



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

July 30, 2012

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 05000321/2012003 AND 05000366/2012003**

Dear Mr. Madison:

On June 30, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your E. I. Hatch Units 1 and 2. The enclosed inspection report documents the inspection results which were discussed on July 26, 2012, with Mr. David Vineyard 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.

Two NRC identified findings and one self-revealing finding of very low safety significance (Green) were identified during this inspection. The inspectors determined that each of these findings involved violations of NRC requirements. In addition, the licensee identified two violations which the inspectors determined were of very low safety significance and are listed in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest these non-cited violations, 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 Hatch.

If you disagree with a cross-cutting aspect assignment 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, Region II; and the NRC Resident Inspector at Hatch.

D. Madison

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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 NRC's Agency wide Document Access and Management 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/

Frank Ehrhardt, 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 05000321/2012003, 05000366/2012003
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

D. Madison

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Letter to Dennis R. Madison from Frank Ehrhardt dated July 30, 2012.

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000321/2012003 AND 05000366/2012003

Distribution w/encl:

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-321, 50-366, 72-036

License Nos.: DPR-57 and NPF-5

Report Nos.: 05000321/2012003 and 05000366/2012003

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch Nuclear Plant

Location: Baxley, Georgia 31513

Dates: April 1 – June 30, 2012

Inspectors: E. Morris, Senior Resident Inspector
D. Hardage, Resident Inspector
W. Gardner, General Scientist
S. Sandal, Senior Reactor Inspector (4OA5)
P. Higgins, Senior Reactor Inspector (4OA5)
T. Lighty, Project Engineer (4OA5)

Approved by: Frank Ehrhardt, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000321/2012003, 05000366/2012003; 04/01/2012-06/30/2012; Edwin I. Hatch Nuclear Plant, Units 1 and 2, Fire Protection, Problem Identification and Resolution, Other Activities.

The report covered a three-month period of inspection by the Hatch resident inspectors, a general scientist, two senior reactor inspectors, and a project engineer. There was one self revealing and two NRC identified findings documented in this report. The significance of most findings is indicated by their color (greater than Green, or 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. Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review.

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation (NCV) of Hatch Unit 1 Operating License condition 2.C. (4.c) for failure to maintain an adequate strategy to vent the primary containment through the installed hardened vent piping without power. The ability of the licensee to perform the procedure to manually vent primary containment was questioned during an NRC walk down due to the removal of scaffolding installed to allow operator access to manually operate the containment hardened vent. Immediate corrective actions taken by the licensee include erecting the scaffold back in place, and adding multiple barriers to prevent the removal of the scaffolding. This violation was entered into the licensee's corrective action program as condition report (CR) 438782.

The removal of scaffolding built to allow implementation of Unit 1 manual operation of the containment hardened vent is a performance deficiency. This performance deficiency affects the Mitigating Systems Cornerstone, and is more than minor because it could reasonably be viewed as a precursor to a significant event. Specifically, the inability of the licensee to be able to perform Procedure 31EO-TSG-001-0, Attachment 10, Manually Open Containment Vent Lines affects the ability to vent primary containment following a station blackout event. The inability to manually vent primary containment utilizing the hardened vent would result in the over pressurization and subsequent failure of primary containment. This finding was assessed using IMC 0609 Appendix L, B.5.b Significance Determination Process, and Table 2. The inspectors determined the finding did not meet the criteria listed within Table 2 for greater than green significance; therefore this finding was screen as Green. The inspectors determined this performance deficiency has a cross-cutting aspect in the area of human performance and resources component because the licensee did not have complete, accurate, and up to date work packages, procedures, or labeling of the scaffold to prevent removal. [H.2(c)] (Section 1R05)

- Green. A self revealing non-cited violation of 10 CFR 50, Appendix B, Criterion V. Instructions, Procedures, and Drawings, was identified for failure to accomplish 2004 control rod blade movements for the Unit 1 reactor in accordance with prescribed procedures. Corrective actions taken by the licensee

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included replacing a control rod blade (CRB) with a new blade, and changing Procedure 42FH-ERP-001-0, Control Rod Blade Unlatching, Installation, Removal and Exchange to require peer checks, independent verification, and serial number verification for all future CRB movements. This violation has been entered into the licensee's corrective action program as CR 193771.

Failure to accomplish the CRB shuffle in accordance with prescribed procedures is a performance deficiency. Specifically, during the 2004 CRB shuffle, three CRBs were installed in positions different from the position required by Procedure 42FH-ERP-001-0, Control Rod Blade Unlatching, Installation, Removal and Exchange. The performance deficiency affects the Mitigating Systems Cornerstone and was determined to be more-than-minor because this issue is similar to IMC 0612, Appendix E, example 4.c, not minor if the retest revealed that the data was actually outside of the acceptable range. This finding was assessed using IMC 0609 Attachment 4, Phase 1 - Initial Screening and Characterization of Findings. The inspectors determined the finding screened as Green per Table 4a because all the screening questions under the Mitigating Systems column were answered "No." Because the procedure was implemented in 2004, the performance deficiency occurred outside the past three years and no cross-cutting aspect is assigned. (Section 40A2.2)

- Green. The inspectors identified a non-cited violation of Hatch Nuclear Plant Technical Specification 5.4, "Procedures," with five examples for the licensee's failure to establish, implement and maintain surveillance procedures for the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) systems. The deficiencies associated with the surveillance procedures precluded adequate evaluation of the as-found condition of those systems against acceptance criteria which serve as a basis for system operability. The licensee entered these five issues into their corrective action program under CRs 440646, 441302, 441333 and 441863. The immediate corrective actions included performing ultrasonic inspection of the surveillance test points which verified the absence of gas pockets. Interim corrective actions included implementing the performance of ultrasonic inspection of the surveillance test points immediately prior to venting the system in accordance with the surveillance procedure as a means to accurately quantify and evaluate the effects of any gas discovered.

For the five examples identified, the failure to establish, implement and maintain adequate surveillance procedures to identify and evaluate accumulated gas in the HPCI and RCIC systems were performance deficiencies. The performance deficiencies were determined to be more than minor because they affected the procedure quality attribute of mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the performance deficiencies challenged the assurance that procedures used to perform surveillance testing of the HPCI and RCIC systems had adequately identified and evaluated the as-found condition of those systems as a basis for continued system operability. Additionally, if the performance deficiencies were left uncorrected, assurance was challenged that any future voids in the HPCI and RCIC system would be adequately identified and

evaluated. The team screened the finding in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance (Green). These performance deficiencies were assigned a cross-cutting aspect in the corrective action component of the problem identification and resolution area because the licensee did not take adequate corrective actions in 2009 when weaknesses were identified with the surveillance procedures (P.1 (d)). (Section 4OA5.3)

Violations of very low safety significance or severity level IV that 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 percent rated thermal power (RTP). On April 2 power was reduced to 28 percent due to failure of the B steam jet air ejector. The unit returned to 100 percent RTP on April 5 and remained at or near 100 percent RTP for the remainder of the inspection period.

Unit 2 began the inspection period at or near 100 percent RTP. On May 5 the unit was shutdown to perform a planned replacement of safety relief valves. On May 10 the unit was restarted and returned to 100 percent RTP on May 14. The unit remained at or near 100 percent RTP for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather (71111.01)

Readiness of Offsite and Alternate Alternating Current (AC) Power Systems

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate 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
- 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:

- 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

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- The compensatory actions 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
- 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. 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.

1R04 Equipment Alignment (71111.04)

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 existed, or a system/train that was recently realigned following an extended system outage or a risk significant single train system existed. 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 B train of plant service water system while A train was out of service for maintenance, May 2, 2012
- Unit 2 B train of residual heat removal service water system while A train was out of service for maintenance, May 14, 2012
- 1A emergency diesel generator while 1C emergency diesel generator was out of service for maintenance, May 22, 2012

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)a. Inspection Scope

Fire Area Tours. The inspectors toured the following six 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 Fire Hazards Analysis drawings 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, northeast residual heat removal and core spray room reactor building elevation below 130'-0", fire area 1205A and 1205B
- Unit 1, low pressure coolant injection inverter room control building elevation 147'-0", fire area 002B
- Unit 1, southeast residual heat removal and core spray room reactor building elevation below 130'-0", fire area 1203B
- Unit 1, north and south torus area reactor building elevation below 130'-0", fire area 1203A and 1205A
- Unit 1, reactor building elevation 130'-0", fire area 1203F and 1205F
- Unit 1, high pressure coolant injection pump room, fire area 1205Z

b. Findings

Introduction: A Green NRC-identified NCV of Hatch Unit 1 Operating License condition 2.C. (4.c), was identified for failure to maintain an adequate strategy to vent the primary containment through the installed hardened vent piping without power. The ability of the licensee to perform the procedure to manually vent primary containment was questioned during an NRC walk down due to the removal of scaffolding installed to allow operator access to manually operate the containment hardened vent.

Description: During a walk down of the of Unit 1 containment hardened vent system on April 10, 2012, NRC inspectors noted scaffolding that was previously in place to allow operator access to manually vent the primary containment through the installed hardened vent piping without power had been removed. With this scaffolding removed, performance of licensee Procedure 31EO-TSG-001-0, Attachment 10, Manually Open Containment Vent Lines would require licensee personnel to attempt to balance on piping directly over an unprotected thirty foot drop while disassembling air lines and installing temporary air tubing. The hardened vent is located in the torus suppression pool room. The torus suppression pool room is a posted high radiation area and this evolution would be performed in very low light conditions using portable battery operated lighting (flashlights) due to the loss of power to installed area lighting. During conditions requiring manual operation of the hardened vent, such as a station blackout condition, reactor decay heat would be transferred from the reactor to the torus suppression pool through the safety relief valves. The absence of this scaffolding would prevent completion of Attachment 10, the inability to manually vent primary containment utilizing

the hardened vent, and would ultimately result in over pressurization and subsequent failure of primary containment.

Investigation by the licensee determined the scaffold was removed on March 16, 2012, during the end of the Unit 1 refueling outage under work order SNC324527. On April 11, 2012, NRC inspectors informed the licensee of the absence of the scaffold. The licensee initiated CR 438782, and re-erected the scaffold on April 11, 2012.

Analysis: The removal of scaffolding built to allow implementation of Unit 1 manual operation of the containment hardened vent is a performance deficiency. This performance deficiency affects the Mitigating Systems Cornerstone, and is more than minor because it could reasonably be viewed as a precursor to a significant event. Specifically, the inability of the licensee to be able to perform Procedure 31EO-TSG-001-0, Attachment 10, Manually Open Containment Vent Lines affects the ability to vent primary containment following a station blackout event. The inability to manually vent primary containment utilizing the hardened vent would result in the over pressurization and subsequent failure of primary containment. This finding was assessed using IMC 0609 Appendix L, B.5.b Significance Determination Process, and Table 2. The inspectors determined the finding did not meet the criteria listed within Table 2 for greater than green significance; therefore this finding was screen as Green. The inspectors determined this performance deficiency has a cross-cutting aspect in the area of human performance and resources component because the licensee did not have complete, accurate, and up to date work packages, procedures, or labeling of the scaffold to prevent removal. [H.2(c)]

Enforcement: Hatch Unit 1 Operating License condition 2.C.(4.c), requires that the licensee shall implement and maintain all actions required by Attachment 2 to NRC Order EA-06-137, issued June 20,2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate. The licensee developed procedure 31EO-TSG-001-0 which implements the strategies required by NRC Order EA-06-137. Contrary to the above, from March 16, 2012, to April 11, 2012, the licensee failed to maintain an adequate strategy to vent the primary containment through the installed hardened vent piping without power. Specifically, scaffolding required for access to perform actions to manually operate the containment harden vent valves was removed. Immediate corrective actions taken by the licensee include erecting the scaffold back in place, and adding multiple barriers to prevent the removal of the scaffolding. Because this violation was of very low safety significance and it was entered into the licensee's corrective actions program as CR 438782, this violation is being treated as an NCV, consistent with the Enforcement Policy. NCV 05000321/2012003-01." Removal of scaffolding built to allow implementation of Unit 1 manual operation of the containment hardened vent."

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

a. Inspection Scope

Resident Quarterly Observation

On April 25, 2012, the inspectors observed the performance of licensee simulator scenario LT-SG-50916-07.1, which included a loss of feed water heating, a stuck open safety relief valve, loss of electrical power to non-safety busses, and a steam line break inside containment. The inspectors reviewed the proper classification in accordance with the Emergency Plan and licensee Procedures NMP-AP-003, Procedure and Work Instruction Use and Adherence, and DI-OPS-59-0896, Operations Management Expectations, to verify formality of communication, procedure usage, alarm response, control board manipulations, group dynamics, and supervisory oversight. The inspectors attended the post-exercise critique of operator performance to assess whether the licensee identified performance issues were comparable to those identified by the inspectors. The inspectors reviewed the critique results from previous training sessions to assess performance improvement. In addition, the inspectors observed licensed operator performance in the main control room during periods of heightened activity or risk during Unit 2 shutdown on May 5 and Unit 2 startup on May 10, 2012.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed the following two 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 neutron monitoring system, C51
- Unit 2 plant service water check valve to control room air conditioning 2P41F098 stuck open

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)a. Inspection Scope

The inspectors reviewed the following work activities 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.

- Week of April 16 – April 20, including scheduled maintenance on Unit 1 B reactor protection system motor generator, reactor manual scram functional testing, B control rod drive pump, and Unit 2 vital battery discharge test
- May 6 and 7 - Unit 2 outage safety assessments during Mode 4 operations
- Week of May 19 – May 25, including 1C emergency diesel generator system outage, scram discharge volume level switch functional test and calibration (FT&C), scram outlet valve leak test, and reactor manual scram functional testing
- Week of June 9 – June 15, including scheduled maintenance on Unit 1 C station service air compressor, main steam line pressure FT&C, Unit 2 scram outlet valve seat leak testing, and reactor manual scram testing on both units
- Week of June 18 – June 23, including planned maintenance for Unit 1 B loop core spray and residual heat removal room cooler, station service battery maintenance, A main control room air conditioning maintenance, and Unit 2 D residual heat removal service water pump maintenance

b. Findings

No findings were identified.

1R15 Operability Evaluations and Functionality Assessments (71111.11)a. Inspection Scope

The inspectors reviewed the following seven operability evaluations and compared the evaluations to the system requirements identified in the Technical Specifications (TS) 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 Division II plant service water tubercle growth buildup, CR 420692
- Unit 1 C plant service water pump seal leak on pump shaft, CR 437836
- Unit 2 plant service water through wall pipe leak downstream of 2P41-F843B, CR 442202

- Unit 1 residual heat removal service water Class 3 pipe leak at intake, CR 451300
- 1A standby gas treatment low flow during monthly surveillance, CR 452234
- 1C emergency diesel generator frequency oscillations, CR 459886
- Unit 1 drywell vacuum breaker, 1T48-F323F, failed open, CR 470942

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed the following plant modification to ensure that safety functions of important safety systems have not been affected. Also, the inspectors verified that the design bases, licensing bases and performance capability of risk significant structures, systems and components have not been degraded through modifications. The inspectors verified that any modifications performed during increased risk-significant configurations did not place the plant in an unsafe condition. Documents reviewed are listed in the Attachment.

Temporary Modification:

- SNC407639 installation of low pass resistance capacitance filter for Unit 2 drywell chiller motor current monitoring circuit

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

For the following four 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 113647, 2C plant service water pump motor oil change and meggar, April 5
- WO 381829, Replace level switch, 1E51N061, condensate storage tank low, April 26
- WO 356776, Replace core spray discharge header level switch 2E21N010B, May 3
- WO 392401, Replace pipe and residual heat removal system valve, 2E11F260B, May 15

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)a. Inspection Scope

The inspectors performed the inspection activities described below for the Unit 2 safety relief valve maintenance outage that began on May 5 and ended May 10, 2012. The inspectors confirmed that, when the licensee removed equipment from service, the licensee maintained defense-in-depth commensurate with the outage risk control plan for key safety functions and applicable TS, and that configuration changes due to emergent work and unexpected conditions were controlled in accordance with the outage risk control plan. Documents reviewed are listed in the Attachment. Inspection activities included:

- Prior to the outage, the resident inspectors reviewed the licensee's integrated risk control plan to verify that activities, systems, and/or components which could cause unexpected reactivity changes were identified in the outage risk plan
- Observed portions of the plant shutdown and cooldown to verify that the technical specification cooldown restrictions were followed
- Reviewed reactor coolant system pressure, level and temperature instruments to verify that the instruments provided accurate indication and that allowances were made for instrumentation errors
- Reviewed system alignments to verify that the flow paths, configurations and alternative means for inventory addition were consistent with the outage risk plan
- Reviewed selected control room operations to verify that the licensee was controlling reactivity in accordance with the technical specifications
- Observed the licensee's control of containment penetrations to verify that the requirements of the technical specifications were met
- Reviewed the licensee's plans for changing plant configuration to verify that technical specifications, license conditions, and other prerequisites were met prior to changing plant configuration
- Inspected containment for as-found degraded conditions
- Inspected containment (closeout) prior to reactor startup

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)a. Inspection Scope

The inspectors reviewed seven licensee surveillance test procedures and either witnessed the test or reviewed test records 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 NMP-GM-005-GL03, Human Performance Tools, and attended selected briefings to determine if procedure requirements were met. Documents reviewed are listed in the Attachment.

Surveillance Tests

- 57SV-C11-001-2, Scram Discharge Volume Level Instrument FT&C
- 34SV-R43-003-2, Diesel Generator 2C Monthly Test
- 34SV-E11-004-1, Residual Heat Removal Service Water Pump Operability A Loop
- 34SV-E41-002-1, High Pressure Coolant Injection Pump Operability
- 34SV-R43-001-2, Diesel Generator 2A Monthly Test
- 64CH-SAM-025-0, Reactor Coolant Sampling and Analysis

In-Service Test

- 34SV-E11-001-1, Residual Heat Removal Pump Operability (Unit 1 B pump)

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed the following emergency plan evolution. The inspectors observed licensee activities in the simulator 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 NMP-EP-110, Emergency Classification Determination and Initial Actions and NMP-EP-112, Protective Action Recommendations. The inspectors also reviewed licensee procedure NMP-EP-111, Emergency Notifications, 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 training evolution conducted on April 25, 2012

b. Findings

No findings were identified.

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4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

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 for Hatch Unit 1 and Unit 2. 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: Barrier Integrity

- Reactor Coolant System Leakage
- Reactor Coolant System Activity

The inspectors reviewed raw PI data collected between April 2011 and March 2012 for the 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 (LERs) issued during the referenced time frame were also reviewed. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.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.

.2 Annual Samples:

a. Inspection Scope

The inspectors performed a detailed review of the following CR 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 CR 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 413297, Unit 1 control blade inspection found cracked and wrong serial number

b. Findings and Observations

Introduction: A Green self revealing NCV of 10 CFR 50, Appendix B, Criterion V. Instructions, Procedures, and Drawings, was identified for failure to accomplish control rod blade movements in the Unit 1 reactor in accordance with prescribed procedures.

Description: During Hatch Unit 1 cycle 25, on two occasions rod pattern adjustments resulted in actual power/flow load lines which were higher than predicted resulting in an average power range monitor (APRM) rod block in one case and a near APRM rod block in the other. The licensee obtained traversing in-core probe data and performed subsequent evaluations which indicated that CRB 34-27 was unexpectedly degraded by 40 percent of its neutron absorption worth. In February 2012 during the refueling outage following cycle 25, licensee inspection of the CRB taken from core location 34-27 revealed cracking of the boron absorber tubes and a CRB serial number which did not match the expected serial number documented in plant records or in the core design. Through review of CRB records and inspections of CRB core positions the licensee determined that during the 2004 refueling outage, a three way CRB shuffle error had occurred. In the case of the CRB found in position 34-27, a high exposure blade was placed in a high duty core location instead of the intended low duty, peripheral location. This resulted in the CRB being exposed significantly beyond its manufacturer design lifetime limits. The excessive exposure embrittled the boron absorber tubes resulting in cracking and washout of the boron inside. The other two CRB movement errors resulted in a low exposure blade moving to a low duty location instead of an intended high duty location and a low exposure blade moving to a high duty location instead of a different intended high duty location. Neither of these other two mislocations resulted in CRB tube failure or boron loss. SNC Hatch core analysis personnel and Global Nuclear Fuels evaluated the as found cycle 25 core conditions and determined that neither thermal limits nor shutdown margin were violated with the three mispositioned CRBs. The licensee investigation determined that the cause of the mispositioned CRB was failure to properly implement procedure 42FH-ERP-001-0, Control Rod Blade Unlatching, Installation, Removal and Exchange during the 2004 CRB shuffle. To address this issue the licensee initiated CR 193771. The licensee has replaced the overexposed CRB with a new blade and has initiated corrective actions to change procedure 42FH-ERP-001-0 to require peer checks or independent verification and serial number verification for all future CRB movements.

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Analysis: Failure to accomplish CRB shuffle in accordance with prescribed procedures is a performance deficiency. Specifically, during the 2004 CRB shuffle, three CRBs were installed in positions different from the position required by procedure 42FH-ERP-001-0, Control Rod Blade Unlatching, Installation, Removal and Exchange. The performance deficiency affects the Mitigating Systems Cornerstone and was determined to be more-than-minor because this issue is similar to IMC 0612, Appendix E, example 4.c, not minor if the retest revealed that the data was actually outside of the acceptable range. This finding was assessed using IMC 0609 Attachment 4, Phase 1 - Initial Screening and Characterization of Findings. The inspectors determined the finding screened as Green per Table 4a, because all the screening questions under the Mitigating Systems column were answered "No." Because the procedure was implemented in 2004, the performance deficiency occurred outside the past three years and no cross-cutting aspect is assigned.

Enforcement: 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, requires in part that activities affecting quality shall be prescribed by procedures appropriate to the circumstances and shall be accomplished in accordance with these procedures. Contrary to the above, from 2004 through March 2012 the licensee operated with three control rod blades mispositioned in the Unit 1 reactor due to the failure to accomplish a control blade shuffle in accordance with the prescribed procedure. The licensee has replaced the overexposed CRB with a new blade and has initiated corrective actions to change procedure 42FH-ERP-001-0, Control Rod Blade Unlatching, Installation, Removal and Exchange to require peer checks or independent verification and serial number verification for all future CRB movements. Because this violation was of very low safety significance and it was entered into the licensee's corrective actions program as CR 193771, this violation is being treated as an NCV, consistent with the Enforcement Policy. NCV 05000321/2011003-02, "Mispositioning and subsequent failure of Hatch Unit 1 reactor control rod blade."

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program 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 screenings, licensee trending efforts, and licensee human performance results. The review nominally considered the six month period of January 2012 through June 2012, although some examples extended beyond those dates when the scope of the trend warranted. The inspectors compared and contrasted their results with the results contained in the licensee's trend documents. 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.

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b. Findings and Observations

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (CLOSED) LER 05000321/2012-001, Non-Compliance with Technical Specification 3.9.4 for Control Rod Position Indication During Shutdown

a. Inspection Scope

The inspectors reviewed this LER for potential performance deficiencies and/or violations of regulatory requirements. Additionally, discussions were held with operations, engineering, and licensing staff members to understand the details surrounding this issue. This condition was documented in the licensee's corrective action program as CR 417408. LER 05000321/2012-001 is closed.

b. Findings

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

.2 (CLOSED) LER 05000321/2012-004, Corrosion-Induced Bonding Results in Multiple Safety Relief Valves Setpoint Drift

a. Inspection Scope

The inspectors reviewed this LER for potential performance deficiencies and/or violations of regulatory requirements. Additionally, discussions were held with operations, engineering, and licensing staff members to understand the details surrounding this issue. This condition was documented in the licensee's corrective action program as CR 429368. LER 05000321/2012-004 is closed.

b. Findings

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

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted 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 Operation of an Independent Spent Fuel Storage Installation (ISFSI) (IP 60855.1)

a. Inspection Scope

The inspectors performed a walkdown of the ISFSI on site (reference docket 72-036) and monitored the activities associated with the dry fuel storage campaign which completed May 18, 2012. The inspectors reviewed changes made to the ISFSI programs and procedures including associated 10 CFR 72.48, Screens and Evaluations, to verify that changes made were consistent with the license or Certificate of Compliance. The inspectors reviewed records to verify that the licensee has recorded and maintained the location of each fuel assembly placed in the ISFSI. The inspectors also reviewed surveillance records to verify that daily surveillance requirements were performed as required by technical specifications. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.3 (Discussed) NRC Temporary Instruction (TI) 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC Generic Letter (GL) 2008-01)"

a. Inspection Scope

The team reviewed the implementation of the licensee's actions in response to GL 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." The subject systems that were reviewed included the high pressure coolant injection and reactor core isolation cooling systems. Additional inspections will be performed in the future to review the low pressure coolant injection, residual heat removal, and core spray systems. The results of these inspection activities will be documented in a later inspection report.

The inspectors reviewed the licensing basis of the facility to verify that actions to address gas accumulation were consistent with the operability requirements of the high pressure coolant injection and reactor core isolation cooling systems.

The inspectors reviewed the design of the subject systems to verify that actions taken to address gas accumulation were appropriate given the specifics of the functions, configurations, and capabilities of these systems. The inspectors reviewed selected

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analyses performed by the licensee to verify that methodologies for predicting gas void accumulation, movement, and impact were appropriate.

The inspectors reviewed testing implemented by the licensee to address gas accumulation in subject systems. A selection of test procedures and completed test results were reviewed to verify that test procedures were appropriate to detect gas accumulations that could challenge subject systems. The inspectors reviewed the specified testing frequencies to verify that the testing intervals had appropriately taken historical gas accumulation events as well as susceptibility to gas accumulation into account. The inspectors also reviewed the test programs and processes to verify that they were sensitive to precursors to gas accumulation.

The inspectors reviewed corrective actions associated with gas accumulation in subject systems to verify that identified issues were being appropriately identified and corrected. The inspectors reviewed the locations of selected vent valve installations to verify that the locations selected were appropriate based on piping configuration and pipe slopes.

b. Findings

Introduction: The team identified a Green NCV of TS 5.4, "Procedures," (with five examples) for the licensee's failure to establish, implement and maintain surveillance procedures for the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) systems. The deficiencies associated with the surveillance procedures precluded adequate evaluation of the as-found condition of those systems against acceptance criteria which serve as a basis for verifying system operability.

Description: The team reviewed four surveillance procedures used to meet technical specification surveillance requirements 3.5.1.1 and 3.5.3.1. These surveillances required that the HPCI and RCIC system discharge piping be verified to be full of water. The implementing surveillance procedures filled the piping by venting at the high points of the systems. The team identified five deficiencies associated with the establishment, implementation, and maintenance of the HPCI and RCIC surveillance procedures:

Surveillance Procedure Establishment (2 examples of a non-cited violation of TS 5.4): The team noted that the surveillance procedures did not establish acceptance criteria for voids discovered during the venting process. Hence, any gas found was not being identified, quantified, and evaluated in context of its location to determine the impact on system operability. Because the acceptance criteria was to ensure the pipes were full, the pipes were vented without verifying if the HPCI and RCIC systems would have been operable based on the volume of gas vented (or would not continue to accumulate gas following void removal). Additionally, the team noted that two of the four surveillance procedures (RCIC Unit 1 and HPCI Unit 2) did not require a CR to be initiated to evaluate a void if one was detected. Based on these observations, the team concluded that:

- The failure to establish surveillance procedure acceptance criteria for voids discovered during the tests precluded characterization and evaluation of the as-found condition of the HPCI and RCIC systems as a basis for operability. This issue was entered into the licensee's corrective action program as CR 440646.
- Inconsistencies in the use of the licensee's corrective action program to evaluate discovered voids during the performance of the procedures created the potential that gas voids could have existed and were never formally evaluated for impact on system operability. This issue was entered into the licensee's corrective action program as CR 440646.

Surveillance Procedure Implementation (2 examples of a non-cited violation of TS 5.4):

The team noted that the HPCI and RCIC surveillance procedures for venting the systems utilized a stop watch, and the operators were required to open the vent valve two full turns. The operators started timing the venting when they opened the valves, and stopped when the vent valves were closed. There is a calculation that converts the vent time to volume. The surveillance procedures did not contain any acceptance criteria for acceptable recorded vent time or calculated gas volume. The surveillance procedure directed the operators to confirm piping completely filled with water by opening designated vent valves and observing a steady stream of water from each vent point (no bubbles in the site glass). The team noted that the HPCI and RCIC surveillance procedures did not provide accurate quantitative and qualitative information to determine the impact of void volumes on the HPCI and RCIC systems. Because the existing method of gas detection and quantification was determined to be inaccurate based on an evaluation completed by the licensee in 2009, and no other testing (i.e., ultrasonic) was completed prior to venting the high points, the licensee had been unable to adequately quantify any air volumes since 2009. As a result of the determination that vent times were unreliable in determining an accurate void size, the licensee stopped performing engineering evaluations to compare void size (calculated by vent time) to acceptance criteria when the surveillance tests were performed. The team also identified issues with the implementation of the two procedures that required a CR to be initiated if gas was detected (RCIC Unit 2 and HPCI Unit 1). Specifically, several of the completed surveillances recorded gas venting times but marked the surveillance procedure step to enter a CR into the corrective action program as 'not applicable'. Based on these observations, the team concluded that:

- The failure to implement and perform analyses of gas voids discovered in the HPCI and RCIC systems since 2009 (to determine if those voids impacted system operability) challenged the assurance that the surveillance procedure would adequately characterize the as-found condition as a basis for operability. This issue was entered into the licensee's corrective action program as CR 441302.
- The failure to enter gas vent times into the corrective action program (for the two surveillance procedures that had implemented that requirement) prevented characterization and evaluation of the as-found condition of the HPCI and RCIC systems as a basis for operability. This issue was entered into the licensee's corrective action program as CR 441863.

Surveillance Procedure Maintenance (1 example of a non-cited violation of TS 5.4): In May 2009, the licensee documented RCIC vent times that exceeded the normal expected values (approximately 26 seconds vs. nominal 5-10 seconds) and entered this condition into the corrective action program as CR 2009106783 for additional evaluation. When the evaluations were completed, the licensee determined that the gas volumes exceeded the allowable volumes documented in their gas monitoring program for the RCIC discharge piping. The licensee determined that timing the vent of the system high points was an inaccurate method for void quantification. This determination was made because (during the venting evolution) a mixture of gas and water would be observed and there were no accurate methods to determine the gas volume contained in the water stream. From the time this determination was made in 2009, the licensee continued to document vent times for the system but never evaluated those vent times to determine void size. The corrective actions included an ultrasonic test which was not formally incorporated into the gas monitoring program or surveillance procedures. In addition, the HPCI and RCIC pump surveillance interval was every 30 days while the ultrasonic test occurred every 90 days. The surveillance test intervals and ultrasonic test intervals were not controlled in a manner to ensure accurate as-found void size quantification. Specifically, the ultrasonic tests were not required to be performed immediately prior to venting the void during performance of the surveillance tests. Based on these observations, the team concluded that:

- The failure to maintain the quality of the surveillance test procedures by not taking actions to correct inaccurate void quantification methods challenged the assurance that the surveillance procedures would adequately characterize the as-found condition as a basis for operability. This issue was entered into the licensee's corrective action program as CR 441333.

Analysis: For the five examples discussed above, the failure to establish, implement and maintain adequate surveillance procedures to identify and evaluate accumulated gas in the HPCI and RCIC systems were performance deficiencies. The performance deficiencies were determined to be more than minor because they affected the procedure quality attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the performance deficiencies challenged the assurance that procedures used to perform surveillance testing of the HPCI and RCIC systems had adequately identified and evaluated the as-found condition of those systems as a basis for continued system operability. Additionally, if the performance deficiencies were left uncorrected, assurance was challenged that any future voids in the HPCI and RCIC system would be adequately identified and evaluated. The team screened the finding in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance (Green) since it was not a design issue resulting in loss of function, did not represent an actual loss of a system safety function, did not result in exceeding a technical specification allowed outage time or risk-significant unavailability, and did not affect external event mitigation.

These performance deficiencies were assigned a cross-cutting aspect in the corrective action component of the problem identification and resolution area because the licensee did not take adequate corrective actions in 2009 when weaknesses were identified with the surveillance procedures. [P.1(d)]

Enforcement: Technical Specification 5.4.1 requires in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Sections 8.b (2) (j) and 8.b (2)(r) of Regulatory Guide 1.33, Appendix A, require surveillance procedures for the HPCI and RCIC systems. Contrary to these requirements, since May 2009 (in the five examples listed above), the licensee had failed to establish, implement, and maintain adequate surveillance procedures for the HPCI and RCIC systems to determine if voids within the systems could render those systems inoperable. Because the violation was of very low safety significance and it was entered into the licensee's corrective action program, this violation is being treated as a non-cited violation consistent with the Enforcement Policy: NCV 05000321, 366/2012003-03, "Inadequate Surveillance Procedures for Evaluating Accumulated Gas in the HPCI and RCIC Systems."

40A6 Meetings, Including Exit

On July 26, 2012, the resident inspectors presented the inspection results to Mr. David Vineyard and other members of the plant staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

40A7 Licensee-Identified Violations

The following violation of very low safety significance (Green) or Severity Level IV were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as a Non-Cited Violation.

- A licensee-identified violation was discovered on March 2, 2012, of Unit 1 TS 3.9.4, which states that control rod full-in position indication channel for each control rod shall be operable during mode 5. Contrary to this requirement, from February 28 until March 2, 2012, the "full-in" indication for CRB 22-27 was inoperable with a modified probe buffer card installed to bypass the "full-in" indication signal in order to remove the rod block. On February 28 licensee personnel inadvertently cleared (i.e., removed) a tag-out for CRB22-27 without removing the modified probe buffer card and without performing a functional test of the "full-in" indication prior to moving fuel in the reactor vessel. Fuel movement occurred from the time the tag-out was removed until 0817 EST on March 2 when the error was discovered. The inspectors screened the significance of this violation using IMC 0609 Appendix G, Shutdown Operations Significance Determination Process. The finding did not screen as requiring a Phase 2 or Phase 3 review per IMC 0609 Appendix G, therefore this finding screened as having very low risk significance (Green). Corrective actions taken by the licensee included immediately disabling CRB 22-27 to comply with TS 3.9.4 and enhancements to strengthen administrative controls on processes relied

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upon to comply with TS. This issue was entered in the licensee's corrective action program as CR 417608 and was documented in LER 05000321/2012-001. (Section 4OA3.1)

- On March 26, 2012, a licensee-identified violation of Unit 1 TS 3.4.3, was discovered. TS 3.4.3, requires 10 of 11 safety relief valves (SRV's) to be operable during Mode 1, 2, and 3. Contrary to this requirement it was identified during bench testing that eight SRVs failed to lift at the required TS setpoint, and therefore were inoperable when Unit 1 was in Mode 1, 2, and 3. The cause for the SRV's failing to lift within the required setpoint was due to corrosion induced bonding between the pilot disc and seating surface. Analysis showed that with the SRV's lifting at the as-found bench test setpoints, the SRV's still would have maintained reactor coolant system pressure below the TS safety limit requirements. Therefore, this finding was determined to be of very low safety significance. This condition was documented in the licensee's corrective action program as CR 429368 and was documented in LER 05000321/2012-004. (Section 4OA3.2)

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

B. Anderson, Health Physics Manager
C. Aycock, Principal Engineer
G. Brinson, Maintenance Manager
V. Coleman, Chemistry Manager
M. Crosby, Engineering Programs
B. Duval, Site Support Manager
C. Lane, Engineering Director
D. Madison, Hatch Vice President
S. Tipps, Principal Licensing Engineer
K. Underwood, Performance Improvement Supervisor
R. Varnadore, Operations Manager
D. Vineyard, Plant Manager

LIST OF ITEMS OPENED AND CLOSED

Closed

LER 05000321/2012-001	LER	Non-Compliance with Technical Specification 3.9.4 for Control Rod Position Indication During Shutdown (4OA3.1)
LER 05000321/2012-004	LER	Corrosion-Induced Bonding Results in Multiple Safety Relief Valves Setpoint Drift (4OA3.2)

Opened & Closed

05000321/2012003-01	NCV	Removal of scaffolding built to allow implementation of Unit 1 manual operation of the containment hardened vent. (1R05)
05000321/2012003-02	NCV	Mispositioning and subsequent failure of Hatch Unit 1 reactor control rod blade. (4OA2.2)
05000321,366/2012003-03	NCV	Inadequate Surveillance Procedures for Evaluating Accumulated Gas in the HPCI and RCIC Systems (4OA5.3)

Discussed

05000321,366/2515/177	TI	Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC Generic Letter (GL) 2008-01) (Section 4OA5.3)
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

DI-OPS-87-0408, Actions for GENCOMM Alerts, Ver. 1.1
34AB-S11-001-0, Operation with Degraded System Voltage, Ver. 3.0
Individual Plant Examination of External Events
Operating Experience Smart Sample 2012/01, High Wind Generated Missile Hazards

Section 1R04: Equipment Alignment

Procedures

34SO-P41-001-1, Plant Service Water System, Ver. 33.4
34SO-E11-001-2, Residual Heat Removal System, Ver. 38.0
34SO-R43-001-1, Diesel Generator Standby AC System, Ver. 24.1

Drawings

H-11600, D-11001

Section 1R05: Fire Protection

Procedures

E.I. Hatch Fire Protection Fire Hazards Analysis
42FP-FPX-018-0, Use, Control and Storage of Flammable/Combustible Materials, Version 1.2
34AB-X43-001-1, Fire Procedure, Version 10.25
42SV-FPX-024-0, Fire Hose Stations – Appendix B Areas, Version 3.2

Drawings

A-43965 sheet 53A, Unit 1 Pre-Fire Plan northeast residual heat removal and core spray room reactor building elevation below 130'-0"
A-43965 sheet 47B, Unit 1 Pre-Fire Plan low pressure coolant injection inverter room control building elevation 147'-0"
A-43965 sheet 51A, Unit 1 Pre-Fire Plan southeast residual heat removal and core spray room reactor building elevation below 130'-0"
A-43965 sheet 56A/B and 57A/B, Unit 1 Pre-Fire Plan north and south torus area reactor building elevation below 130'-0",
A-43965 sheet 58A/B, Unit 1 Pre-Fire Plan reactor building south elevation 130'-0"
A-43965 sheet 59A/B, Unit 1 Pre-Fire Plan reactor building north elevation 130'-0"
A-43965 sheet 55A/B, Unit 1 Pre-Fire Plan high pressure coolant injection pump room reactor building elevation below 130'-0"

Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance

Scenario: LT-SG-50916-07.1

Section 1R12: Maintenance Effectiveness

Other

System Health Report – C51 System – 2 quarter 2012
System Health Report – P41 System – 1st quarter 2012
C51 Maintenance Rule Scoping Manual Documents
C51 Maintenance Rule Performance Criteria
P41 Maintenance Rule Scoping Manual Documents
P41 Maintenance Rule Performance Criteria

RER SNC370714 2P41-F098 check valve leakage
Corrective Action Report 193406
NMP-ES-002, System Monitoring and Health Reporting, Ver. 15.0

Condition Reports
408612, 447136

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Equipment Out of Service calculations 4/14/12-4/20/12
Equipment Out of Service calculations 5/19/12-5/26/12
Equipment Out of Service calculations 6/9/12-6/15/12
Equipment Out of Service calculations 6/16/12-6/22/12

Section 1R15: Operability Evaluations and Functionality Assessments

Procedures

NMP-AD-012, Operability Determinations and Functional Assessments, Ver. 11.0
34SV-T46-003-1, Standby Gas Treatment Ventilation and Operability, Ver. 9.0
34SV-T48-002-1, Suppression Chamber to Drywell Vacuum Breaker Operability and
Containment Purge/Vent Valve Position Check, Ver. 6.8
34SO-T48-002-1, Containment Atmospheric Control and Dilution Systems, Ver. 21.1

Drawings

H-16020, H-16014, H-16005,

Work Orders

361263, 341062, 392401,

Other

Control room logs
HNP-1-FSAR Chapter 8.4
HNP-1-FSAR Chapter 10.7
Technical Specifications
HNP-2-FSAR Chapter 9.2
Technical Requirements Manual

Section 1R18: Plant Modifications

Procedures

NMP-ES-054, Temporary Modifications, Ver. 1.0
NMP-ES-026, As Built Notices, 10.1

Work Order

408902

Drawings

H52155, H27796, H27994

Other

Final Safety Analysis Report
System Evaluation Document Chapter 3

Section 1R19: Post Maintenance TestingWork Orders

113647, 356776, 381829, 392401

Procedures

34SO-P41-001-2, Plant Service Water System, Ver.24.1
57SV-SUV-015-1, HPCI/RCIS Suction Source Instrumentation, Ver. 5.10
42IT-TET-004-0, Operating Pressure Test of Piping and Components, Ver. 8.7

Section 1R20: Refueling and Other Outage ActivitiesOperating Logs

34GO-OPS-001- 2, Plant Startup, Ver. 42.0
34GO-OPS-003-2, Startup System Status Checklist, Ver. 13.11
34GO-OPS-013-2, Normal Plant Shutdown, Ver. 30.1
Safety relief valve critical path outage plan

Section 1R22: Surveillance TestingCondition Reports

434505, 445406, 451290, 444392, 444382

Procedures

57SV-C11-001-2, Scram Discharge Volume Level Instrument FT&C, Ver. 2.8
34SV-E11-001-1, Residual Heat Removal Pump Operability, Ver. 24.2
34SV-R43-003-2, Diesel Generator 2C Monthly Test
34SV-E11-004-1, Residual Heat Removal Service Water Pump Operability, Ver. 18.11
34SV-E41-002-1, High Pressure Coolant Injection Pump Operability, Ver. 25.24
64CH-SAM-025-0, Reactor Coolant Sampling and Analysis, Ver. 28.0
34SV-R43-001-2, Diesel Generator 2A Monthly Test, Ver. 27.3

Section 1EP6: Drill Evaluation

LT-SG-50916-07.1, Drill Scenario

40A1: Performance Indicator VerificationProcedures, Guidance Documents and Manuals

00AC-REG-005-0, Preparation and Reporting of NRC PI Data, Ver. 6.1
DI-HCH-05-0407, Generation of Performance Indicators, Ver. 1.0
34SV-SUV-019-1, Surveillance Checks, Ver. 36.2
34SV-SUV-019-2, Surveillance Checks, Ver. 37.3
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- 438745, Translation of gas monitoring points to implementing procedure
- 438822, Review of GL 2008-01 response
- 440645, Discharge void acceptance criteria contains an error
- 440646, Procedures do not contain acceptance criteria
- 441302, Failure to calculate as-found void sizes when venting
- 441333, Process issues with venting Unit 1 HPCI/RCIC discharge piping
- 441340, Potential discrepancy in evaluation of Unit 2 RCIC torus suction piping
- 441695, Evaluation of RCS to ECCS leakage as a possible source of gas intrusion
- 441863, Inappropriate use of 'N/A' in surveillance test procedures