel generator (EDG) heat exchangers and the control room air conditioning units. These heat exchangers/coolers were chosen based on their risk significance in the licensee's probabilistic safety analysis, their important safety-related mitigating system support functions and their relatively low margin.

For the EDG heat exchangers and the control room air conditioning units, the inspector determined that testing, inspection, maintenance, and monitoring of biotic fouling and macrofouling programs were adequate to ensure proper heat transfer. This was

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accomplished by verifying that the test method used was consistent with accepted industry practices, or equivalent, the test conditions were consistent with the selected methodology, the test acceptance criteria were consistent with the design basis values, and by reviewing results of heat exchanger performance testing. The inspector also determined that the test results appropriately considered differences between testing conditions and design conditions, the frequency of testing based on trending of test results was sufficient to detect degradation prior to loss of heat removal capabilities below design basis values and that test results considered test instrument inaccuracies and differences.

For the EDG heat exchangers and the control room air conditioning units, the inspector reviewed the methods and results of heat exchanger performance inspections. The inspector determined that the methods used to inspect and clean heat exchangers were consistent with as-found conditions identified and expected degradation trends and industry standards, the licensee's inspection and cleaning activities had established acceptance criteria consistent with industry standards, and the as-found results were recorded, evaluated, and appropriately dispositioned such that the as-left condition was acceptable.

In addition, the inspector determined that the condition and operation of the control room air conditioning units were consistent with design assumptions in heat transfer calculations and as described in the final safety analysis report. This included verifying that the number of plugged tubes was within pre-established limits based on capacity and heat transfer assumptions. The inspector determined that the licensee evaluated the potential for water hammer and established adequate controls and operational limits to prevent heat exchanger degradation due to excessive flow induced vibration during operation. In addition, eddy current test reports and visual inspection records were reviewed to determine the structural integrity of the heat exchanger.

The inspector determined that the performance of ultimate heat sink (UHS) and its subcomponents such as piping, intake screens, pumps, valves, etc. was appropriately evaluated by tests or other equivalent methods to ensure availability and accessibility to the in-plant cooling water systems.

The inspector reviewed the licensee's operation of the service water system and the UHS. This included a review of licensee's procedures for a loss of the service water system or UHS and the verification that instrumentation, which is relied upon for decision making, was available and functional. In addition, the inspector determined that macrofouling was adequately monitored, trended, and controlled by the licensee to prevent clogging. The inspector also reviewed strong pump-weak pump interaction and design changes to the service water system and the UHS.

The inspector reviewed the results of the licensee's performance testing of the service water system and the UHS. This included a review of the licensee's performance test results for key components and service water flow balance test results. In addition, the inspector compared the flow balance results to system configuration and flow assumptions during design basis accident conditions. The inspector also determined that the licensee ensured adequate isolation during design basis events, consistency

between testing methodologies and design basis leakage rate assumptions, and proper performance of risk significant non-safety related functions.

The inspector performed a system walkdown on service water systems to determine whether the licensee's assessment on structural integrity was adequate. In addition, the inspector reviewed available licensee testing and inspections results, licensee's disposition of any active thru wall pipe leaks, and the history of thru wall pipe leakage to identify any adverse trends since the last NRC inspection. For buried or inaccessible piping, the inspector reviewed the licensee's pipe testing, inspection, or monitoring program to determine whether structural integrity was ensured and that any leakage or degradation was appropriately identified and dispositioned by the licensee.

The inspector performed a system walkdown of the service water intake and discharge structures and determined that the licensee's assessment on structural integrity and component functionality was adequate and that the licensee ensured proper functioning of traveling screens and strainers, and structural integrity of component mounts. In addition, the inspector determined that service water pump bay silt accumulation was monitored, trended, and maintained at an acceptable level by the licensee, and that water level instruments were functional and routinely monitored. The inspector also determined that the licensee's ability to ensure functionality during adverse weather conditions was adequate.

In addition, the inspector reviewed condition reports related to the heat exchangers/coolers and heat sink performance issues to evaluate the effectiveness of the corrective actions and determined that the licensee had an appropriate threshold for identifying and correcting issues. The documents that were reviewed are listed in the Attachment.

These inspection activities constituted two heat sink inspection samples as defined in IP 71111.07-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification

a. Inspection Scope

Resident Quarterly Observation

The inspectors observed the performance of licensee simulator scenario conducted on May 5, which included a small pipe break inside primary containment, a failure of reactor protection system instrumentation to complete an automatic reactor scram, and an un-isolable reactor water clean-up system break outside of containment. The inspectors reviewed the proper classification in accordance with the Emergency Plan and licensee procedures 10AC-MGR-019-0, Procedure Use and Adherence, and DI-OPS-59-0896, Operations Management Expectations, to verify formality of communication, procedure

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usage, alarm response, control board manipulations, group dynamics, and supervisory oversight. The inspectors attended the post-exercise critique of operator performance to assess if the licensee identified performance issues were comparable to those identified by the inspectors. In addition, the inspectors reviewed the critique results from previous training sessions to assess performance improvement.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following four samples associated with structures, systems, and components to assess the licensee's implementation of the Maintenance Rule (10 CFR 50.65) with respect to the characterization of failures and the appropriateness of the associated (a) (1) or (a) (2) classification. The inspectors reviewed operator logs, associated CRs, Maintenance Work Orders (WO), and the licensee's procedures for implementing the Maintenance Rule to determine if equipment failures were being identified, properly assessed, and corrective actions established to return the equipment to a satisfactory condition. Documents reviewed are listed in the Attachment.

- Unit 1 and 2 analog transmitter trip system A70
- Unit 1 and 2 circulating water system N71
- Unit 1 and 2 high pressure core injection system E41
- Unit 1 and 2 standby gas treatment system T46

b. Findings

Introduction: A Green self-revealing NCV of 10 CFR 50 Appendix B, Criterion V, Instructions, Procedures and Drawings, was identified for the licensee's failure to follow their corrective action program procedure, NMP-GM-002, Ver. 4.0, that required severity level 1 and 2 condition reports to have corrective actions that prevent recurrence. Contrary to the requirements of this procedure, severity level 2 CR 2006100390 documented the root cause investigation performed which identified that ATTS card 2E41-N658D had failed due to the failure of a 24 year old capacitor on that card. The root cause identified by the report was "capacitor age." The corrective actions developed from the root cause of this event did not prevent recurrence in that a similar ATTS card capacitor failure occurred on April 16, 2010. That failure was documented in CR 2010105161 where a 27 year old capacitor failed on ATTS card 1B21-N641C. As a result of 1B21-N641C failure, Unit 1 experienced a spurious ECCS LOCA signal and required a power reduction to approximately 85%.

Description: On April 16, 2010 a spurious LOCA signal occurred on Unit 1. All required ECCS equipment started and LOCA functions operated as expected. The main condenser vacuum started decreasing and the operators initiated a power reduction to

approximately 85% to maintain condenser vacuum. Additionally, the drywell cooling fans tripped which resulted in actual increase in drywell pressure from 0.9 psig to 1.2 psig. The control room operators verified the LOCA signal was spurious, the reactor vessel level was stable, and no ECCS injection was required. The operators responded by securing the ECCS equipment that started on the LOCA signal and returned the affected systems to a standby line-up. The event recovery report describes the spurious LOCA signal stemming from a trip of two high drywell pressure ATTS cards 1E11-N694A/C which are located in the same rack as the ATTS card that failed; 1B21-N641C. The licensee replaced the 1B21-N641C card, the 1B21-N690C card which is connected to the 1B21-N641C card, the 1E11-N694A/C cards, and satisfactorily performed a calibration of the drywell pressure transmitter 1E11-N050A and C.

In 2006 under CR 2006100390, the licensee's root cause report documents an investigation conducted for an ATTS card failure of card 2E41-N658D that occurred on January 16, 2006. The licensee identified the root cause of this event as component aging. The root cause report states that a ceramic capacitor on this card, weakened by being in service for 24 years, partially shorted, opened, and then fully shorted. Three corrective actions were developed as a result of this event. The first was to replace and calibrate ATTS cards 2E41-N658B and 2E41-N658D. The second was to expand the contract service agreement with the vendor to include the replacement and/or refurbishment of all ATTS cards. The third corrective action was to develop a long range proposal on ATTS cards for engineering review board approval. Licensee procedure NMP-GM-002, Corrective Action Program, Ver. 4.0, required corrective actions to prevent recurrence for severity level (SL) 1 and 2 CRs. The licensee classified CR 2006100390 as a severity level 2 CR, which required the corrective actions stemming from this CR to be effective in order to prevent recurrence of another ATTS card failure due to aging. Contrary to the licensee procedure, the corrective actions were not effective in preventing recurrence in that, CR 2010105161 documented a failure of ATTS card 1B21-N641C on April 16, 2010. This card failure was attributed to a failure of a ceramic capacitor on the card that had been in service for approximately 27 years.

Analysis: Failure to follow corrective action procedure NMP-GM-002, Ver. 4.0, is a performance deficiency. This performance deficiency is more than minor because it is associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the Initiating Events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the failure of ATTS card 1B21-N641C resulted in a spurious LOCA signal that started ECCS equipment and resulted in a power reduction to approximately 85%. Because the finding is associated with the safety of an operating reactor, the significance of this finding was screened using the Phase 1 of the SDP in accordance with NRC IMC 0609, Attachment 4, Table 4a. This finding screened as Green, because the finding did not contribute to both the likelihood of a reactor trip and likelihood that mitigation equipment or functions would not be available. The inspectors concluded that the performance deficiency does not have an associated cross-cutting aspect because the performance deficiency occurred in 2006 and is not indicative of the licensee's current performance in the area of root cause investigations.

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Enforcement: 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures and Drawings, states in part, that activities affecting quality shall be prescribed by documented procedures and shall be accomplished in accordance with these procedures. Contrary to the above, from May 2006 to April 2010, licensee procedure NMP-GM-002, Corrective Action Program, Ver. 4.0, was not followed because corrective actions to prevent recurrence were not implemented prior to the failure of ATTS card 1B21-N690C. Failure to implement appropriate corrective actions to prevent recurrence has the potential for other capacitors on ATTS cards to fail. The licensee's immediate corrective actions were to replace the failed card, 1B21-641C, the adjacent card 1B21-N690C and the high drywell pressure trip cards 1E11-N694A and C. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CR2010105161, this violation is being treated as an NCV, consistent with the Enforcement Policy. This finding is identified as NCV 05000321/2010003-02, "Failure to follow corrective action program procedure and prevent recurrence of severity level 2 root cause."

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the following five Plan of the Day documents listed below to verify that risk assessments were performed prior to components being removed from service. The inspectors reviewed the risk assessment and risk management controls implemented for these activities to verify they were completed in accordance with licensee procedure 90AC-OAM-002-0, Scheduling Maintenance, and 10 CFR 50.65 (a)(4). For emergent work, the inspectors assessed whether any increase in risk was promptly assessed and that appropriate risk management actions were implemented.

- April 3 – April 9, including the 2C plant service water (PSW) pump out of service for preventative maintenance, Unit 1 drywell equipment drain sump isolation valve, 1G11-F0120 declared inoperable, Unit 1 reactor protection system on alternate power source.
- April 10 – April 16, including Unit 1 HPCI out of service for corrective maintenance, Unit 1 'A' station service battery charger out of service for corrective maintenance with the 'B' and 'C' station service battery charger placed in service, Unit 1 increased risk for reactor scram associated during ATTS calibration.
- April 24 – April 30, including the 'B' train of RHR system out of service for a system outage, the 2D PSW pump out of service for annual preventative maintenance, Unit 2 increased risk for turbine trip due to replacement of switchyard breaker 179730.
- May 22 – May 28, including the 1B EDG out of service for preventative maintenance, 1A turbine building chiller out of service for troubleshooting and corrective maintenance, and 1B control rod drive pump out of service for preventative maintenance.

- June 05 – June 11, including the Unit 2A EDG out of service for a system outage with the 1B swing EDG inhibited from aligning to Unit 1, increased risk for loss of offsite power for Unit 1 during reset of the Unit 1 'D' startup transformer pressure device, increased risk for turbine trip on Unit 1 due to repair of Mark VI turbine control system.

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following six operability evaluations and compared the evaluations to the system requirements identified in the Technical Specifications and the Final Safety Analysis Report (FSAR), to ensure operability was adequately assessed and the system or component remained available to perform its intended function. Also, the inspectors assessed the adequacy of compensatory measures implemented as a result of the condition. Documents reviewed are listed in the Attachment.

- Unit 1 control rod 14-35 control rod drive accumulator pressure low or level high annunciator, CR 2010104196
- Unit 1 HPCI pump barometric condenser condensate pump not maintaining proper barometric condenser level, CR 2010104939
- Unit 2 main turbine bypass valve spurious alarms indicating the valve not fully closed during operation, CR 2010101480
- Unit 2A EDG broken fuse holder for control power to stop circuit and associated common cause review for remaining EDGs, CR2010107569
- Unit 1 and Unit 2 main control room boundary not able to maintain acceptable differential pressure in the event a restroom damper failing to close on demand, CR 2010106225
- Unit 1 HPCI with an inoperable barometric condenser condensate pump, CR 2010106233

b. Findings

No findings were identified.

1R17 Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed selected samples of evaluations to confirm that the licensee had appropriately considered the conditions under which changes to the facility, Updated Final Safety Analysis Report (UFSAR), or procedures may be made, and tests conducted, without prior NRC approval. The inspectors reviewed evaluations for seven changes and additional information, such as drawings, calculations, supporting analyses, the UFSAR, and Technical Specifications (TS) to confirm that the licensee had appropriately concluded that the changes could be accomplished without obtaining a license amendment. The seven evaluations reviewed are listed in the List of Documents Reviewed.

The inspectors reviewed samples of changes for which the licensee had determined that evaluations were not required, to confirm that the licensee's conclusions to "screen out" these changes were correct and consistent with 10CFR50.59. The 18 "screened out" changes reviewed are listed in the List of Documents Reviewed.

The inspectors evaluated engineering design change packages for 11 material, component, and design based modifications to evaluate the modifications for adverse effects on system availability, reliability, and functional capability. The 11 modifications and the affected cornerstones are as follows:

- DCP 1071497301, Replace Barton Transmitters / Rosemount Transmitters (Mitigating Systems/Initiating Events)
- DCP 1071693201, Protected Circuit/RCIC Vac Valve (Mitigating Systems)
- DCP 2052561601, Fire Enclosure U2 RHR & RHRSW Cables (Mitigating Systems)
- DCP 2071693101, SSD DCP Reroute Cable/PSW Disch Press (Initiating Events)
- DCP 2071693301, SSD DCP Protected Sw Circuit/CR to Batt Chgr (Mitigating Systems)
- DCP 1061222101, Rx Shroud Tie Rods (Barrier Integrity)
- DCP 1061937201, RHR Pump 1A Motor Vib Reduction (Mitigating Systems)
- DCP 2080663301, 2E11F068A/B Mods to Red. Vibration (Mitigating Systems)
- MDC 2071200101, Remove HPCI Drain Valves (Mitigating Systems)
- ED 1080446201, 1-E11-RHR-H298 Support Replacement (Mitigating Systems)
- SCM-CGDP-001, 18 Instances of Diesel Fuel No. 2 (Mitigating Systems)

Documents reviewed included procedures, engineering calculations, modification design and implementation packages, work orders, site drawings, corrective action documents, applicable sections of the living UFSAR, supporting analyses, TS, and design basis information. The inspectors additionally reviewed test documentation to ensure adequacy in scope and conclusion. The inspectors review was also intended to verify that all appropriate details were incorporated in licensing and design basis documents and associated plant procedures.

The inspectors also reviewed selected CRs and the licensee's recent self-assessment associated with modifications and screening/evaluation issues to confirm that problems were identified at an appropriate threshold, were entered into the corrective action program, and appropriate corrective actions had been initiated and tracked to completion.

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the following seven post maintenance tests, the inspectors reviewed the test scope to verify the test demonstrated the work performed was completed correctly and the affected equipment was functional and operable in accordance with TS requirements. The inspectors also reviewed equipment status and alignment to verify the system or component was available to perform the required safety function. Documents reviewed are listed in the Attachment.

- WO 2100559801, "reactor protection system motor generator A" replace breaker 2C71-52-3C, April 1
- WO 1100618701, "Unit 1 high pressure coolant injection pump" troubleshoot and replace barometric condenser condensate pump level switch, April 15
- WO 2100624501, "Unit 2 'F' intermediate range monitor" replace K53 relay, April 15
- WO 1100632101, "Unit 1 low pressure vessel ATTS system" replace cards 1B21-N641 and 1B21-N690C, April 17
- WO 1100632502, "Unit 1 high drywell pressure ATTS cards" replace cards 1E11-N694A and 1E11-N694C, April 20
- WO 1062043801, "Unit 1 D PSW pump" motor replacement, April 19 - 20
- WO 2092264401, "1B emergency diesel generator standby plant service water pump" check valve inspection, May 20

b. Findings

No findings were identified.

1R20 Refueling and Outage Activities.1 Unit 2 Maintenance Outagea. Inspection Scope

The inspectors reviewed the licensee's shutdown risk monitoring program and the outage schedule to verify the licensee's use of risk management techniques, incorporation of operating experience and past lessons learned for the maintenance outage April 5 through April 15, 2010. Additionally, the inspectors reviewed the shutdown safety assessment to verify the licensee had contingency plans and these plans included sufficient equipment to maintain a defense-in-depth approach to safety. The inspectors routinely verified the licensee was correctly maintaining required equipment in service in accordance with the overall outage safety assessment. During the refueling outage, the inspectors monitored licensee control over the outage activities listed below. Documents reviewed are listed in the Attachment.

- Reactor coolant system cooldown following shutdown
- Clearances to verify implementation of the clearance process and the associated equipment was properly configured to support the function of the clearance
- Technical Specifications and licensee procedures to verify mode change requirements were met
- Walkdown of the drywell and other areas to verify material conditions supported plant operations
- Licensee identification and resolution of problems related to outage activities
- Outage work hour controls

b. Findings

Introduction: An NRC-identified Green NCV of 10 CFR 50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified for the licensee's failure to prescribe in procedure 34GO-OPS-015-2, Maintaining Cold Shutdown or Refueling Condition, appropriate documented instructions for recording and verifying reactor water level when reactor vessel level is greater than 60 inches and instrument 2B21-R605 is unavailable. Consequently, On April 5, 2010 for a period of two hours and twenty-two minutes measurable reactor water level indication was not available and the requirements of procedure 34GO-OPS-015-2 were not met.

Discussion: On April 5, 2010 Hatch Unit 2 was shutdown for a mid-cycle maintenance outage. On April 5 at 08:30 am the unit transitioned to Mode 4 with shutdown cooling removing decay heat and at 08:57 am procedure 34GO-OPS-015-2, Maintaining Cold Shutdown or Refueling Condition, Version 13.1, was entered. Procedure 34GO-OPS-015-2 requires, in part, that reactor vessel level monitoring frequency will be once per 15 minutes within 48 hours of shutdown (subcritical) and that corrected reactor water level be recorded using either the 0-60" reactor water level instruments (2C32-R606A, 2C32-R606B, 2C32-R606C) or the 0-400" reactor water level instrument (2B21-R605). Reactor coolant corrected level must be verified to be maintained > 33 inches with

shutdown cooling flow > 7700 gallons per minute, or > 53 inches with shutdown cooling flow < 700 gallons per minute. At 03:59 am on April 6, 2010 while corrected reactor water level was at 198", the reference leg for the 0-400" reactor water level instrument, 2B21-R605, was removed in accordance with procedure 57SV-B21-020-2, Reactor Wide Range Level Indication, Version 3.7, Section 7.1. The transition of the reference leg to a temporary reference leg was required to allow for the removal of the reactor pressure vessel head. With the 0-400" reactor water level instrument removed from service and reactor water level greater than 60", measurable reactor water level indication was not available to control room operators. At 06:27 am on April 6, 2010 the 0-400" reactor water level instrument reference leg was restored and measurable reactor water level indication was restored to the control room. From 04:05 am to 06:27 am on April 6, 2010 with shutdown cooling flow > 7700 gallons per minute, corrected reactor level was not and could not be recorded and verified as required by procedure 34GO-OPS-015-2.

Analysis: Failure to prescribe appropriate documented instructions for verifying reactor water level during shutdown cooling is a performance deficiency. This performance deficiency is more than minor because it is associated with the Human Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability of systems (ability of operators to monitor, trend, and maintain reactor water level) to prevent undesirable consequences. Because this finding is associated with the safety of a reactor while the unit was in cold shutdown and on residual heat removal shutdown cooling, NRC IMC 0609, Attachment 4, directs using Manual Chapter 0609, Appendix G, Shutdown Operations Significance Determination Process, to determine the significance of this finding. Appendix G, Attachment 1, Checklist 6, was used because during the time period of this finding the unit was in cold shutdown, with a time to boil < 2 hours, and reactor coolant system level < 23 feet above the top of the reactor vessel flange. Each item in Appendix G, Attachment 1, Checklist 6, was determined to have been met, therefore per Figure 1 of Appendix G this finding screened as Green significance because a Qualitative Assessment was not required by Checklist 6.

The inspectors determined this performance deficiency is indicative of current licensee performance, in that scheduling the transition of the reference leg for the 0-400" reactor water level instrument, 2B21-R605, was a planned activity during Unit 2 mid-cycle maintenance outage. Therefore, this finding has a cross-cutting aspect in the Work Control component of the Human Performance area, because the licensee did not plan and coordinate work activities consistent with nuclear safety including planned contingencies, compensatory actions, or abort criteria. Specifically, the licensee did not plan and coordinate the activity of transitioning the reference leg for reactor water level instrument, B21-R605, with contingencies, compensatory actions, or abort criteria addressed to ensure measurable reactor water level was available to control room operators. (H.3(a))

Enforcement: 10 CFR Part 50, Appendix B, Instructions, Procedures, and Drawings, requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Licensee procedure 34GO-OPS-015-2, Maintaining Cold Shutdown or Refueling Condition,

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Version 13.1, requires, in part, that reactor water level monitoring frequency will be once per 15 minutes within 48 hours of shutdown (subcritical) and that corrected reactor water level be recorded using either the 0-60" reactor water level instruments (2C32-R606A, 2C32-R606B, 2C32-R606C) or the 0-400" reactor water level instrument (2B21-R605). Reactor coolant corrected level must be verified to be maintained > 33 inches with shutdown cooling flow > 7700 gallons per minute or > 53 inches with shutdown cooling flow < 7700 gallons per minute. Contrary to the above, On April 6, 2010 the licensee failed to follow procedure 34GO-OPS-015-2 and record corrected reactor water level between 04:05 am and 06:27 am and failed to prescribe within documented instructions, procedures, or drawings the actions to be taken when no reactor water level instruments are available to record corrected reactor water level. Failing to record corrected reactor water level while in shutdown cooling, has the potential consequences of losing the ability to maintain the required reactor water level and loss of primary indication for the initiation of a loss of primary coolant accident. To address this issue the licensee has performed the immediate corrective action of initiating CR 2010104615 and has generated an action item to upgrade procedure 34GO-OPS-015-2. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CR 2010104615, this violation is being treated as an NCV, consistent with the Enforcement Policy. NCV 05000366/2010003-03, "Failure to follow procedure while in shutdown cooling to record corrected reactor water level."

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed five licensee surveillance test procedures and either witnessed the test or reviewed test records for the following surveillances to determine if the scope of the test adequately demonstrated the affected equipment was operable. The inspectors reviewed these activities to assess for preconditioning of equipment, procedure adherence, and equipment alignment following completion of the surveillance. The inspectors reviewed licensee procedure AG-MGR-21-0386, Evolution and Pre-and Post-Job Brief Guidance, and attended selected briefings to determine if procedure requirements were met. Documents reviewed are listed in the Attachment.

Surveillance Tests

- 34SV-R43-001-1, Diesel Generator 1A Monthly Test, dated 4/1/10
- 34SV-SUV-023-1, Jet Pump / Loop Flow Mismatch Data, dated 4/14/10
- 34SV-B21-002-2, Main Steam Line Isolation Valve Trip Test, dated 4/5/2010
- 34SV-N30-003-1, Main Turbine Monthly Surveillance Test, dated 4/21/10

In-Service Test

- 34SV-E21-001-1, Core Spray Pump Operability, dated 5/25/10

b. Findings

No findings were identified.

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Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed the following emergency plan evolution. The inspectors observed licensee activities in the simulator and Technical Support Center to verify implementation of licensee procedure 10AC-MGR-006-0, Hatch Emergency Plan. The inspectors reviewed the classification of the simulated events and the development of protective action recommendations to verify these activities were conducted in accordance with licensee procedure 73EP-EIP-001-0, Emergency Classification and Initial Actions. The inspectors also reviewed licensee procedure 73EP-EIP-073-0, Onsite Emergency Notification, to verify the proper offsite notifications were made. The inspectors attended the post-exercise critique to assess the licensee's effectiveness in identifying areas of improvement. Documents reviewed are listed in the Attachment.

- Emergency Preparedness drill on May 5

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed a sample of the licensee submittals for the performance indicators (PIs) listed below to verify the accuracy of the data reported. The PI definitions and the guidance contained in NEI 99-02, Regulatory Assessment Indicator Guideline, Rev. 6, and licensee procedure 00AC-REG-005-0, Preparation and Reporting of NRC PI Data, were used to verify procedure and reporting requirements were met.

Cornerstone: Initiating Events

- Unplanned Scrams per 7000 Critical Hours
- Unplanned Scrams with Complications
- Unplanned Transients per 7000 Critical Hours

Cornerstone: Barrier Integrity

- Reactor Coolant System Leakage
- Reactor Coolant System Activity

The inspectors reviewed raw PI data collected since January, 2009 for the Initiating Events and Barrier Integrity indicators identified. The inspectors compared graphical representations from the most recent PI report to the raw data to verify the data was

included in the report. The inspectors also examined a sampling of operations logs and procedures to verify the PI data was appropriately captured for inclusion into the PI report, and the individual PIs were calculated correctly. The inspectors observed a chemistry technician perform a sample of the reactor coolant system and a portion of the analysis in accordance with licensee procedure 64CH-SAM-025-0, Reactor Coolant Sampling and Analysis. Applicable licensee event reports issued during the referenced time frame were also reviewed. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Screening of Corrective Action Items

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by either attending daily screening meetings that briefly discussed major CRs, or accessing the licensee's computerized corrective action database and reviewing each CR that was initiated.

b. Findings and Observations

No findings were identified

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends which could indicate the existence of a more significant safety issue. The review was focused on repetitive equipment issues, but also considered the results of inspector daily CR screening, licensee trending efforts, and licensee human performance results. The review nominally considered the six month period of January 2010 through June 2010 although some examples extended beyond those dates when the scope of the trend warranted. The inspectors also reviewed several CRs associated with operability determinations which occurred during the period. The inspectors compared and contrasted their results with the results contained in the licensee's two latest quarterly trend reports. Corrective actions associated with a sample of the issues identified in the licensee's trend reports were reviewed for adequacy. The inspectors also evaluated the trend reports against the requirements of the licensee's corrective action program as specified in licensee procedure NMP-GM-002, Corrective Action Program, and 10 CFR 50, Appendix B. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings were identified.

.3 Annual Sample:

a. Inspection Scope

The inspectors performed a detailed review of the following CRs to verify the full extent of the issues were identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the CRs against the licensee's corrective action program as delineated in licensee procedure NMP-GM-002, Corrective Action Program, and 10 CFR 50, Appendix B. Documents reviewed are listed in the Attachment.

- CR 2009108237, Operation of Unit 2 outside the limits allowed by the power/flow map
- CR 2010104391, Fuel oil leak on the 1A EDG.

b. Findings and Observations

For the issue documented in CR 2009108237, a licensee-identified violation of regulatory requirements was identified. The enforcement aspects of this finding are discussed in Section 4OA7.

Introduction: An unresolved item (URI) was opened related to CR 2010104391, fuel oil return line fitting failure on the 1A EDG. As of the end of this inspection period the licensee had not completed their investigation into this issue. The determination of a performance deficiency cannot be made until the licensee completes and documents their inspection efforts in this area.

Description: On April 1, 2010 a fitting leak on the 1A EDG fuel oil return line was identified by the licensee during a monthly surveillance test run. CR 2010104391 documents that an attempt was made to tighten the fitting but the leak continued and that the leak needed to be repaired after the monthly surveillance test run was complete. The leak on this fitting was added to existing WO 1092436001 and scheduled for the 1A EDG system outage in May 2011. On June 3, 2010 during the monthly surveillance test run, the tubing associated with this fitting failed and diesel fuel oil was identified spraying onto the 1A EDG exhaust. The surveillance test run was terminated and the 1A EDG was secured by local operators in order to prevent a fire from starting. The failure of the 1A EDG fuel oil tubing was documented in CR 2010107248. URI 05000321/2010003-04, "1A EDG fuel oil return line failure," will be identified to track this issue pending review of the investigation conducted under CR 2010107248 to evaluate whether this issue constitutes a performance deficiency.

4OA3 Event Follow-up.1 (Closed) LER 05000321/2009-003 Work Activities on Main Turbine Cause An Unexpected Turbine Reset Resulting in a Group 1 Isolationa. Inspection Scope

On May 8, 2009, during a maintenance outage where the reactor was in Mode 3, hot shutdown, a Unit 1 Group 1 containment isolation signal was received due to a valid main condenser low vacuum signal coincident with a main turbine stop valve open. A Group 1 containment isolation signal closes all eight main steam isolation valves. The closure of main steam isolation valves is required to protect the main condenser from over pressurization if the condition of both a low condenser vacuum and a turbine stop valve being open exists. The cause of the low condenser vacuum was due to the unit being in a maintenance outage and Mode 3. The cause of the turbine stop valve opening was due to the maintenance activity of rebooting the main turbine electro-hydraulic control Mark VI controller SI core processor. The inspectors reviewed this LER, the licensee's apparent cause report and associated corrective actions for violations of regulatory requirements. LER 05000321/2009-003 is closed.

b. Findings

No findings were identified.

.2 (CLOSED) LER 05000321/2010-001 Corrosion Induced bonding Results in Safety Relief Valve Lift Setpoint Drifta. Inspection Scope

On March 11, 2010 it was determined that during bench testing five SRVs had experienced setpoint drift that exceeded the allowable TS limit. The cause of the high setpoint drift was corrosion induced bonding between the pilot disc and seating surface. This condition was documented in the licensee's corrective action program as CR 2010103338. A licensee-identified violation was identified and discussed in section 4OA7. LER 05000321/2010-001 is closed.

b. Findings

The enforcement aspects of this finding are discussed in Section 4OA7.

.3 Unit 1 Loss of Coolant Accident (LOCA) Emergency Core Cooling System (ECCS) Actuationa. Inspection Scope

The inspectors verified the licensee's actions in response to a Unit 1 LOCA ECCS actuation received 4/16/10 at 7:17 pm. The inspectors reviewed chart recorders, reviewed operating logs, interviewed personnel, and attended event response meetings.

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b. Findings

No findings were identified.

.4 Unit 1 Loss of Turbine Building Chiller Results in Lowering Main Condenser Vacuum and Load Reduction

a. Inspection Scope

The inspectors reviewed the licensee's actions in response to the plant transient that occurred on June 9, 2010 at approximately 02:45 am. The inspectors reviewed the main control room logs, followed the event recovery team's actions, reviewed potential causes of the event, and discussed the issue with plant operations and engineering staff. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted the following observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings were identified.

.2 (Closed) NRC Temporary Instruction (TI) 2515/173 Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative

a. Inspection Scope

The inspectors reviewed elements of the licensee's environmental monitoring program to evaluate compliance with the voluntary Groundwater Protection Initiative (GPI) as described in NEI 07-07, Industry Ground Water Protection Initiative – Final Guidance Document, August 2007 (ADAMS Accession Number ML072610036). The inspectors

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interviewed personnel, performed walk-downs of selected areas, and reviewed the following items:

- Records of the site characterization of geology and hydrology
- Evaluations of systems, structures, and or components that contain or could contain licensed material and evaluations of work practices that involved licensed material for which there is a credible mechanism for the licensed material to reach the groundwater
- Implementation of an onsite groundwater monitoring program to monitor for potential licensed radioactive leakage into groundwater
- Procedures for the decision making process for potential remediation of leaks and spills, including consideration of the long term decommissioning impacts
- Records of leaks and spills recorded, if any, in the licensee's decommissioning files in accordance with 10 CFR 50.75(g)
- Licensee briefings of local and state officials on the licensee's groundwater protection initiative
- Protocols for notification to the local and state officials, and to the NRC regarding detection of leaks and spills
- Protocols and/or procedures for thirty-day reports if an onsite groundwater sample exceeds the criteria in the radiological environmental monitoring program
- Groundwater monitoring results as reported in the annual effluent and/or environmental monitoring report
- Licensee and industry assessments of implementation of the groundwater protection initiative.

b. Findings

No findings were identified. However, as of the completion of onsite inspection activities on May 19, 2010, the licensee had not fully implemented NEI 07-07 Objective 1.2, "Site Risk Assessment." Specifically, the licensee had not performed an evaluation (risk-ranking) of systems, structures, or components that could contain licensed material for which there is a credible mechanism for the licensed material to reach the groundwater. This completes the Region II inspection requirements.

40A6 Meetings, Including Exit

On July 20, 2010, the resident inspectors presented the inspection results to Sonny Barger and other members of your staff. The inspectors confirmed with the licensee

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that although proprietary information was reviewed by the inspectors during this inspection period, no proprietary information was retained by the inspectors or documented in this report.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as NCVs.

- TS 5.4.1.a requires written procedures be established, implemented and, maintained covering the activities specified in Regulatory Guide 1.33, Appendix A. Items 2g and 4a of Appendix A requires procedures for general power operation and operation of the reactor's recirculation system to be established and implemented. Contrary to the above, Unit 2 operated at a core flow higher than that allowed on the power/flow map described in licensee procedure 34GO-OPS-005-2, Power Changes. This issue was documented in the licensee's corrective action program as CR 2009108237. Because the finding is associated with the fuel barrier and sufficient fuel thermal limit margin was maintained during the time core flow was outside the bounds of the power/flow map, this finding is of very low safety significance.
- TS 3.4.3 requires 10 of 11 SRV's to be operable during Modes 1, 2 and 3. Contrary to the above, on March 11, 2010 on Unit 1 it was identified during bench testing that five safety relief valves failed to lift at the required TS setpoint. The cause was found to be corrosion induced bonding between the pilot disc and seating surface. This condition was documented in CR 2010103338. This finding is of very low safety significance because a previous evaluation performed by the licensee bounds this condition and RCS pressure would be maintained below the TS safety limit.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

S. Bargeron, Plant Manager
G. Brinson, Maintenance Manager
V. Coleman, Chemistry Manager
J. Dixon, Health Physics Manager
W. Holt, Operations Manager
B. Hulett, Engineering Design Manager
G. Johnson, Engineering Director
C. Lane, Engineering Support Manager
M. B. Lloyd, Staff Health Physicist (SNC Corporate)
D. Madison, Hatch Vice President
J. Merritt, Nuclear Security Manager
T. Spring, Operations Manager
S. Tipps, Principal Licensing Engineer
R. Varnadore, Site Support Manager

LIST OF ITEMS OPENED AND CLOSED

Opened

05000321/2010003-04 URI 1A EDG fuel oil return line failure (4OA2.3)

Closed

05000321/2009-003 LER Work Activities on Main Turbine Cause An Unexpected Turbine Reset Resulting in a Group 1 Isolation (4OA3.1)

05000321/2010-001 LER Corrosion Induced Bonding Results in Safety Relief Valve Lift Setpoint Drift (4OA3.2)

05000321,366/2515/173 TI Review and Implementation of the Industry Ground Water Protection Voluntary Initiative (4OA5.2)

05000321,366/2009005-01 URI Submerged medium voltage safety-related cable (1R06)

Opened & Closed

05000321,366/2010003-01 NCV Failure to maintain safety related cables in a non-submerged environment (1R06)

05000321/2010003-02	NCV	Failure to follow corrective action program procedure and prevent recurrence of severity level 2 root cause (1R12)
05000366/2010003-03	NCV	Failure to follow procedure while in shutdown cooling to record corrected reactor water level. (1R20)

Discussed

None

LIST OF DOCUMENTS REVIEWED**Section 1R01: Adverse Weather**

DI-OPS-87-0408, Actions for GENCOMM Alerts
 34AB-S11-001-0, Operation with Degraded System Voltage
 Licensee response to Generic Letter 2006-02, Grid Reliability and the Impact of Plant Risk and the Operability of Offsite Power
 Individual Plant Examination of External Events for Hatch, January 1996

Section 1R04: Equipment AlignmentProcedures:

34SO-B21-001-1, Automatic Depressurization (ADS) and Low-Low Set (LLS) Systems, Ver. 12.9
 NMP-OS-010-002, Hatch Protected Equipment Logs, Ver. 1.0
 34SO-E11-010-1, Residual Heat Removal System, Ver. 34.4
 34SO-R43-001-1, Diesel Generator Standby AC System, Ver. 23.9
 34SO-E51-001-1, Reactor Core Isolation Cooling, (RCIC), Ver. 24.20

Drawings:

H-16329, H-16330, H-11631, H-16334, H-16335

Condition Reports:

CR2010105034, CR2009111696

Section 1R05: Fire ProtectionDrawings:

A-43965 sheet 55A, Pre-Fire Plan High Pressure Coolant Isolation Pump Room
 A-43965 sheet 52A, Pre-Fire Plan Reactor Core Isolation Cooling Pump & Turbine Room
 A-43965 sheet 51A, Pre-Fire Plan SE RHR and Core Spray Room

Section 1R07: Heat Sink Performance

Procedures:

34SV-P41-001-1, "Plant Service Water Pump Operability," Rev. 11.4
 34SV-P41-001-2, "Plant Service Water Pump Operability," Rev. 12.3
 34SV-P41-003-2, "Standby Diesel Service Water System Operability," Rev. 5.0
 42EN-ENG-026-0S, "Service Water Systems Heat Exchanger Testing," Rev. 4.5
 42EN-ENG-033-1, "Unit 1 PSW Flow Model Confirmation Data Collection," Rev. 1.1
 42EN-ENG-033-2, "PSW Flow Model Confirmation Data Collection," Rev. 1.0
 42IT-TET-012-1S, "Plant Service Water and RHR Service Water Piping Inspection Procedure,"
 Rev. 2.3
 42IT-TET-012-2S, "Plant Service Water and RHR Service Water Piping Inspection Procedure,"
 Rev. 2.3
 42IT-TET-013-0S, "Flow Rate Data Collection," Rev. 1.2
 42IT-TET-015-1, "PSW and RHRSW Pump Motor Oil Cooler Data Collection," Rev. 0.4
 42IT-TET-015-2, "PSW and RHRSW Pump Motor Oil Cooler Data Collection," Rev. 0.4
 42IT-TET-016-0S, "Radiography Examination for PSW and RHRSW," Rev. 1.4
 NMP-ES-011, "Flow-Accelerated Corrosion (FAC) Program," Rev. 8.0
 Performance of NMP-ES-024-601, "Radiographic Examination," Rev. 2.0, 12/7/2008
 Performance of 42EN-ENG-033-2, "PSW Flow Model Confirmation Data Collection," Rev. 1.0,
 10/1/2009
 Performance of 42IT-TET-012-1S Attachment 8, "Piping/Component Visual Inspection Report,"
 Rev. 2.3, 9/30/2007, 10/16/2008 and 9/14/2009
 Performance of 42IT-TET-012-1S Attachment 8, "Piping/Component Visual Inspection Report,"
 Rev. 2, 6/1/2009
 Performance of 42SP-01-28-10-OV-1-0, "PSW to MCR Air Conditioners Flow Measurement," for
 A, B and C Air Conditioners, Rev. 1.0, 2/3/2010
 Performance of 42SP-01-28-10-OV-1-0, "PSW to MCR Air Conditioners Flow Measurement," for
 A Air Conditioner, Rev. 1.0, 3/13/2010
 Performance of 42SV-Z41-005-0, "Control Room Capacity Verification," Rev. 3.2, 7/25/2007
 Performance of 42SV-Z41-005-0, "Control Room Capacity Verification," Rev. 3.2, 6/19/2009
 Performance of NMP-ES-024-701, "Eddy Current Technique Sheet," Rev. 2.0, 8/18/2008

Condition Reports:

CR2007104138, CR2007106792, CR2007107237, CR2008105249, CR2008105250,
 CR2008105801, CR2008106907, CR2008111727, CR2008111994, CR2009105651,
 CR2009106710, CR2009111828, CR2010104968

Other Documents:

1P41-2P41, "Plant Service Water System Health Report 1st/2nd/3rd/4th Quarter 2007"
 1P41-2P41, "Plant Service Water System Health Report 1st/2nd/3rd/4th Quarter 2008"
 1P41-2P41, "Plant Service Water System Health Report 1st/2nd/3rd/4th Quarter 2009"
 1Z41-2Z41, "Control Room HVAC System Health Report 1st/2nd/3rd/4th Quarter 2007"
 1Z41-2Z41, "Control Room HVAC System Health Report 1st/2nd/3rd/4th Quarter 2008"
 1Z41-2Z41, "Control Room HVAC System Health Report 1st/2nd/3rd/4th Quarter 2009"
 DCR 1040048701, "Plant Service Water (PSW) Treatment System Upgrade," Rev. 6.0
 RER 1100341001, "Main Control Room Air Conditioning PSW Flow Evaluation," 3/5/2010

DOEJ-HR1100341001-M001, "Evaluated the Effect on the PSW Cooling Water Flow to the Main Control Room Cooling Units of a Pipe Break in the PSW Cooling Water Supply to the Shift Supervisor Office Cooling Unit," Rev. 1.0

LDCR 2005051, "Emergency Action Levels Revision to Emergency Plan," Rev. 1

DOEJ-HR1100341001-M002, "Evaluated the Effect on the Degraded PSW Cooling Water Flow as Projected by the PSW Model on the Operation of the Main Control Room Air Conditioning Units," Rev. 1.0

Section 1R11: Licensed Operator Requalification

Procedures:

34AB-T23-002-2, Small Pipe Break Inside Primary Containment, Ver. 4.9

34SO-T48-002-2, Containment Atmosphere Control and Distribution Systems, Ver. 20.27

73EP-EIP-001-0, Emergency Classification and Initial Actions, Ver. 18.0

Other:

Drill Scenario and Timeline dated 5/5/10

Section 1R12: Maintenance Effectiveness

Condition Reports:

2008107289, 2008109121, 2010105161, 2006109692, 2007100574, 2004111037, 2005111157, 2006100390, 2010105859,

Action Items:

2007200756, 2007200757, 2007200759, 2007200760, 2007202726, 2006201536, 2007202730

Procedures:

40AC-ENG-020-0, Maintenance Rule (10CFR50.65) Implementation and Compliance, Ver. 6.0

NMP-GM-002, Corrective Action Program, Ver. 4.0

NMP-GM-002, Corrective Action Program, Ver. 5.0

NMP-GM-002, Corrective Action Program, Ver. 6.0

34SV-T22-001-0, Secondary Containment Test, Ver 13.8

Other:

OE30566, Failure of Circulating Water Pump Discharge Valve (Hope Creek)

System Health Report – Analog Trip & Transmitter System (ATTS) – 4th quarter 2009

System Health Report – Analog Trip & Transmitter System (ATTS) – 1st quarter 2010

A70 Maintenance Rule (MR) Scoping Manual Documents

A70 MR Function Assessments

A70 MR Performance Criteria

U1 MR monthly report – March 2010

U2 MR monthly report – March 2010

Operability Determination (OD) 2-07-03, Rev. 0

Documentation of Engineering Judgment DOEJ-SJ-C070114801-001, Evaluation of RPS ATTS Agastat NE (normally energized) Relays

Documentation of Engineering Judgment DOEJ-SJ-C070114801-002, Evaluation of RPS ATTS Agastat NDE (normally deenergized) Relays

Email from G. Ken McElroy dated 2/15/2006, Action Items for SL2 on ATTS – CR 2006100390
 System Health Report – High Pressure Core Injection – 1st quarter 2010
 System Health Report – High Pressure Core Injection – 4th quarter 2009
 1E41 High Pressure Coolant Injection Maintenance Rule Monthly Reports Jan 09 – Apr 10
 2E41 High Pressure Coolant Injection Maintenance Rule Monthly Reports Jan 09 – Apr 10
 1T46 Standby Gas Treatment Maintenance Rule Monthly Reports Jan 09 – Apr 10
 2T46 Standby Gas Treatment Maintenance Rule Monthly Reports Jan 09 – Apr 10
 Surveillance test results for secondary containment type A, B1, C tests conducted under
 procedure 34SV-T22-001-0, Secondary Containment Test from 2000 - 2010

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

Other:

Equipment Out of Service data sheets
 Main Control Room logs for Units 1 and 2

Section 1R15: Operability Evaluations

Condition Reports:

2010104939, 2010106225, 2010107569

Procedures:

NMP-AD-012, Operability Determinations and Functionality Assessments, Ver. 7.0
 42SV-Z41-003-0, Control Room Filter Train Flow Differential Pressure Measurement, Ver. 5.0

Drawings:

H-19952, H-19953, H-23803, H-16332, H-16333

Other:

Updated Final Safety Analysis Report Unit 1 section 7.4.3.2.4
 Prompt Determinations of Operability
 Operability Determination 2-08-02, Rev. 3

Section 1R17: Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications

Full Evaluations:

DCP 1040048401, Replace Recirc MG Sets with ASD Ver. 7.0
 DCP 1081302001, Place Hydrogen Injection in Service at a Lower Reactor Power Level Ver. 2.0
 DCP 2071637601, JOG Motor Operated Valve Actuator Modifications Ver. 2.0
 LDCR 2003-076, Manual Action in Lieu of Automatic Swap of PSW to CRAC Unit C, Ver. 1
 LDCR 2007024, Cable Spreading Room Fan Auto Trip, Ver. 1.0
 LDCR 2009-030, Westinghouse SVEA-96 Optima2 Lead Use Assemblies, Ver. 1
 MDC 03-5009, Remove PSW Auto Transfer and Isolation on 1Z41-B008B MCR AC unit, dtd 11/20/03

Screened Out Items:

DCP 1029001301, RHRSW Cutter Pump & Column Modification, Rev. 2.1
 DCP 1040048601, U1 Process Computer I/O Upgrade (8/4/06)
 DCP 1040048801, Replace the TG Controls Unit 1 (3/21/06)
 DCP 1060790701, Alternate Power Supply for 1E11-F015A/B, Rev. 1
 DCP 1070823401, 230kV Bus Differential Relaying, Rev. 1.0
 DCP 1071497301, Replace Barton Transmitters / Rosemount Transmitters
 DCP 1071693001, SSD DCP CR Switches for U1 Batt Chgrs (6/9/09)
 DCP 1071693201, Protected Circuit/RCIC Vac Valve
 DCP 1072721101, SSD DCP Cable re-route 1R22-S017/1R24-S010 (5/28/09)
 DCP 1081999501, 1A RHR Acoustical Modifications, Rev. 3
 DCP 2052561601, Fire Enclosure U2 RHR & RHRSW Cables, dtd 2/22/07
 DCP 2071693901, SSD DCP Power Cables for Torus Temp and PSW Pressure (3/13/09)
 DCP C019004501, RHRSW Motor Oil Coolers, Rev. 0
 MDC 2040585201, EDG Field Ground Detection (Rev. 1)
 MDC 2061872301, Replace RPT 4160V Breakers, Ver. 1.0
 MDC 2090395801, 2B21-F010A/B Hinge Pin Modification, Ver. 1.0
 MDC 2090512001, Torus T-Quencher Bolt Replacement, Ver. 1.0
 Procedure 53SP-071106-OR-1-1, RHR Pump Vibration Measurement, Rev. 5

Modifications:

DCP 1061222101, Reactor Shroud Restraint Assembly Upper Support Modifications, Rev. 1
 DCP 1061937201, RHR Pump 1A Motor Vibration Reduction, Rev. 1
 DCP 1071497301, Replace Barton Transmitters / Rosemount Transmitters
 DCP 1071693201, Protected Circuit/RCIC Vac Valve
 DCP 2052561601, Fire Enclosure U2 RHR & RHRSW Cables, dtd 2/22/2007
 DCP 2071693101, SSD DCP Reroute Cable/PSW Disch Press (3/2/09)
 DCP 2071693301, SSD DCP Protected Sw Circuit/CR to Batt Chgr (3/11/09)
 DCP 2080663301, 2E11F068A/B Mods to Red. Vibration, Rev. 3
 ED 1080446201, 1-E11-RHR-H298 Support Replacement, Ver 1.0
 MDC 2071200101, Remove U2 HPCI Bracket Drain Valves, Ver. 1.0
 SCM-CGDP-001, 18 Instances of Number 2 Diesel Fuel Oil, Ver. 1.0

Basis Documents:

Technical Specifications, Current
 Updated Final Safety Analysis, Current

Condition Reports:

2000001494, 2003800151, 2005101534, 2006107531, 2007102502, 2007102502, 2007105289,
 2007105322, 2007107001, 2008101477, 2008101477, 2008101507, 2008101568, 2008101702,
 2008102081, 2008102081, 2008102237, 2008102341, 2008103212, 2008103240, 2009101926,
 2009101935, 2010100046

Self Assessments:

H-ENG-2007, QA Audit of Engineering Activities, dtd 6/7/2007
 H-ENG-2009, Audit of Engineering Activities, dtd 6/9/2009

Procedures:

31RS-OPS-001-1, Remote Shutdown Procedure, Ver. 5.14
 34AB-C71-001-1, Scram Procedure, Ver. 10.29
 34AB-X43-001-1, Fire Procedure, Ver. 10.24
 34AB-X43-001-2, Abnormal Operating Procedure – Fire Procedure, Ver. 11.19
 34AB-X43-001-2, Fire Procedure, Ver. 11.19
 34AR-700-900-1, ARPs for Control Panel 1H11-P700, Alarm Panel Y, Ver. 6.8 for 34AR-700-135-1, DRWL/Torus CH B H2 Content High, Ver. 2.3
 34AR-700-902-1, ARPs for Control Panel 1H11-P700, Alarm Panel Z, Ver. 10.9 for 34AR-700-235-1, DRWL/Torus CH A H2 Content High, Ver. 2.3
 34GO-OPS-013-1, Normal Plant Shutdown, Ver. 25.10
 34SO-E11-010-1, RHR System Operating Procedure, Rev. 34.4
 34SO-P73-001-1, Hydrogen Water Chemistry Injection, Ver. 15.3
 34SO-R42-001-2, 125 VDC and 125/250 VDC System, Ver. 7.10
 53SP-071106-OR-1-1, RHR Pump Vibration Measurement, Rev. 5.0
 57CP-CAL-133-2, AC/DC Voltmeter/Ammeter Calibration, Ver. 7.12
 NMP-AD-010, 10 CFR 50.59 Screenings and Evaluations, Ver. 7.0
 NMP-ES-022, DCP Site Approval, Implementation, and Closure, Ver. 7.0
 Welding Procedure Specification S11BA-3, Manual SMAW for ASME Applications, Rev. 0

Work Orders:

10400484BJ, 1050690901, 1061937203, 1061937204, 1071497305, 1071693202,
 1080435801, 1090432101, 2052561606, 2052720801, 2061796902, 2061796903, 2071200102,
 2080643505, 2080643506, 2080663302, 2080663303, 2080663305, 2080663307,

Calculations:

DC-1024, Seismic and Design Calculations for RHR Pumps, Rev. 0
 SMNH 98-011, Life Extension Impact on EQ Radiation Exposures, Ver. 3.0
 BH2-PD-2117, Snubbers Reduction – Stress Analysis Problem 5A Core Spray System (Side A), Rev. 1
 SMNH-83-009, PSW and RHRSW Motor Cooling Lines Evaluation for Sight Glass Breakage, Rev. 5
 MC-H-07-0069, Change to Base Calc BH1-CS-0071 for environmental qualification of Barton ATTS Flow/Pressure Transmitters, Rev. 0
 MC-H-07-0087, DCP 2071637601 Proposed Revision to SENH-94-008 (Safety Related MOV TOL Heater Element Sizes), Ver. 1.0
 MC-H-07-0088, DCP 2071637601 Proposed Revision to SENH-97-003 (Unit 2 As-Built Calculation for Safety Related AC MOVs), Ver. 1.0
 MC-H-07-0068, Change to Base Calc SINH-01-032 for TS 3.3.5.1-1(4.f & 5.f) Setpoint Determinations for 24 month cycles 1E11, Rev. 0
 SCNH-06-037, RHR Pump 1A Vibration Resolution, Dated 10/12/2006
 42SP-12-15-09-PB-1-1, Functional Testing of Unit 1 Reactor Recirculation Adjustable S-56319, SPDS RTP Nodes 1-8 EMI/RFI Test Report, Ver. 3.0, dated 2/14/02
 Speed Drives (ASD), Version 1.0, dated 4/22/10
 NMP-GM-014-F02, Cyber Security Risk Reduction Analysis, Ver. 1.0, dated 8/14/09
 SMNH 97-006, Power Uprate Dose Factors, Rev. 1.0

Drawings:

A-43965, Pre-Fire Plan, Rev. 1
 D-11004, U1 RHRSW P&ID Outside Building, Ver. 42.0
 H-11024, Unit 1 Service Water Piping Sheet 1, Ver. 63
 H-11609, Unit 1 Service Water Piping Sheet 2, Ver. 55
 H-11610, Unit 1 Service Water Piping Sheet 3, Rev. 24
 H-11611, Unit 1 Service Water Piping Sheet 4, Rev. 46
 H-11814, Fire Hazards Analysis, Rev. 8
 H-11821, Fire Hazards Analysis, Rev. 1
 H-13370, Single Line Diagram 125/250 VDC Station Service, Division I, Sheet 1, Ver. 60
 H-16011, Unit 1 Reactor Building Service Water Piping, Ver. 67
 H-16844, Edwin I Hatch Nuclear Plant Unit 1 RHR System Service Water from Sides I & II, Ver. 3.0
 H-19913, Reactor Recirculation System Logic Diagram, Sheet 1, Ver. 6.0
 H-19914, Reactor Recirculation System Logic Diagram, Sheet 2, Ver. 1.0
 H-19915, Reactor Recirculation System Logic Diagram, Sheet 3, Ver. 1.0
 H-19916, Reactor Recirculation System Logic Diagram, Sheet 4, Ver. 8.0
 H-19917, Reactor Recirculation System Logic Diagram, Sheet 5, Ver. 1.0
 H-21039, U2 RHRSW P&ID, Ver. 43.0
 H-23563, U2 Wiring Diagram 4160V Switchgear Bus 2AA Frames 1 and 2, Ver. 6.0
 H-23564, U2 Wiring Diagram 4160V Switchgear Bus 2BB Frames 1 and 2, Ver. 7.0
 H-26021, U2 HPCI System P&ID Sheet 2, Ver. 33.0
 H-26835, Core Spray System Side A&B Pump Suction from Torus and Condensate Storage Tank, Rev. 3
 H-43871, Hydrogen Water Chemistry System (P73) Elementary Diagram, Sh. 3 of 5, Ver. 3.0
 H-43872, Hydrogen Water Chemistry System (P73) Elementary Diagram, Sh. 4 of 5, Rev. 0
 HB-12039, U2 RHRSW System ISI Boundary Diagram, Ver. 10.0
 HB-26021, U2 HPCI System ISI Boundary Diagram Sheet 2, Ver. 6.0
 HL-26021, License Renewal U2 HPCI System P&ID Sheet 2, Ver. 4.0
 S-18080, Pipe Support Drawing Record Log and Details for System E11, Subsystem RHRH, Ver. 3.0
 S-30673, Hatch Indoor Metal Clad Switchgear 50-DHP 250 Breaker Scheme and One Line Diagram, Rev. D
 S-31891, U2 High Pressure Cooling Isolation (Pullman Isometric), Ver. 1.0
 S-36063, U2 High Pressure Cooling Isolation (M. W. Kellogg Isometric), Ver. 1.0
 S-80542, Hydrogen Water Chemistry Information Document, Ver. 1.0

Other Documents:

Action Item 2003900212, 5/7/2004
 Action Item 2004200384, 12/17/2004
 Action Item 2004201079, 1/31/2005
 Action Item 2004201080, 2/23/2005
 Action Item 2008204756, 12/21/2009
 Apparent Cause Evaluation for CR 2008101568, Rev. 0.b
 Cable Installation Card 00034848, 8/9/2007
 Cable Installation Card 00034849, 8/9/2007
 Cable Installation Card 00034894, 8/9/2007
 Cable Installation Card 00034895, 8/9/2007

Cable Routing Sheets for the following cables: RIE716C03, RIE823C03, PUX044C03
 DCP 1052517401, Cable Spreading Room Fans Auto Trip, Rev. 1
 DCP 1060790701, Alternate Power Supply for 1E11-F015A/B, Rev. 1
 DCP 2071693301, Battery Charger Control Room Switches of SSD, dated 3/11/09
 DCP C062145201, Westinghouse SVEA-96 Optima2 Lead Use Assemblies, Rev. 1
 DCR Closeout Package 2052561601, Rev. 1, with attachments
 DOEJ-HD1071693201-E001, Analysis of hot shorts in cable R24-S012-ES8-C98A and subsequent operator manual actions for a postulated fire in fire areas 1104 and 1205
 DOEJ-HD2071637601-C001, Seismic Review of DCP 2071637601 for Various Changes Required for JOG MOV Actuator Modifications, Ver. 1.0
 DOEJ-HD2071637601-S001, Stress Evaluation of Core Spray Valves 2E21-F001A & F001B, Ver. 1.0
 DOEJ-SC-1071497301-001, Seismic Evaluation of impact of DCR H1071497301 changes on 1H11-P612 panel, Ver. 1
 DOEJ-SC-1071497301-002, Plant Hatch Review of Seismic/Environmental Documentation for Rosemount 1154 transmitters and 353C Conduit Seals, Ver. 1
 DOEJ-SC-1071497301-003, Evaluation of Existing Supports for Rosemount Transmitters, Ver. 1
 DOEJ-SC-C051930501, Seismic Evaluation of Replacement Recirculation Pump Trip (RPT) Breakers Located on Reactor Building 185', Ver. 1.0
 DOEJ-SE-1071497301-001, Evaluation of Additional Load on Fuse E11AF16B and 1R25-S065, Ver 1
 Fire Protection Program and Safe Shutdown Analysis Checklist NMP-ES-043-002, Version 2.0
 MDC 2061796901, Install Isolation PSW Valves to RCIC Room Cooler, Rev. 1
 NDE Qualification Summary For Selected Individuals
 NL-03-2037 Response to Inspection Report 50-321,366/2003006, 10/1/2003
 NMP-ES-044-F07, DCP Discipline E001 Worksheet (1040048401E001), Worksheet Ver. 7.0
 NRC Triennial Inspection Report 05000321/2003006 and 05000366/2003006
 OD 1-06-1, RHR Pumps 1A AND 1C Excessive Vibration, Rev. 2
 ODMI for U1 RHR A-Pump and A-Loop Vibration, Ver. 2.0 Dated 9/10/2007
 Record of Welder Performance Qualification Test for Selected Individuals
 Reptask N2H11P6641, Test Battery Charger Control Room Switches Every 2 years
 RER HT-99663, Evaluate Replacements for Barton Transmitters
 RHR System Health Report, 1st Quarter 2010
 RIS 2002-22, Use of EPRI/NEI Joint Task Force Report, "Guideline on Licensing Digital Upgrades: EPRI TR-102348, Rev. 1, NEI 01-01: A Revision of EPRI TR-102348 To Reflect Changes to the 10 CFR 50.59 Rule"
 Root Cause Evaluation for CR 2007105289 (Rev. 1)
 Root Cause Evaluation for CR 2008102081 (Final)
 Root Cause Evaluation for CR 2008102081, Cracked and Leaking RHRSW Vent Line, Ver. 1.0
 S43081 B, Qualification Report for Pressure Transmitter Model 1154
 S-43279, LimiTorque Valve Actuator Qualification for Nuclear Power Station Service, Ver. 1.0
 Safe Shutdown Analysis Report Fire Area 2104 Unit 1, Rev.15
 SCNH 99-427, Design Basis Seismic Qualification of Switchgear 2R22-S008, Ver. 1.0
 SCNH 99-428, Design Basis Seismic Qualification of Switchgear 2R22-S009, Ver. 1.0
 Selected IST Data Summary for RHR Pump 1A, 1/1/2008-3/29/2010
 Selected IST Data Summary for RHR Pump 1C, 1/1/2008-3/29/2010

STS Report S2000-RP-21, Seismic Qualification Test Report for the Moore Industries Model
ECT Signal Isolator with 28" Long Top Hat DIN Rail, Rev. 0
SX-25845, Westinghouse Instruction Book 25-Y-6913, Ver. 3.0

Section 1R19: Post Maintenance Testing

Maintenance Work Orders:

2100559801, 1100598601, 1100618701, 1100632502, 1100632101, 209226441, 2100624501,
1062043801, 1062043803, 1062043812

Procedures:

57SV-SUV-013-1, ATTS Panel 1H11-927 Channel FT&C, Ver 13.12
34SV-P41-003-2, Standby Diesel Service Water System Operability, Ver 5.0
57SV-C51-004-2, IRM FT, Ver. 10.5
34SV-P41-001-1, Plant Service Water Pump Operability, Ver. 11.4
95IT-OTM-001-0, Maintenance Work Order Functional Test Guideline, Ver. 5.4

Drawings:

H-17162, H-16333, H-17159, H-17161, H-19827,

Other:

Main Control Room Logs
Pump Inservice Testing Basis, E.I. Hatch Nuclear Plant, Unit 1, Ver. 4.0
E.I. Hatch Nuclear Plant Inservice Testing Program, Fourth Inspection Interval, Ver. 5.0

Condition Reports:

2010104285, 2010104939, 2010105159, 2010103913, 2010105055, 2010104403, 2010105354

Section 1R20: Refueling and Outage Activities

Procedures:

31GO-OPS-024-0, Outage Safety Assessment, Ver. 1.0
NMP-OM-002, Shutdown Risk Management, Ver. 1.0
90AC-OAM-003-0, Outage Risk Management, Ver. 1.3
34GO-OPS-013-2, Normal Plant Shutdown Ver. 27.2
34GO-OPS-015-2, Maintaining Cold Shutdown and Refuel Parameters, Ver. 13.1
NMP-AD-003, Clearance and Tagging
34FH-OPS-001-0, Fuel Movement Operation, Ver. 22
42FH-ERP-014-0, Fuel Movement, Rev. 17.9
DI-OPS-37-0889, Fuel Movement Rules, Ver. 7.1
34GO-OPS-001-2, Reactor Startup, Ver. 38.26
42CC-ERP-010-0, Shutdown Margin Demonstration, Rev. 6
52GM-MME-015-2, Reactor Vessel Disassembly, Ver. 11.10
34GO-OPS-013-2, Normal Plant Shutdown, Ver. 27.2
57SV-B21-020-2, Reactor Wide Range Level Indication, Ver. 3.7

Others:

MCR logs

Outage Control Center logs

Intracompany Correspondence from E.B. Gibson to R.B. Hilton dated Feb. 24, 2010

Drawing H-26001, Nuclear Boiler System P&ID, sheet 2, Ver. 42.0

Logs 34GO-OPS-015, Monitoring Cold Shutdown and Refuel Parameters, Attachment 1 dated 2/8/10, 4/5/10, 4/6/10

CRs:

2010105919, 2010104615

Section 1R22: Surveillance Testing

Condition Reports:

2010105919

Procedures:

34SV-SUV-023-1, Jet Pump / Loop Flow Mismatch Data, Ver. 8.10

34SV-N30-003-1, Main Turbine Monthly Surveillance Test, Ver. 6.8

34SV-E21-001-1, Core Spray Operability, Ver. 18.8

31GO-INS-001-0, Pump and Valve Inservice Testing, Ver. 11.2

Drawings:

H-1633, Core Spray System P&ID

Other:

E.I. Hatch Technical Specification

Section 1EP6: Drill Evaluation

Procedures:

34AB-T23-002-2, Small Pipe Break Inside Primary Containment, Ver. 4.9

34SO-T48-002-2, Containment Atmosphere Control and Distribution Systems, Ver. 20.27

73EP-EIP-001-0, Emergency Classification and Initial Actions, Ver. 18.0

Other:

ENN & ENS forms generated May 5, 2010

Section 4OA1: Performance Indicator Verification

Procedures and Guidance Documents

00AC-REG-005-0, Preparation and Reporting of NRC PI Data, Ver. 6.0

DI-HCH-05-0407, Generation of Performance Indicators, Ver. 1.0

Records and Data:

WO 2092260201

Main Control Room (MCR) logs

Condition Reports:

2009106989, 2009109552, 2009111033, 2009111747

Section 4OA2: Identification and Resolution of Problems

Condition Reports:

2010100356, 2010100358, 2010100361, 2010107248, 2010104391

Procedures:

34GO-OPS-005-2, Power Changes, Ver. 25.22

Documents:

Night Order #010809

Intracompany Correspondence from S. B. Tipps to W.L. Bargeron, Non-Reportability Determination – CR 2009108237: Operation with Recirc Speed Greater than 105% Core Flow, dated October 19, 2009

Intracompany Correspondence from W.R. Metz to S.B. Tipps, Hatch-2 Cycle 20 / Cycle 21 High Core Flow evaluation, dated September 11, 2009

CAP Trend Summary Report November 2009 through January 2010

Quarterly Integrated Performance Assessment, January 2010 – March 2010

Quarterly Integrated Performance Assessment, July – December 2009

Action Items:

2009205239, 2009205240, 2009205241, 2009205242, 2009205245, 2009205246, 2009205247

Section 4OA3: Event Follow-up

Documents:

LER 1-2009-003, Work Activities On Main Turbine Cause An Unexpected Turbine Reset Resulting In A Group 1 Isolation

CR 2009104795, Group 1 isolation due to main turbine stop valve open coincident with low main condenser vacuum

LER 1-2010-001, Corrosion Induced Bonding Results in Safety Relief Valve Lift Setpoint Drift

Intracompany Correspondence from E.B. Gibson to M.J. Keating, Hatch-1 Cycle 24 Fast Closure of MSIV with Measured SRV Opening Pressure, dated June 14, 2010.

Other:

Main Control Room Logs

Condition Reports:

2010107464, 2010107564, 2010107491, 2010107476, 2009104488, 2010103338

Procedures:

34AB-N61-002-1, Main Condenser Vacuum Low, Ver. 1.3

34GO-OPS-005-2, Power Changes, Ver. 24.20

Section 4OA5: Other Activities**Temporary Instruction 2515/173 – Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative**

Groundwater Monitoring Reports, July 2009 and May 2010
 Annual Report – Plant Radioactive Effluent Releases, 2009
 Annual Radiological Environmental Operating Report for 2009
 Offsite Dose Calculation Manual, Ver. 22
 NMP-EN-002, Actions for Potential Groundwater Contamination Events, Ver. 3.0
 NMP-ES-036, Buried Pipe and Tanks Monitoring Program, Ver. 4.0
 NMP-ES-036-001, Buried Pipe and Tanks Monitoring Program Implementation, Ver. 1.0
 NMP-ES-036-002, Buried Pipe and Tanks Monitoring Program Health Reports and Program Notebooks, Ver. 1.0
 NMP-GM-002-001, Corrective Action Program Instructions, Ver. 16.0
 64CH-SAM-028-0, Releases via Planned and Unplanned Routes: Sampling and Analysis, Ver. 4.9
 60AC-HPX-004-0, Radiation and Contamination Control, Ver. 19.6
 51GM-MNT-063-0, Excavation Activity Requirements, Ver. 1.7
 AG-HPX-07-0401, Protected Area Excavation and Modification, Waste Sampling and Disposal Guidelines, Ver. 3.2
 Monitoring Well Sample Results, 2006 - 2010
 10 CFR 50.75(g) Leak/Spill Decommissioning Record, 2008-2010
 C-1460116-02, Calculation of Tritium Deposition at the Edwin I. Hatch Electric Generating Plant, 12/30/08
 AI 2008201119, Establish audit frequencies for groundwater monitoring programs
 AI 2008201146, Update FSAR to include groundwater monitoring program
 AI 2009200938, Schedule site hydrology review once every 5 years
 AI 2009200977, Schedule groundwater monitoring program self-assessment once every 5 years
 AI 2009200980, Schedule NEI peer review of groundwater monitoring program once every 5 years
 CFO-2009-059, Audit of Georgia Power Company Environmental Laboratory
 Southern Nuclear Fleet Focused Groundwater Self Assessment, 8/7/08 – 8/8/08
 NEI Peer Assessment Report, 1/29/10