



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

October 29, 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 05000321/2010004 AND 05000366/2010004

Dear Mr. Madison:

On September 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 October 28, 2010, with Mr. 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.

This report documents two self-revealing findings of very low safety significance (Green). Both of these findings were determined to involve violations of NRC requirements. Additionally, 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 (NCV) consistent with the NRC's 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, Region II, and the NRC Senior Resident Inspector at the Hatch facility. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, 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, 72-036
License Nos.: DPR-57 and NPF-5

Enclosures: Inspection Report 05000321/2010004, 05000366/2010004
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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Letter to Dennis R. Madison from Scott M. Shaeffer dated October 29, 2010

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000321/2010004 AND 05000366/2010004

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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.: 05000321/2010004 and 05000366/2010004

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch Nuclear Plant

Location: Baxley, Georgia 31513

Dates: July 1 – September 30, 2010

Inspectors: E. Morris, Senior Resident Inspector
P. Niebaum, Resident Inspector
D. Hardage, Resident Inspector
M. Cain, Senior Resident Inspector (Vogtle)
G. Johnson, Senior Operations Engineer
K. Schaaf, Operations Engineer

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

Enclosure

SUMMARY OF FINDINGS

IR 05000321/2010004, 05000366/2010004; 7/01/2010-9/30/2010; Edwin I. Hatch Nuclear Plant, Units 1 and 2, Identification and Resolution of Problems, Event Follow-Up

The report covered a three-month period of inspection by two senior resident inspectors, two resident inspectors, a senior operations engineer, and an operations engineer. The significance of most findings is indicated by their color (Green, White, Yellow, Red) 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: Initiating Events

- Green. A self-revealing NCV of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified for the failure to adequately correct a condition adverse to quality affecting the Intermediate Range Monitor (IRM) system. Consequently, a Unit 1 reactor scram occurred from 8% rated thermal power on May 10, 2009 during a reactor startup. The cause of the scram was attributed to IRM signal spikes on the A and H IRM instruments when the reactor mode switch was taken to run. Following the reactor scram, the licensee performed repair activities to correct degraded cables and connections to improve the grounding of the IRM system. Additionally, the licensee installed ferrite beads on each cable entering and exiting the IRM pre-amplifier on all eight IRM channels. This violation was entered into the licensee's corrective action program as CR 2009104764.

The failure to correct a condition adverse to quality is a performance deficiency. The licensee had several prior opportunities to fully investigate and correct the causes associated with IRM instrumentation spiking. Additionally, RER-2003-216 documents a decision not to make system improvements. This performance deficiency is more than minor because it is associated with the equipment performance attribute of the Initiating Events (IE) Cornerstone and adversely affected the IE cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the electrical noise sensed on the IRM A and H instruments resulted in Unit 1 reactor scram on May 10, 2009. 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 finding had an associated cross-cutting aspect in the Human Performance area under the Decision Making component because the licensee did not use conservative assumptions when putting RER-2003-216 on hold based on accepting the risk of not making incremental improvements in the IRM grounding system. (H.1(b)) (Section 40A3.1)

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Cornerstone: Mitigating Systems

- Green. A self-revealing NCV of 10 CFR 50 Appendix B Criterion XVI, Corrective Action, was identified for the licensee's failure to promptly identify and correct a diesel fuel oil leak on the 1A emergency diesel generator. The fuel oil leak was identified by the licensee on April 1, 2010 and the licensee scheduled the leak to be repaired in May 2011. The fuel oil line failed on June 3, 2010 which rendered the emergency diesel generator unavailable and incapable of performing its required safety functions. The licensee replaced the fuel oil fitting and restored operability of the 1A emergency diesel generator on June 5, 2010 to restore compliance. This violation has been entered into the licensee's corrective action program as CR 2010107248.

Failure to ensure the appropriate quality, level of detail, and documentation of assumptions contained within an operability evaluation is a performance deficiency. This performance deficiency is more than minor because it adversely affected the Mitigating Systems Cornerstone objective, specifically the failure to promptly identify and correct a fuel oil line leak on the 1A emergency diesel generator directly resulted in the failure of the fuel oil line rendering the emergency diesel generator unavailable and incapable of performing its required safety functions. IMC 0609 Attachment 4 was used and per table 4a screened as requiring a Phase 2 analysis due to this finding resulting in the single train of the emergency diesel generator being inoperable greater than its allowed outage time contained within Technical Specifications. The emergency diesel generator was unable to perform its intended safety functions from the last successful surveillance test on May 4 through June 3, 2010 yielding an exposure time of 30 days. The pre-solved Phase 2 table contains the 1A emergency diesel generator, and for an exposure time of 3-30 days results in a preliminary significance of White and requiring a Phase 3 analysis to be performed. The Phase 3 analysis resulted in the risk being reduced to less than 1E-6 and the finding was determined to be Green. The inspectors determined this performance deficiency had a cross-cutting aspect in the area of Human Performance under the Work Control component because the licensee did not appropriately coordinate work activities through proper communications and consideration of the actual fuel oil leak rate. (H.3(b)) (Section 4OA2.3)

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 June 2 an unplanned power reduction to 50% was required due to loss of feed-water heating transient. The unit returned to RTP on June 8 and remained at or near 100% RTP throughout the inspection period. On September 18, a Notice of Unusual Event (EN 46258) was declared due to the control room receiving the High-High northeast diagonal sump level annunciator. The Notice of Unusual Event was exited on September 19.

Unit 2 operated throughout the inspection period at or near 100% RTP. On August 3rd an after the fact Notice of Unusual Event (EN 46145) was declared due to the control room receiving the High-High-High reactor building sump level annunciator. On September 2, a Notice of Unusual Event (EN 46227) was declared due to the control room receiving the High-High-High northwest diagonal instrument sump level annunciator. The Notice of Unusual Event was exited that same day.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

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 2 'A' train of residual heat removal system while 'B' train was out of service for maintenance, July 1
- Unit 1 'B' train of the residual heat removal service water system while the '1C' pump was out of service for maintenance, August 10
- Unit 2 'A' train of standby liquid control system while 'B' train of standby liquid control system was out of service for maintenance, August 19

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

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reviewed control room logs to verify that alignment and equipment discrepancies were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

- Control Room Ventilation 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 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 2 reactor building 158' recirculation pump automatic static drive rooms A and B, fire areas 2210 and 2211
- Unit 2 reactor control building chiller room, fire area 2205N
- Unit 1 reactor building north and south control rod drive area, fire areas 1203F and 1205F
- Unit 1 and 2 refueling floor, fire area 0201
- Unit 1 reactor building 164' elevation including stand-by gas filter & fan room area 1205Q and ventilation room area 1205N

Fire Drill Observation. The inspectors observed a fire drill conducted on September 8. The inspectors reviewed licensee procedure 34AB-X43-001-2, Fire Procedure, and the drill scenario to verify proper response of the on-shift fire brigade to a simulated fire. The inspectors checked proper use of protective clothing, self contained breathing apparatus, firefighting equipment, fire pre-plans, fire fighting strategy including smoke removal and fire propagation checks, communications, and command and control. In addition, the inspectors attended the post-drill critique to assess if the licensee identified performance issues were comparable to those identified by the inspectors.

b. Findings

No findings were identified.

1R06 Flood Protection Measures

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk-important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analysis and design documents, including the Updated Final Safety Analysis Report (FSAR), engineering calculations and abnormal operating procedures for licensee commitments. The inspectors walked-down the areas listed below to verify plant design features and plant procedures for flood mitigation were consistent with design requirements and internal flooding analysis assumptions. The inspectors reviewed flood protection barriers, which included plant floor drains, condition of room penetrations, condition of the sumps in the rooms, and condition of water-tight doors. The inspectors also reviewed condition reports (CRs) to verify the licensee was identifying and resolving problems. Documents reviewed are listed in the Attachment.

- Unit 2 reactor building southwest diagonal
- Unit 2 reactor building southeast diagonal

b. Findings

No findings were identified.

.2 Cables Located In Underground Bunkers/Manholes

a. Inspection Scope

The inspectors performed inspections of four below grade pull boxes (PB) that contain safety-related cables. The inspectors also reviewed CRs to verify the licensee was identifying and resolving problems in accordance with their corrective action program. Documents reviewed are listed in the Attachment.

- PB1-BG, pull box located north of emergency diesel generator building
- PB1-CK, pull box located south east of transformer 1D
- PB1-AD, pull box located east of the intake structure
- PB1-AM, pull box located north east of the emergency diesel generator building

b. Findings

No findings were identified.

1R07 Heat Sink Performancea. Inspection Scope

Annual Resident Review. The inspectors reviewed the results of the licensee inspection of the Unit 1 residual heat removal pump motor seal coolers. The inspectors interviewed licensee engineers and reviewed procedures 42IT-TET-012-1, PSW and RHRSW Piping Inspection Procedure, and 42EN-ENG-033-1, PSW Flow Model Data Collection. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification.1 Resident Inspector Quarterly Review:a. Inspection ScopeResident Quarterly Observation

On August 18 the inspectors observed the performance of licensee simulator scenario LR-SE-00126-01, which included a loss of low pressure coolant injection valve load center, a feedwater line break inside containment, a loss of high pressure feedwater, a loss of high pressure emergency core cooling system injection, and an emergency depressurization. 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 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.

.2 Biennial Review:a. Inspection Scope

The inspectors reviewed the facility operating history and associated documents in preparation for this inspection. During the week of September 13-17, 2010, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of operating tests associated with the licensee's operator requalification

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program. Each of the activities performed by the inspectors was done to assess the effectiveness of the facility licensee in implementing requalification requirements identified in 10 CFR Part 55, "Operators' Licenses." The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," and Inspection Procedure 71111.11, "Licensed Operator Requalification Program." The inspectors also evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations using ANSI/ANS-3.5-1985, "American National Standard for Nuclear Power Plant Simulators for use in Operator Training and Examination." The inspectors observed four crews during the performance of the operating tests (scenarios). Documentation reviewed included written examinations, Job Performance Measures (JPMs), simulator scenarios, licensee procedures, on-shift records, simulator modification request records, simulator performance test records, operator feedback records, licensed operator qualification records, remediation plans, watchstanding records, and medical records. The records were inspected using the criteria listed in Inspection Procedure 71111.11. Documents reviewed during the inspection are documented in the List of Documents Reviewed.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

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 2 emergency diesel generator system, R43
- Unit 1 and 2 control room heating ventilation air conditioning, Z41

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

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

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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.

- July 4 – July 10, including WO1101159801 for Unit 1 condensate and feed system, 1N22-N573, cross tie activity maintenance
- July 11 – July 17, including WO 2091906301 for Unit 2 'A' core spray ATTS channel calibrations
- August 23 – August 27, including Unit 1 'A' reactor building closed cooling water heat exchanger tube cleaning, reactor building ventilation supply fan control vane damper repair, 'B' loop core spray surveillance testing, Unit 2 'B' reactor protection system motor generator five-year preventive maintenance, and '1B' emergency diesel generator battery charger preventive maintenance
- September 5 – September 10, including Unit 2 'A' emergency diesel generator maintenance, Unit 2 'A' loop of residual heat removal service water maintenance, and diesel driven fire pump maintenance.
- September 19 – September 24, including Unit 1 'B' reactor protection system motor generator maintenance, reactor protection system channel testing, repairs to reactor building sump level switches, and power ascension following planned down power for control rod pattern adjustment. Unit 2 'B' residual heat removal service water pump motor replacement, switchyard maintenance for replacement of disconnects 179719 and 179709, and the 2C emergency diesel generator 24-hour surveillance test run.

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 (TS) and the 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 plant service water through wall leak, CR 2010108907
- 2A emergency diesel generator trip on low lube oil pressure, CR 2010108598
- Unit 2 high pressure coolant injection pump suction piping pressure transients during testing, CRs 2010110536 and 2010110537
- Unit 2 'B' residual heat removal service water pump breaker position switch failure, CR 2010110203

- Unit 2 reactor core isolation cooling pump bearing oil level low, CR 2010111188
- Ultra Low Sulfur Diesel accepted outside the gravity acceptance criteria, CR 2010111337

b. Findings

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

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the following plant permanent and temporary modifications 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:

- 1-10-024, P41F422A Valve Internals Removed

Permanent Modification:

- ED C101839701, Equivalency Determination for Ultra-Low Sulfur No. 2 Fuel Oil for Emergency Diesel Generators

b. Findings

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

1R19 Post Maintenance Testing

a. Inspection Scope

For the following six 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 1100943902, replace 1C emergency diesel fuel oil return line fitting, July 1
- WO 2061140001, 2E11-F031B check valve inspection, July 1
- WO 2101243204, perform low speed maintenance run, July 14

- WO 1072706501, 1E11-F005C check valve inspection, August 11
- WO 1100727306, Unit 1 high pressure core injection barometric condenser condensate pump replacement, August 16
- WO 1101468101, Unit 1 high pressure core injection turbine steam supply trap 1E41-D001 replacement, August 16

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed five 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

- 34SV-R43-003-1, diesel generator 1C monthly surveillance
- 34SV-E11-004-2, B & D residual heat removal service water pump operability
- 34SV-R43-004-1, diesel generator 1A semi-annual surveillance test

In-Service Test

- 34SV-P41-001-2, Unit 2 B & D plant service water pump quarterly in-service and operability test

Leak-rate Test

- 34SV-SUV-019-1, Surveillance Checks

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness (EP)

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed Plant Hatch Emergency Preparedness 2010 Exercise 03 conducted on September 21. 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.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors reviewed a sample of the licensee submittals for the 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: Mitigating Systems

- Emergency Alternating Current Power System
- Residual Heat Removal System
- Safety System Functional Failures

The inspectors reviewed raw PI data collected since April 2009, for the Mitigating Systems 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. Applicable licensee event reports (LERs) issued during the referenced time frame were also reviewed. Documents reviewed are listed in the Attachment.

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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.

.2 Annual Samples:

a. Inspection Scope

Annual Follow-up Sample utilizing Operating Experience Smart Sample (OpESS) FY 2010-01 "Recent Inspection Experience for Components Installed Beyond Vendor Recommended Service Life.": 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 2010105105, common cause evaluation of drywell air cooler outlet motor operated valve, 2P64-F047, failure to re-open during testing

Review of Operator Workarounds: The inspectors performed a detailed review of the Operator Work Arounds List to verify the full extent of the issues were identified, an appropriate evaluation was performed and appropriate corrective actions were specified and prioritized.

b. Findings and Observations

No findings were identified.

.3 (CLOSED) URI 05000321/2010003-04 1A emergency diesel generator fuel oil return line failure

a. Inspection Scope

The inspectors performed a detailed review of the investigation performed by the licensee following a failure of the 1A emergency diesel generator fuel oil return line that occurred on June 3, 2010. Documents reviewed are listed in the Attachment.

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b. Findings and Observations

Introduction: A self-revealing Green NCV of 10 CFR 50 Appendix B Criterion XVI, Corrective Action, was identified for the licensee's failure to promptly identify and correct a diesel fuel oil leak on the 1A emergency diesel generator. The fuel oil leak was identified by the licensee on April 1, 2010 and the licensee scheduled the leak to be repaired in May 2011. The fuel oil line failed on June 3, 2010 which rendered the EDG unavailable and incapable of performing its required safety functions.

Description: On April 1, 2010 during a monthly surveillance test run the licensee identified an approximately 70 drop per minute fuel oil leak on the flared connection downstream of the fuel oil return check valve. During the surveillance run the fitting was checked for tightness but the leak rate was not reduced. CR 2010104391 was written by maintenance which documented the fuel oil leak and stated, "This line needs to be repaired after this [surveillance test] run." An immediate determination of operability (IDO) was performed and documented within CR 2010104391. The IDO stated, "The leakage of fuel oil is a small quantity due to the size of the line is ¼ inch in diameter" which would lead to a conclusion that the leakage was not an adverse condition requiring immediate or prompt corrective action. The IDO did not document the fuel oil leak rate, operating pressures, potential impacts due to degradation, or establish any monitoring or compensatory actions. The licensee used the information contained within the IDO as justification for not promptly correcting the fuel oil leak; instead the licensee scheduled repairs of that leak to be performed in May 2011, approximately 13 months later. A monthly surveillance test run of the 1A emergency diesel generator was performed on May 4, 2010 with no documented abnormalities. Subsequently, on June 3, 2010, while the 1A emergency diesel generator was being started the starting fuel pressure surge caused the flared portion of the tubing to neck down and pull through the nut, causing separation of the ¼ inch fuel oil line. Diesel fuel oil sprayed from the separation onto the nearby diesel exhaust. The unloaded emergency diesel generator was secured locally by operators within 5 minutes of the fuel line separation. The licensee documented that a fire would have developed within 30 minutes of the fuel oil line failure if the emergency diesel generator had continued to run based on the expected temperature rise of the diesel exhaust header that occurs with the diesel in operation. The normal exhaust temperature can exceed 750 °F with the diesel at load, the fuel oil combustion temperature is approximately 525 °F. Licensee procedure NMP-AD-012, Operability Determinations and Functionality Assessments, Version 8.0, section 5.1.8 requires the quality, level of detail, and documentation of assumptions contained within an IDO to be appropriate. For the IDO performed April 1, 2010 for the fuel oil leak on the 1A emergency diesel, the licensee failed to document the appropriate level of detail, i.e. the quantified leak rate, as required by NMP-AD-012.

Analysis: Failure to ensure the appropriate quality, level of detail, and documentation of assumptions contained within an operability evaluation is a performance deficiency. This performance deficiency is more than minor because it adversely affected the Mitigating Systems Cornerstone objective, specifically the failure to promptly identify and correct a fuel oil line leak on the 1A emergency diesel generator directly resulted in the failure of the fuel oil line rendering the emergency diesel generator unavailable and incapable of performing its required safety functions from May 4, 2010 through June 3,

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2010. This exposure time was determined based on the root cause indicating the failure mechanism was an EDG start induced failure mode. IMC 0609 Attachment 4 was used in determining the significance, per table 4a this finding required a Phase 2 analysis since this finding resulted in the single train of the emergency diesel generator being inoperable for greater than its allowed outage time contained within Technical Specifications. The emergency diesel generator would have been unable to perform its intended safety functions from the last successful surveillance test on May 4 through June 3, 2010 yielding an exposure time of 30 days. The pre-solved Phase 2 table contains the 1A emergency diesel generator, and for an exposure time of 3-30 days results in a preliminary significance of White, requiring a Phase 3 analysis to be performed. The regional SRA performed the Phase 3 analysis using the standard Hatch risk model assuming the 1A EDG fails to start for a 30 day period. The initial results agreed with the Phase 2 White significance. The SRA obtained additional information from the licensee to correct some pessimistic assumptions in the current Hatch risk model. Currently the model assumes that for Station Blackout sequences, the HPCI is not available because of room heatup concerns, due to lack of HPIC room cooling. The licensee sent information that confirmed that the room heatup is slow enough that the HPCI would fail due to battery depletion prior to the loss of room cooling impacting the HPCI function. These sequences have a major impact on LERF sequences in the solution. The licensee also provided information that indicated that the fire modeling was pessimistic with respect to the Loss of Offsite Power assumptions from ESF switchgear fires in the Individual Plant Examination of External Events submittal. In addition, a sensitivity calculation was performed to determine if the impact of the additional 18 day period from the last test prior to May 4. For this period, if the EDG had failed on an attempted start, the EDG recovery would not have been possible, because the fuel line would have failed on the restart. The results were low enough that they did not impact the outcome. These changes, along with adjustments to the Grid Related LOSEP event frequency to compensate for the plant being in the Southeast Reliability Council area (with lower frequencies than the average) resulted in the risk being reduced to less than 1E-6. The finding is Green.

The inspectors determined this performance deficiency had a cross-cutting aspect in the area of Human Performance under the Work Control component because the licensee did not appropriately coordinate work activities through proper communications and consideration of the actual fuel oil leak rate. (H.3(b))

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, Corrective Actions, requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. Contrary to the above, on April 1, 2010 the 1A emergency diesel generator developed a fuel oil leak, which was a condition adverse to quality, and the licensee failed to take appropriate action to correct that fuel oil leak. Subsequently, on June 3, 2010 the tubing at the fuel oil leak location failed which demonstrated that the 1A emergency diesel generator had been incapable of performing its required safety functions from May 4 through June 3, 2010. The licensee replaced the fuel oil fitting and restored operability of the 1A emergency diesel generator on June 5, 2010 to restore compliance. This violation has been entered into the licensee's corrective action program as CR 2010107248. Because this finding is of very low safety significance (Green), and is entered into the licensees' CAP, this finding is being treated

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as an NCV consistent with the NRC Enforcement Policy: NCV 05000321/2010004-01, "Failure to correct a condition adverse to quality results in 1A emergency diesel generator fuel oil line failure."

4OA3 Event Follow-up

.1 (CLOSED) LER 05000321/2009-004 IRM Signal Spike Caused by Electrical Noise Results in Reactor Scram

a. Inspection Scope

The inspectors reviewed the LER for potential performance deficiencies and/or violations of regulatory requirements. The LER was associated with the Unit 1 reactor scram that occurred during a startup on May 10, 2009. The inspectors reviewed the root cause report associated with this event and discussed the issue with appropriate members of plant staff. This condition was documented in the licensee's corrective action program as CR 2009104764. LER 05000321/2009-004 is closed.

b. Findings

Introduction: A Green self-revealing finding of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified for the failure to adequately correct a condition adverse to quality affecting the IRM system. Consequently, a Unit 1 reactor scram occurred from 8% RTP on May 10, 2009 during a reactor startup. The cause of the scram was attributed to IRM signal spikes on the A and H IRM instruments when the reactor mode switch was taken to run.

Description: During a Unit 1 reactor startup on May 10, 2009, a reactor scram occurred when the reactor mode switch was taken to run. Additionally, the IRM bus A upscale trip or INOP, IRM bus B upscale trip or INOP and the IRM upscale annunciators alarmed in the main control room concurrent with the reactor scram. During the investigation of the event, the licensee determined that the A IRM, which feeds the A reactor protection system (RPS) bus and the H IRM, which feeds the B RPS bus had spiked upscale and caused the scram. The licensee assembled a root cause team to investigate the cause(s) of the scram and concluded the direct cause of the scram was an electrical noise spike transmitted into the IRM instruments. This event and the root cause report were documented in the licensee's corrective action program as CR2009104764.

After the reactor scram on May 10, 2009 the licensee's investigation revealed the IRM noise spikes were being induced by RPS relay actuations which generated electro-magnetic interference. The licensee performed repair activities to correct degraded cables and connections to improve the grounding of the IRM system. This had an effect of improving the noise response of the IRM instruments. Additionally, the licensee installed ferrite beads on each cable entering and exiting the IRM pre-amplifier on all eight IRM channels. According to operating experience discovered during the investigation, ferrite beads can act as high impedance to the high frequency noise that is generated as relays actuate. The high impedance only impacts the noise and does not affect the signal from the IRM detector. Post installation testing of these corrective

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actions prior to the Unit 1 restart, demonstrated noise spikes from RPS relay actuations into the IRM instruments were significantly reduced.

The inspectors concluded that the licensee had several prior opportunities to fully investigate and correct the IRM spiking issue that led to the May 10, 2009 reactor scram but failed to do so. The licensee's root cause report from the May 10, 2009 reactor scram also acknowledges that corrective actions intended to increase the reliability of the nuclear instrumentation system had not been implemented in a timely fashion. In support of these conclusions, condition report (CR) 2003005504 documents an event with IRM spiking and the need to evaluate if the source range monitor (SRM) and IRM grounding system was adequate to reduce noise on the system. This CR was closed to a request for engineering review, RER-2003-216. At that time the RER was placed on hold for six years and in 2009 RER-2003216 was recommended to be closed with the following justification: "site engineering accepts the risk of not making incremental improvements in the SRM and IRM grounding system by the use of noise filters. This RER may be closed." CRs 2006101757 and 2008101766 both document issues concerning IRM indication spiking. These CRs attribute the IRM spiking to under-vessel outage work and the susceptibility of the IRM cables and connections to water intrusion. According to these CRs, the water reduces the cable-to-shield resistance and can create grounding paths which allow electrical noise to be induced onto the IRM signal cable. While corrective actions were taken to solve those immediate symptoms, a thorough investigation was not conducted at the time. Additionally, the licensee's root cause report for the May 10, 2009 reactor scram also concluded that the licensee's troubleshooting efforts concerning the IRM spiking issues did not correct the problem the first time.

Analysis: Failure to correct a condition adverse to quality is a performance deficiency. The licensee had several prior opportunities to fully investigate and correct the causes associated with IRM instrumentation spiking. Additionally, RER-2003-216 documents a decision not to make system improvements. This performance deficiency is more than minor because it is associated with the equipment performance attribute of the IE cornerstone and adversely affected the IE cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the electrical noise sensed on the IRM A and H instruments resulted in a Unit 1 reactor scram on May 10, 2009. 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 has an associated cross-cutting aspect in the Human Performance area under the Decision Making component because the licensee did not use conservative assumptions when putting RER-2003-216 on hold based on accepting the risk of not making incremental improvements in the IRM grounding system. (H.1(b))

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, states in part, measures shall be established to assure conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected. Contrary to this requirement, since 2003 and as documented in condition reports 2003005504, 2006101757, 2008101766, 2009104591 and 2009104630, IRM spiking and erratic indications existed, for the past 7 years, but the licensee failed to adequately identify and correct the cause(s). Electrical noise induced still existed in the IRM system during the Unit 1 reactor startup on May 10, 2009 which resulted in a reactor scram. Following the reactor scram, the licensee performed repair activities to correct degraded cables and connections to improve the grounding of the IRM system. Additionally, the licensee installed ferrite beads on each cable entering and exiting the IRM pre-amplifier on all eight IRM channels. These actions significantly reduced the electrical noise seen on the IRM system. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CR 2009104764, this violation is being treated as an NCV, consistent with the Enforcement Policy. NCV 05000321/2010004-02, "Failure to correct a condition adverse to quality with the IRM system results in reactor scram."

.2 (CLOSED) LER 05000321, 366/2009-006, Main Control Room Air Conditioner Inoperable Due to Inoperable Solenoid Valve

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 2009111828. LER 05000321,366/2009-006 is closed.

b. Findings

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

.3 (CLOSED) LER 05000366/2009-002, Primary Containment Allowable Bypass Leakage Rate Exceeded Due to Failure of Feedwater Check Valve(s)

a. Inspection Scope

The inspectors reviewed this LER for potential performance deficiencies and/or violations of regulatory requirements. The inspectors also reviewed the root cause report associated with this event. This issue was documented in the licensee's corrective action program as CR 2009101597. LER 05000366/2009-002 is closed.

b. Findings

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

.4 (CLOSED) LER 05000321/2009-005, Inadequate Procedure Results in a Group 1 Isolation and Reactor Scram

a. Inspection Scope

The inspectors reviewed this LER for potential performance deficiencies and/or violations of regulatory requirements. The inspectors also reviewed the apparent cause report associated with this event. This issue was documented in the licensee's corrective action program as CR 2009104953. LER 05000321/2009-005 is closed.

b. Findings

10 CFR 50, Appendix B, Criterion V, Instructions, Procedures and Drawings, states in part activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances. Contrary to this requirement, licensee procedure 42SP-05-12-09-PI-1-1, Test of Nuclear Instrumentation Response to Diverse Logic System Actuations did not properly defeat the low condenser vacuum isolation logic. As a result, when the reactor mode switch was taken to run, the MSIV's closed which resulted in a scram signal. The licensee captured this issue in their corrective action program as CR 2009104953, revised the procedure and re-performed the test satisfactorily. Because the reactor was in Mode 4, Cold Shutdown, and rods were already fully inserted, this is being treated as a minor violation. This failure to comply with 10 CFR 50, Appendix B, Criterion V constitutes a violation of minor significance that is not subject to enforcement action in accordance with the NRC's Enforcement Policy.

.5 (CLOSED) LER 05000366/2009-005, ECCS Systems Declared Inoperable Due to Loss of Automatic Suction Swap Capability During a Surveillance

a. Inspection Scope

The inspectors reviewed this LER for potential performance deficiencies and/or violations of regulatory requirements. The inspectors also reviewed the apparent cause report associated with this event. This issue was documented in the licensee's corrective action program as CR 2009111523. LER 05000366/2009-005 is closed.

b. Findings

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

.6 (CLOSED) LER 05000366/2010-001, Failure to Recognize PCIV as Inoperable Results in a Condition Prohibited By the Technical Specifications

a. Inspection Scope

The inspectors reviewed this LER for potential performance deficiencies and/or violations of regulatory requirements. The inspectors also reviewed the apparent cause report associated with this event. This issue was documented in the licensee's corrective action program as CR 2010103334. LER 05000366/2010-001 is closed.

b. Findings

The enforcement aspects of this finding are discussed in Section 40A7.

.7 (CLOSED) LER 05000321,366/2010-003, Main Control Room Environmental Control System Boundary not Single Failure Proof Due to Degraded Barrier

a. Inspection Scope

The inspectors reviewed this LER for potential performance deficiencies and/or violations of regulatory requirements. The inspectors also reviewed the apparent cause report associated with this event. This issue was documented in the licensee's corrective action program as CR 2010106225. LER 05000321,366/2010-003 is closed.

b. Findings

The enforcement aspects of this finding are discussed in Section 40A7.

.8 (CLOSED) LER 05000321/2009-001, Pump Suction Swap for High Pressure Core Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) Non-Conservative with Respect to Technical Specifications Requirements

a. Inspection Scope

The inspectors reviewed this LER for potential performance deficiencies and/or violations of regulatory requirements. The inspectors also reviewed the apparent cause report associated with this event. This issue was documented in the licensee's corrective action program as CRs 2009102615, 2009102616, 2009102980, and 2009103407. LER 05000321/2009-001 is closed.

b. Findings

The enforcement aspects of this finding are discussed in Section 40A7.

.9 (CLOSED) LER 05000321/2010-004, Emergency Diesel Generator 1A Excess Fuel Oil Return Tubing Failure

a. Inspection Scope

The inspectors reviewed this LER for potential performance deficiencies and/or violations of regulatory requirements. The inspectors also reviewed the apparent cause report associated with this event. This issue was documented in the licensee's corrective action program as CR 2010107248. LER 05000321/2010-004 is closed.

b. Findings

The enforcement aspects of this finding are discussed in Section 40A2.3.

.10 Unit 2 Notice of Unusual Event August 3, 2010 (EN46145)

a. Inspection Scope

On August 3, 2010, Unit 2 received a High-High-High reactor building sump alarm which met the criteria for entrance into the emergency condition of a Notification of Unusual Event. The inspectors reviewed control room logs, operating procedures, and event notification forms for the declaration of Notice of Unusual Event documented in EN 46145. The inspectors reviewed the licensee's classification and notifications to the NRC and state/county governments to verify they were classified in accordance with the licensee's emergency action level procedures and reported as required by 10 CFR Part 50.72.

b. Findings

The enforcement aspects of this finding are discussed in Section 40A7.

.11 Unit 2 Notice of Unusual Event September 2, 2010 (EN 46227)

a. Inspection Scope

On September 2, 2010, Unit 2 received a High-High-High reactor building sump alarm which met the criteria for entrance into the emergency condition of a Notification of Unusual Event. The inspectors reviewed control room logs, operating procedures, and event notification forms for the declaration of Notice of Unusual Event documented in EN 46227. The inspectors reviewed the licensee's classification and notifications to the NRC and state/county governments to verify they were classified in accordance with the licensee's emergency action level procedures and reported as required by 10 CFR Part 50.72.

b. Findings

No findings were identified.

.12 Unit 1 Notice of Unusual Event September 18, 2010 (EN46258)a. Inspection Scope

On September 18, 2010, Unit 1 received a High-High reactor building sump alarm which met the criteria for entrance into the emergency condition of a Notification of Unusual Event. The inspectors reviewed control room logs, operating procedures, and event notification forms for the declaration of Notice of Unusual Event in EN 46258. The inspectors reviewed the licensee's classification and notifications to the NRC and state/county governments to verify they were classified in accordance with the licensee's emergency action level procedures and reported as required by 10 CFR Part 50.72.

b. Findings

No findings were identified.

40A5 Other Activities.1 Quarterly Resident Inspector Observations of Security Personnel and Activitiesa. 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 September 24. The inspectors also reviewed changes made to the ISFSI programs and procedures and their associated 10 CFR 72.48 screens and evaluations to verify that changes made were consistent with the license or Certificate of Compliance; reviewed records to verify that the licensee has recorded and maintained the location of each fuel assembly placed in the ISFSI; and reviewed surveillance records to verify that daily surveillance requirements were performed as required by technical specifications. Documents reviewed are listed in the Attachment.

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b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On October 28, 2010, the resident inspectors presented the inspection results to Mr. Sonny Barger and other members of the Hatch Nuclear Plant staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee-Identified Violations

The following violations 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 December 15, 2009 for Unit 1 and Unit 2 of TS 3.7.5 which states, three control room air conditioning subsystems shall be operable during Modes 1, 2 and 3, during movement of irradiated fuel assemblies in the secondary containment, during core alterations, and during operations with a potential for draining the reactor vessel (OPDRVs). Contrary to this requirement, since January 6, 2006 it was identified that valve 1P41-F123A would not close. This valve is in the plant service water (PSW) cooling line for the non safety-related air conditioner for the Shift Manager's office. PSW is also used to cool the safety-related main control room air conditioners. This valve is one of two valves that are designed to isolate in the event of a pipe rupture to ensure adequate PSW flow is maintained to the main control room air conditioners. Since this valve would not isolate, this portion of the line would no longer be considered single failure proof. This should have resulted in a declaration of an inoperable air conditioning subsystem and Units 1 and 2 entering the appropriate action statements required by TS 3.7.5. Immediate corrective action was taken by the licensee to isolate the upstream manual valve (1Z41-F881) and restore the operability of the main control room air conditioning subsystem. The significance of this finding was screened using the Phase 1 of the SDP in accordance with NRC IMC 0609 Attachment 4, Table 4a. Because the finding was impacted by seismic considerations, a Phase 3 analysis was conducted by the Regional Senior Reactor Analyst. The analysis determined the significance of the finding to be Green, primarily due to the very low likelihood of a seismic event strong enough to damage the non-seismic piping. Additional margin was provided by the availability of a manual isolation valve (1Z41-F881) which could be used to mitigate a pipe break within the affected area. This condition was documented in the licensee's corrective action program as CR 2009111828 and LER 05000321,366/2009-006. (Section 4OA3.2)
- A licensee-identified violation was discovered on March 13, 2009 for Unit 2 of TS 3.6.1.3 which states, each primary containment isolation valve (PCIV), except reactor building-to-suppression chamber vacuum breakers, shall be operable during Modes 1, 2 and 3, when associated instrumentation is required to be operable per LCO

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- 3.3.6.1, "Primary Containment Isolation Instrumentation." Surveillance SR 3.6.1.3.10 required combined leakage rate for all secondary containment bypass leakage paths be less than 0.009 La (allowable leakage). Contrary to this requirement, on March 13, 2009, it was discovered during the Unit 2 refueling outage (RFO), that 'A' feedwater line penetration containing secondary containment bypass valves 2B21-F010A and 2B21-F077A would exceed the TS allowable leakage rate for that leakage path. 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 analysis determined the significance of the finding to be Green, because the finding did not represent an actual open pathway in the physical integrity of reactor containment. Corrective actions taken by the licensee included repairs to the 1B21-F010A and 1B21-F077A valves followed by satisfactory post-maintenance testing to verify leakage was within limits prior to plant restart. This issue was captured in the licensee's corrective action program as CR 2009101597 and was documented in LER 05000366/2009-002. (Section 4OA3.3)
- A licensee-identified violation was discovered on December 5, 2009 for Unit 2 of TS 3.3.5.1, 3.3.5.2, 3.5.1, and 3.5.3 when HPCI and RCIC were rendered inoperable due to maintenance that removed the condensate storage tank (CST) low level instruments from service. These low level switches for HPCI (2E41-N002 and 2E41-N003) and for RCIC (2E51-N060 and 2E51-N061) function to allow the automatic suction swap from the CST to the torus. TS 3.3.5.1 requires emergency core cooling system (ECCS) instrumentation to be operable per Table 3.3.5.1-1. TS 3.3.5.2 requires RCIC system instrumentation to be operable per Table 3.3.5.2-1. TS 3.5.1 requires in part that each ECCS injection/spray subsystem shall be operable. TS 3.5.3 requires the RCIC system to be operable. Contrary to the above TS requirements, on December 5, 2009 a jumper was installed as part of planned maintenance activities that disabled both required channels of the CST low level suction swap functions for both HPCI and RCIC and the required actions of TS's were neither entered nor complied with. The significance of this finding was screened using Phase 1 of the SDP in accordance with NRC IMC 0609 Attachment 4, Table 4a. This screening required a Phase 2 and Phase 3 analysis in accordance with NRC IMC 0609 Appendix A because this finding involved concurrent multiple equipment issues, both HPCI and RCIC systems were impacted. The Phase 3 review concluded the significance of the finding to be Green due to the small exposure time (less than three hours). This issue was captured in the licensee's corrective action program as CR 2009111523 and was documented in LER 05000366/2009-005. (Section 4OA3.5)
 - A licensee-identified violation was discovered on March 11, 2010 for Unit 2 of TS 3.6.1.3 which states each primary containment isolation valve (PCIV), except reactor building-to-suppression chamber vacuum breakers, shall be operable during Modes 1, 2 and 3, when associated instrumentation is required to be operable per LCO 3.3.6.1, "Primary Containment Isolation Instrumentation." Contrary to this requirement, on March 11, 2010, it was discovered that on March 10, 2010 a violation of Tech Spec 3.6.1.3 occurred following a surveillance run of the RCIC system when the 2E51-F028, a PCIV, stuck closed. This should have been recognized by the Unit 2 operators at the time that the valve should have been

- declared inoperable, and TS 3.6.1.3 required action A.1 should have been entered to isolate that line within 4 hours. While an operability determination was performed on March 10 that supported the operability of the RCIC system, the inoperable PCIV was not recognized until March 11. 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 analysis determined the significance of the finding to be Green, because the finding did not represent an actual open pathway in the physical integrity of reactor containment. Upon discovery, the licensee entered the appropriate TS action statement to isolate the line containing the 2E51-F028 valve within 4 hours. Additionally, the licensee replaced valve 2E51-F028 on April 8, 2010. This issue was captured in the licensee's corrective action program as CR 2009111523 and LER 05000366/2010-001. (Section 4OA3.6)
- A licensee-identified violation was discovered on May 11, 2010 for Unit 1 and Unit 2 of TS 3.7.4 which states, two main control room environmental control (MCREC) subsystems shall be operable during MODES 1, 2, and 3, during movement of irradiated fuel assemblies in the secondary containment, during core alterations, or during OPDRVs. Contrary to this requirement, during performance of a TS SR 3.7.4.4 per licensee procedure 42SV-Z41-003, Control Room Filter Train Flow and DP Measurement, it was identified that the acceptance criteria could not be met. Specifically, the requirement for each MCREC subsystem to maintain a positive pressure greater than or equal to 0.1 inches water gauge relative to the turbine building was not met. According to the licensee's cause determination report, this procedure confirmed that the main control room pressurization function was not single-failure proof because of a design change implemented in 1984. The design change added a women's restroom within the main control room envelope and installed single dampers in the exhaust of the men's restroom (1Z41-F019) and the women's restroom (1Z41-F020). Prior to this design change, the main control room had one restroom with redundant dampers in the exhaust ventilation. Since the F019 and F020 dampers are normally open, an inoperable main control room boundary has existed for longer than allowed by TS requirements. Upon discovery of this condition, the licensee entered the TS required action to restore the main control room boundary within 24 hours by closing the 1Z41-F019 and 1Z41-F020 ventilation exhaust dampers. A subsequent test was performed with both dampers closed that fully met the pressurization function acceptance criteria. 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 analysis determined the significance of the finding to be Green, because the finding only represented a degradation of the radiological barrier function provided for the control room. This issue was captured in the licensee's corrective action program as CR 2010106225 and was documented in LER 05000321,366/2010-003. (Section 4OA3.7)
 - A licensee-identified violation was discovered on March 9, 2009 for Unit 1 of TS 3.3.5.1, and 3.3.5.2, when one of two required channels of CST level low for both HPCI and RCIC were determined to be at values less than that required by TS. These low level channels for HPCI and RCIC function to allow the automatic suction swap from the CST to the torus. TS 3.3.5.1 requires emergency core cooling system (ECCS) instrumentation to be operable per Table 3.3.5.1-1. TS 3.3.5.2 requires

RCIC system instrumentation to be operable per Table 3.3.5.2-1. Contrary to the above TS requirements, prior to March 9, 2009 for HPCI and RCIC one of two required CST level low channels did not meet the allowed values as specified in TS Table 3.3.5.2-1 and 3.3.5.2-1. The significance of this TS violation was screened using Phase 1 of the SDP in accordance with NRC IMC 0609 Attachment 4, Table 4a. This violation screened as Green because each question under the Mitigating Systems Cornerstone column of Table 4a was answered no. This issue was captured in the licensee's corrective action program as CR 2009102615, 2009102616, 2009102980, and 2009103407 and was documented in LER 05000321/2009-001. (Section 4OA3.8)

- A licensee-identified violation was discovered on August 3, 2010 when Unit 2 reactor building High-High-High northeast diagonal sump alarm was received in the control room and the licensee failed to classify that as a Notice of Unusual Event as required by emergency procedures. 10 CFR 50.47(b)(4) requires, in part, that a standard emergency classification and action level scheme is used by the nuclear facility licensee. Contrary to this requirement on August 3, 2010 the standard emergency classification and action level was not used by the licensee to classify the above condition as a Notice of Unusual Event. Per the licensee's emergency action level procedure 73EP-EIP-001-0, Emergency Classification and Initial Actions, Version 18.0, a High-High-High northeast diagonal sump level exceeded the maximum normal operating levels specified in emergency operating procedure 31EO-EOP-014-1(2), SC-Secondary Containment Control RR-Radioactivity Release Control, requiring entry into emergency action level HU1, Notice of Unusual Event. The significance of this violation was screened using the Manual Chapter 0609 Appendix B, Emergency Preparedness Significance Determination Process. The violation screened as Green using Sheet 1 of Appendix B, because although a risk significant performance standard problem occurred, this issue was not a risk significant performance standard functional failure or degraded function. The violation also screened as Green using Sheet 2 of Appendix B, because the actual event problem only resulted in a Notice of Unusual Event. This issue was identified by the licensee and reported to the NRC as event notification 46145 and entered into the corrective action program as CR 2010109834. (Section 4OA3.10)
- T.S. 5.4.1.a requires written procedures be established, implemented and, maintained covering the applicable procedures recommended in Regulatory Guide 1.33 Revision 2, Appendix A, February 1978. Regulatory Guide 1.33 Appendix A section 1.3 requires the licensee to have procedure review and approval procedures. Contrary to the above, on August 24, 2010 the licensee failed to implement procedure 10AC-MGR-003-0, Procedure Processing, Version 25.1, by performing an unapproved pen and ink change to the acceptance criteria of diesel fuel specific gravity contained in procedure 64CH-SAM-002-0, Diesel Fuel Oil: Truck Analysis. This unapproved pen and ink change resulted in accepting a shipment of fuel oil which was out of chemistry specification on August 24, 2010. Because the finding is associated with the thermal content of the fuel oil and subsequent analysis at the licensee's lab revealed the thermal content of the fuel oil was within specification,

this finding is of very low safety significance. This issue was identified by the licensee and was documented in the licensee's corrective action program as CR 2010111337 and 2010112798. (Section 1R15 and 1R18)

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

S. Bargeron, Plant Manager
G. Brinson, Maintenance Manager
S. Carelock, Site Nurse
V. Coleman, Chemistry Manager
J. Dixon, Health Physics Manager
C. Edmund, Exam Group Lead
S. Grantham, Training Manager
G. Johnson, Engineering Director
W. Holt, Operations Manager
B. Hulett, Engineering Design Manager
C. Lane, Engineering Support Manager
D. Madison, Hatch Vice President
J. Merritt, Nuclear Security Manager
D. Moran, LOCT Lead
D. Tootle, Operations Training Supervisor
R. Varnadore, Site Support Manager

LIST OF ITEMS OPENED AND CLOSED

Opened

None

Closed

05000321/2010003-04	URI	1A EDG fuel oil return line failure (4OA2.3)
05000321/2009-004	LER	IRM Signal Spike Caused by Electrical Noise Results in Reactor Scram (4OA3.1)
05000321, 366/2009-006	LER	Main Control Room Air Conditioner Inoperable Due to Inoperable Solenoid Valve (4OA3.2)
05000366/2009-002	LER	Primary Containment Allowable Bypass Leakage Rate Exceeded due to Failure of Feedwater Check Valve(s) (4OA3.3)
05000321/2009-005	LER	Inadequate Procedure Results in a Group 1 Isolation and Reactor Scram (4OA3.4)

05000366/2009-005	LER	ECCS Systems Declared Inoperable Due to Loss of Automatic Suction Swap Capability During a Surveillance (4OA3.5)
05000366/2010-001	LER	Failure to Recognize PCIV as Inoperable Results in a Condition Prohibited by the Technical Specification (4OA3.6)
05000321, 366/2010-003	LER	Main Control Room Environmental Control System Boundary not Single Failure Proof Due to Degraded Barrier (4OA3.7)
05000321/2009-001	LER	Pump Suction Swap of HPCI and RCIC Non-Conservative with Respect to Technical Specifications Requirements (4OA3.8)
05000321/2010-004	LER	Emergency Diesel Generator 1A Excess Fuel Oil Return Tubing Failure (4OA3.9)

Opened & Closed

05000321/2010004-01	NCV	Failure to correct a condition adverse to quality results in 1A emergency diesel generator fuel oil line failure (4OA2.3)
05000321/2010004-02	NCV	Failure to correct a condition adverse to quality with the IRM system results in reactor scram (4OA3.1)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Procedures

34SO-E11-010-2, Residual Heat Removal System
34SO-E11-010-1, Residual Heat Removal System
64CH-GCL-009-0, Chemistry Control Procedure, Version 8.5
34SO-Z41-001-1, Control Room Ventilation System, Version 19.0
34SO-P41-001-1, Plant Service Water System, Version 31.0

Drawings

H-26015
D-11004
H-26009, Unit No.2 Standby Liquid Control System P&ID, Version 24.0
H-11609, Service Water Piping P&ID, Version 55.0
H-26094, Control Room Air Conditioning Process Flow Diagram, Version 8.0

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-X43-001-2, Fire Procedure

Drawings

A-43965 sheet 113A/B, Unit 2 Pre-Fire Plan MG Set Room A
A-43965 sheet 114A/B, Unit 2 Pre-Fire Plan MG Set Room B
A-43965 sheet 112A/B, Unit 2 Pre-Fire Plan Chiller Room
A-43965 sheet 58 A/B, Unit 1 Pre-Fire Plan RB South CRD Area
A-43965 sheet 59 A/B, Unit 1 Pre-Fire Plan RB North CRD Area
A-43965 sheet 74A/B, Unit 1 Pre-Fire Plan Refueling Floor
A-43965 sheet 123A/B, Unit 2 Pre-Fire Plan Refueling Floor
A-43965 sheet 65A/B, Unit 1 HVAC Room
A-43965 sheet 66A/B, Unit 1 Stand-By Gas Filters and Fan Room

Section 1R06: Internal Flood Protection

Condition Reports

2009110581

Documents

HNP-2-FSAR Chapter 9.3.3.2.2.B
Procedure 52PM-Y46-001-0, Inground Pullbox and Cable Duct Inspection For Water, Ver 6.8

Drawings

H-26076

Section 1R07: Heat Sink PerformanceProcedures

42EN-ENG-033-1, PSW Flow Model Data Collection
 42IT-TET-012-1, PSW and RHRSW Piping Inspection Procedure

Condition Reports

2007110914
 2009101609

Section 1R11: Licensed Operator Requalification

Drill Scenario: LR-SE-00126-01

Section 1R12: Maintenance Effectiveness

System Health Report – Emergency Diesel Generator System – 2nd quarter 2010
 R43 Maintenance Rule (MR) Scoping Manual Documents
 R43 MR Performance Criteria
 U2 MR monthly report – June 2010
 System Health Report – control room HVAC, 2nd quarter 2010
 1-2 Z41 MR scoping manual documents
 1-2 Z41 MR monthly reports, January – July 2010
 NMP-ES-002, System Monitoring and Health Reporting, Ver 12.0

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

CR: 2010108464, 2010108613, 2010108907
 Equipment Out of Service calculations 7/4/10-7/10/10
 Equipment Out of Service calculations 7/11/10-7/17/10
 Equipment Out of Service calculations 8/20/10-8/28/10
 Equipment Out of Service calculations 9/5/10-9/10/10

Section 1R15: Operability EvaluationsProcedures

NMP-AD-012, Operability Determinations and Functional Assessments, Ver. 6.0

Drawings

10037D05, Hatch Unit 2 One Line Piping Layout HPCI Pump Discharge and Suction, Rev. 4

Work Orders

2101459901,

Other

Control room logs dated 8/17/2010
 HNP-2-FSAR-6, section 6.3 Emergency Core Cooling Systems
 RAS 2-10-172, Initial Determination of Operability

CR 2010111337 Initial Determination of Operability
HPX-0436, Diesel Fuel Oil: Truck Analysis
Prompt Determinations of Operability

Section 1R18: Plant Modifications

ED C101839701, Equivalency Determination for Ultra-Low Sulfur No. 2 Fuel Oil for Emergency Diesel Generators
Temporary Mod 1-10-024, Reassemble valve 1P41F422A without the disc and seat ring

Procedures

64CH-SAM-002-0, Diesel Fuel Oil: Sampling and Analysis
40AC-ENG-018-0, Temporary Modification Control

CR's

2009106943, 2010107735, 2010106096, 2010112798.

Section 1R19: Post Maintenance Testing

Maintenance Work Orders (WOs)

WO 2061140001, 2E11F031B Check Valve Inspection
WO 2101243204, Perform Low Speed Maintenance Run

Procedures

34SV-E11-001-2 Residual Heat Removal Pump Operability
34SV-R43-004-2 Diesel Generator 2A Semi-Annual Test
34SV-E11-004-1, Residual Heat Removal Service Water Pump Operability, Ver. 18.9
51GM-MNT-033-0, Torque of Pressure Boundary Applications, Ver 11.7

Other

Fragnet 1C RHRSW Pump Outage 8-09-10, Rev. 1

CR's

2010110179

Section 1EP6: Drill Evaluation

EP 2010 Exercise 03 Exercise Narrative and Timeline
Drill event notification forms from EP 2010 Exercise 03 conducted 9/21/10

Section 4OA2: Identification and Resolution of Problems

Procedures

31GO-OPS-014-0, Annunciator and Plant Component Control, Ver 1.11
NMP-OS-006, Operations Performance Indicators, Ver 6.0
DI-OPS-61-1196, Control and Tracking of Operator Work-Arounds, Ver 4.0

Section 4OA3: Event Follow-upCondition Reports

2000005815, 2003005504, 2005100524, 2006101757, 2008101766, 2009101082, 2009104591, 2009104630, 2009104764, 2009104953, 2010103308, 2010103334, 2010110467, 2007100675, 2010106225, 2009102615, 2009102616, 2009102980, 2009103407

Action Items

2010200753, 2010200228

Documents

Licensee Event Report 2009-004
 Apparent Cause Report for CR 2005100524
 Root Cause Report for CR 2009104764
 Apparent Cause Report for CR 2009104953
 Apparent Cause Report for CR 2010103334
 WO 2100477102
 Control Room Logs
 H-26094, Control Building Control Room Air Cond. Process Flow Diagram, Ver. 8.0

Procedures

NMP-GM-002, Corrective Action Program, Ver. 7.0
 NMP-GM-002, Corrective Action Program, Ver. 6.0
 NMP-GM-002-001, Corrective Action Program Instructions, Ver. 9.0
 42SP-05-12-09-PI-1-1, Test of Nuclear Instrumentation Response to Diverse Logic System Actuations, Ver. 1.0
 42SP-05-12-09-PI-1-1, Test of Nuclear Instrumentation Response to Diverse Logic System Actuations, Ver. 3.0
 MNP-DP-001-GL-01, Risk Assessment Worksheets, Ver. 2.0

Other

E.I. Hatch Nuclear Plant Technical Specifications and Bases
 E.I. Hatch Unit 1 and Unit 2 Final Safety Analysis Report

Section 4OA5: Other Activities

Docket 72-36 10 CFR 72.212 Report – Revision 11, 2010 Loading Campaign
 Fuel Assembly Certification Datasheets 2010 Loading Campaign
 42FH-ERP-014-O, Fuel Movement, Ver 17.13
 Fuel Movement Sheets 2010 Dry Storage – MPC-202 Loading
 Fuel Loading for Cask Load 2010-02, dated June 30, 2010