



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

April 29, 2011

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 05000321/2011002 AND 05000366/2011002**

Dear Mr. Madison:

On March 31, 2011, 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 April 6, 2011, with you 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 NRC-identified and one self-revealing finding of very low safety significance (Green). All 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.

SNC

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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
License Nos.: DPR-57 and NPF-5

Enclosures: Inspection Report 05000321/2011002, 05000366/2011002
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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Letter to Dennis R. Madison from Scott M. Shaeffer dated April 29, 2011

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT - NRC INTEGRATED INSPECTION
REPORT 05000321/2011002 AND 05000366/2011002

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-321, 50-366

License Nos.: DPR-57 and NPF-5

Report Nos.: 05000321/2011002 and 05000366/2011002

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch Nuclear Plant

Location: Baxley, Georgia 31513

Dates: January 1 – March 31, 2011

Inspectors: E. Morris, Senior Resident Inspector
D. Hardage, Resident Inspector
D. Jones, Senior Reactor Inspector (4OA5.2)

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

Enclosure

SUMMARY OF FINDINGS

IR 05000321/2011002, 05000366/2011002; 01/01/2011-3/31/2011; Edwin I. Hatch Nuclear Plant, Units 1 and 2, Fire Protection, Post-Maintenance Testing

The report covered a three-month period of inspection by resident inspectors and a senior reactor inspector. There were two NRC identified and one self-revealing NCV with very low safety significance (GREEN). The significance of most findings is indicated by their color (great 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;' and that 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. An NRC-identified NCV of Hatch Unit 1 operating license condition 2.C.(3) and Hatch Unit 2 operating license condition 2.C.(3)(a), Fire Protection, was identified for failure to maintain fire hose station HS-C20 operable while equipment in the area was required to be operable. Hose station HS-C20 was determined to be inaccessible to the fire brigade. Immediate corrective actions taken by the licensee included performing a fire protection alternate compensatory measures evaluation, (as required by Fire Hazards Analysis section 9.2, specification 1.6.1 action a), which resulted in staging an additional 100 feet of hose at hose station, HS-C21, located just outside of the cable spread room. This violation was entered into the licensee's corrective action program as CR 2011100783.

Failure to ensure the accessibility and thus operability of HS-C20 or take required compensatory action in accordance with Fire Hazards Analysis Section 9.2 Appendix B Specification 1.6.1 is a performance deficiency. This performance deficiency is more than minor because it adversely affected the protection against external events (fire) attribute of the Mitigating Systems cornerstone objective to ensure the availability and reliability of systems (safety related cable spreading room cabling) that respond to initiating events to prevent undesirable consequences. This violation was assessed using the Phase 1 screening worksheets of Attachment 4 and Appendix F of IMC 0609. The inspectors performed an initial qualitative screening and determined the inoperability of HS-C20 was a low degradation violation against the fire protection program. The cable spreading room fire area contains full pre-action sprinkler coverage and a manual carbon dioxide flooding system. Additionally, a manual hose station and fire extinguishers are located outside the primary access doors to the cable spreading room. Based on the low degradation of the fire protection program, this violation was screened as Green. The inspectors determined this performance deficiency had a cross-cutting aspect in the area of Problem Identification and Resolution under the Corrective Action Program component because the licensee did not appropriately identify the long standing issue of the inaccessibility of HS-C20 during monthly surveillance testing. (P.1(a)) (Section 1R05)

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- Green. A self-revealing NCV of Technical Specification 5.4, Procedures, was identified for the licensee's failure on March 7, 2011, to implement foreign material exclusion procedures and prevent foreign material entering the service water system intake, a Level 1 foreign material exclusion area. Immediate corrective actions were performed to retrieve the foreign material and the affected plant service water pump was returned to service on March 18. The licensee has entered this issue into their corrective action program as CR 2011102588 and CR 2011102657.

Failure to control foreign material in a Level 1 foreign material exclusion area is a performance deficiency. This performance deficiency is more than minor because it is associated with the equipment performance attribute and adversely affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, of systems that respond to initiating events to prevent undesirable consequences. Specifically, foreign material that was introduced into the plant service water intake area resulted in the unavailability of the 1C plant service water pump. The significance of this finding was assessed in accordance with Inspection Manual Chapter 0609, Attachment 4. The finding screened as Green using the Mitigating Systems Cornerstone column of Table 4a of Attachment 4, specifically there was not a loss of function that exceeded the allowed out of service time. The inspectors determined this performance deficiency has a cross-cutting aspect in Work Control component of the Human Performance Area, because the licensee did not plan work activities by incorporating risk insights, job site conditions, environmental conditions, or the need for planned contingencies, compensatory actions, and abort criteria. (H.3(a)) (Section 1R19)

- Green. An NRC identified NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, was identified for the failure to properly analyze electrical bus transfers that could adversely affect redundant safety buses. Specifically, the licensee failed to analyze the effects of severe voltage dips on the 4.160 kV safety buses that could occur if a loss of coolant accident occurred coincident with bus transfers that occur during a unit trip. The licensee entered this issue into their corrective action program as CR 2009105775.

The licensee's failure to properly analyze the effects of severe voltage dips during bus transfers was a performance deficiency. The finding was more than minor because it was associated with the Design Control attribute of the Mitigating System Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to properly analyze the effects of voltage dips that could occur following the transfer of the non-safety bus to the transformer supplying power to redundant safety-related buses during LOCA block loading. The finding was assessed for significance in accordance with NRC Manual Chapter 0609, a Phase III analysis was required since this finding represented a potential loss of safety system function for multiple trains which was not addressed by the Phase II pre-solved tables/worksheets. The regional SRA performed a Phase III analysis for the deficiency. Because the failure of the onsite power system (such as including the turbine/generator tripping scheme) would have to occur concurrent with the loading of large ECCS motors onto safety-related buses

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in response to an accident the event, the period of vulnerability for the trip is was assumed to be a few seconds. Therefore the likelihood of the event results in a risk very much below the threshold for a colored finding. Because this finding is not related to current licensee performance, no cross cutting aspect was identified. (Section 4OA5.2)

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% rated thermal power (RTP). On January 17 a down power to 40% RTP was performed to make repairs to an alternate speed drive unit for a recirculation pump. The unit returned to full RTP on January 21. Unit 1 then operated at or near 100% RTP for the remainder of the inspection period.

Unit 2 began the inspection period at or near 100% RTP. On March 28 the unit was shut down and entered a scheduled refueling outage, which continued beyond the completion of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather

a. Inspection Scope

Readiness for Impending Adverse Weather Conditions: Severe Thunderstorm. The inspectors performed a review of licensee readiness to cope with potential high winds and severe thunderstorm weather predicted for and experienced at the site on March 9, 2011. The inspectors reviewed licensee procedure 34AB-Y22-002-0, Naturally Occurring Phenomena, to verify actions were taken by the licensee to cope with these conditions. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

a. Inspection Scope

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

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- Unit 1 and 2 'A' and 'B' train of the main control room air conditioning system while 'C' train was out of service for maintenance, January 13
- Unit 1 reactor core isolation cooling system while the high pressure coolant injection system was out of service for maintenance, March 3
- Unit 2 high pressure coolant injection system while the reactor core isolation cooling system was out of service for maintenance, March 7

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

- Unit 2 residual heat removal system, January 13

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 1, reactor protection system battery rooms 1A and 1B, fire areas 1009 and 1010
- Unit 2, reactor protection system battery rooms 2A and 2B, fire areas 2009 and 2010
- Cable spreading room, fire area 024A
- Unit 1, station battery rooms 1A and 1B, fire areas 1004 and 1005
- Unit 2, station battery rooms 2A and 2B, fire areas 2004 and 2005

b. Findings

Introduction: A Green NRC-identified NCV of Hatch Unit 1 operating license condition 2.C.(3) and Hatch Unit 2 operating license condition 2.C.(3)(a), Fire Protection, was identified for failure to maintain fire hose station HS-C20 operable while equipment in the area was required to be operable. The hose station accessibility was questioned during a NRC fire protection walk down of the cable spreading room. A follow up walk down in

the cable spreading room by the licensee was performed and hose station HS-C20 was determined to be inaccessible to the fire brigade and declared inoperable.

Description: On January 19, 2011, during a quarterly fire protection inspection, NRC inspectors noted that due to installed permanent plant equipment, fire hose station HS-C20 appeared to be inaccessible and unusable during a fire event. The hose station is located on the South wall of the cable spreading room in the vicinity of column TEA. Cable trays and conduit block all approaches to the hose station. A walk down in the cable spreading room with a licensee fire protection engineer was performed to make an evaluation of the accessibility of the hose station HS-C20. The licensee determined that to be able to access the hose station a person would have to crawl between cable trays that have a separation of one foot or over a cable tray that is six feet above floor level. It would be impossible for a fire brigade member fully dress out to pass thru the opening and would also be difficult to climb the six feet to go over the cable trays. Based on the lack of accessibility, hose station HS-C20 was declared inoperable. The licensee has performed a fire protection alternate compensatory measures evaluation, as required by Fire Hazards Analysis (FHA) section 9.2, specification 1.6.1 action and has staged an additional 100 feet of hose at hose station, HS-C21, located just outside of the cable spread room. This will allow the fire brigade to reach inside the cable spread room area and compensate for the unavailability of hose station HS-C20. In addition, the cable spreading room fire area contains full pre-action sprinkler coverage and a manual carbon dioxide flooding system. Also, a manual hose station and fire extinguishers are located outside the primary access doors to the cable spreading room. The licensee inspected hose station HS-C20 at a frequency of every 31 days as required by FHA section 9.2, surveillance requirement 2.6.1. Therefore the licensee had ample opportunity to identify the inaccessibility of this fire hose station to the fire brigade, but had not entered this condition into their corrective action program. The licensee initiated CR 2011100783 for the inoperable hose station.

Analysis: Failure to ensure the accessibility and thus operability of HS-C20 or take required compensatory action in accordance with Fire Hazards Analysis, Section 9.2, Appendix B, Specification 1.6.1 is a performance deficiency. This performance deficiency is more than minor because it adversely affected the protection against external events (fire) attribute of the Mitigating Systems cornerstone objective to ensure the availability and reliability of systems (safety related cable spreading room cabling) that respond to initiating events to prevent undesirable consequences. This violation was assessed using the Phase 1 screening worksheets of Attachment 4, and Appendix F of MC 0609. The inspectors performed an initial qualitative screening and determined the inoperability of HS-C20 was a low degradation violation against the fire protection program. The cable spreading room fire area contains full pre-action sprinkler coverage and a manual carbon dioxide flooding system. Additionally, a manual hose station and fire extinguishers are located outside the primary access doors to the cable spreading room. Based on the low degradation of the fire protection program, this violation was screened as Green. The inspectors determined this performance deficiency had a cross-cutting aspect in the area of Problem Identification and Resolution under the Corrective Action Program component because the licensee did not appropriately identify the long standing issue of the inaccessibility of HS-C20 during monthly surveillance testing. P.1(a)

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Enforcement: Hatch Unit 1 operating license condition 2.C.(3) and Hatch Unit 2 operating license condition 2.C.(3)(a), Fire Protection, requires, in part that the licensee shall maintain in effect all provisions of the Fire Protection Program, as contained in the FHA. FHA Section 9.2 Appendix B, Fire Protection Equipment Operating and Surveillance Requirements Specification 1.6.1, Fire Hose Stations, requires hose stations be operable whenever equipment in the areas protected by the fire hose station is required to be operable. Contrary to the above operating license conditions, on January 19, 2011, hose station HS-C20 was found to be inaccessible due to installed plant equipment and therefore inoperable and unavailable for use by the fire brigade in the event of a fire in the cable spreading room. Immediate corrective actions taken by the licensee include performing a fire protection alternate compensatory measures evaluation, (as required by FHA section 9.2, specification 1.6.1 action a), which resulted in staging an additional 100 feet of hose at hose station, HS-C21, located just outside of the cable spread room. This will allow the fire brigade to reach inside the cable spread room area and compensate for the hose station HS-C20 being unavailable. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CR 2011100783, this violation is being treated as an NCV, consistent with the Enforcement Policy. NCV 05000321/2011002-01, "Inaccessible fire hose station in the cable spreading room."

1R06 Flood Protection Measures

a. Inspection Scope

Internal Flooding. 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 UFSAR, engineering calculations and abnormal operating procedures for licensee commitments. The inspectors walked-down the area 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 CRs to verify the licensee was identifying and resolving problems. Documents reviewed are listed in the Attachment.

- Unit 1, reactor building southeast diagonal
- Unit 1, reactor building southwest diagonal

b. Findings

No findings were identified.

1R11 Licensed Operator Requalificationa. Inspection Scope

Resident Quarterly Observation incorporating Operating Experience Smart Sample (OpESS) FY2010-02 "Sample Selections for Reviewing Licensed Operator Examinations and Training Conducted on the Plant-Referenced Simulator." On January 31, the inspectors observed the performance of licensee simulator scenario LT-SG-50322-24, which included shutdown cooling (SDC) operations and malfunctions including loss of SDC. The inspectors reviewed 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 by the training staff.

b. Findings

No findings were identified.

1R12 Maintenance Effectivenessa. 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 (MWO), 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 & 2 traveling water screen system, W33
- Unit 1 & 2 reactor building HVAC, T41

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluationa. 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 procedures NMP-OS-010, Protected Train/Division and Protected Equipment Program; 90AC-OAM-

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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.

- January 1 – January 7, including 1A main control room air conditioner system outage, 1H11P925 ECCS panel surveillance, installation of security thermal cameras, and 230kv line trip testing.
- January 17 – January 21, including '1B' emergency diesel generator maintenance activities, Unit 1 emergency bus' undervoltage relay testing, Unit 1 division 2 residual heat removal and core spray room cooler maintenance, Unit 1 'B' adjustable speed drive emergent maintenance, Unit 2 'A' cooling tower maintenance, Unit 2 'B' train of standby gas treatment maintenance.
- February 7 – February 11, including Unit 1 repairs to the 'A' residual heat removal service water pump discharge check valve, Unit 1 emergency core cooling system panel surveillance testing, painting within the intake, Unit 2 'A' cooling water tower outage, and replacement of disconnect switch within the switchyard.
- February 20 – February 25, including Unit 1 reactor building exhaust fan maintenance, reactor protection system testing, replacement of service water piping to the 'A' main control room air conditioning unit, and Unit 2 'B' plant service water pump maintenance.
- February 28 – February 4, including Unit 1 reactor protection system relay calibrations, 1B emergency diesel generator fuel oil day tank level indication repairs, replacement of service water piping to the 'A' main control room air conditioning unit, painting and refurbishment of plant service water and residual heat removal service water pump seismic supports, Unit 1 high pressure coolant injection pump maintenance, work activities within the 500 kilovolt switchyard, Unit 2 reactor protection system relay calibrations.

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following six operability evaluations and compared the evaluations to the system requirements identified in the Technical Specifications and the Updated Final Safety Analysis Report 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.

- 1B emergency diesel generator control power fuse failure, CR 2010116039
- 1C residual heat removal service water pump failed in-service test, CR 2011100551
- 1B emergency diesel generator Dresser coupling leak, CR 2011101719

- Unit 2 HPCI steam supply line inboard drain valve, 2E41-F028, failed to stroke, CR 2011101726
- Unit 1 high pressure coolant injection pump installed fuses did not meet acceptance criteria as stated in work order 2110160501, CR 2011101792
- Unit 1 core spray and residual heat removal room coolers will not normally auto start on high room temperature, CR 2011102221

b. Findings

No findings were identified.

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the following plant temporary 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

- Temporary Modification 1-10-029, 1H21-P539/H21-P540 Mark V Control System

b. Findings

No findings were identified.

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 1071879303, repair 1A emergency diesel generator ventilation damper, 1/7/11
- WO 1110070802, repair Unit 1 reactor pressure vessel level 1 & 2 transmitter 1B21-N681D, 1/20/11
- WO 2110108901, replace turbine control valve #2 fast acting solenoid, 1/23/11
- WO 1110125701, replace valve packing in reactor coolant isolation cooling valve 1E51-F3016B, 2/9/11

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- WO 1101256601, Replace 1C32K624A, 3/3/11
- WO1110321616, inspection and removal of foreign material from 1C plant service water pump, 3/18/11

b. Findings

Introduction: A self-revealing Green NCV of Technical Specification 5.4, Procedures, was identified for the licensee's failure on March 7, 2011, to implement foreign material exclusion procedures and prevent foreign material entering a Level 1 foreign material exclusion area.

Description: On March 7, 2011, foreign material consisting of a four foot by nine inch by two inch section of metal scaffolding was dropped into the Unit 1 safety-related plant service water pump intake pit in an area near the 1A plant service water pump. (CR 2011102588) On March 8 the licensee attempted to retrieve the foreign material. During this evolution the retrieval tool was ingested into the intake bell of the 1C plant service water pump (CR 2011102657), and the licensee took actions to start the 1A plant service water pump and secure the 1C plant service water pump. Due to the ingestion of the foreign material the 1C plant service water pump was danger tagged out and was unavailable for use between March 8 and March 18. The foreign material, with the exception of a 3" diameter round magnet, was retrieved by divers on March 17. The licensee performed an operability evaluation (CR2011102092) which included gathering destructive test data of like magnets, and performed operability surveillance testing of the 1C plant service water pump. The 1C plant service water pump was declared operable and returned to service on March 18. The licensee has classified the intake area at plant Hatch as a Level 1 foreign material exclusion area and the requirements for controlling the possible entrance of foreign material into this area are delineated within procedures NMP-MA-009 and NMP-MA-009-1. Procedure NMP-MA-009, Foreign Material Exclusion Program, Version 9.0, section 5.17.3 requires in part that workers use work practices that prevent introduction of foreign material into systems or components. Procedure NMP-MA-009-1, Foreign Material Exclusion Program Requirements, Attachment 3, Version 5.0 lists the Level 1 foreign material exclusion requirements. Specifically, Section 7.4 requires that materials, equipment, and tools taken into or used within the foreign material exclusion area shall be made fail-safe to the most practical extent. Components to be installed do not need to be fail safe, however, use netting, cover, curtain, catch bag, etc. when/where practical to ensure that the item cannot be lost. Also Section 7.6 requires that tools, equipment, and materials taken into the Level 1 foreign material exclusion area will not be left unused or unattended. Hatch Unit 1 Technical Specification 5.4.1.a requires in part that written procedures shall be implemented covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, section 9.a requires in part that maintenance that can affect the performance of safety-related equipment be properly performed in accordance written procedures. The use of netting, cover, curtain, catch bag, or any other means to prevent the scaffold board from entering the water was not used. Also, the scaffold board was left unattended and unsecured which directly contributed to the scaffold board being knocked into the water leading to the unavailability of the 1C plant service water pump.

Analysis: Failure to control foreign material in a Level 1 foreign material exclusion area is a performance deficiency. This performance deficiency is more than minor because it is associated with the equipment performance attribute and adversely affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, of systems that respond to initiating events to prevent undesirable consequences. Specifically, foreign material that was introduced into the plant service water intake area resulted in the unavailability of the 1C plant service water pump. The significance of this finding was assessed in accordance with Inspection Manual Chapter 0609 Attachment 4. The finding screened as Green using the Mitigating Systems Cornerstone column of Table 4a of Attachment 4, specifically there was not a loss of function that exceeded the allowed out of service time.

The inspectors determined this performance deficiency has a cross-cutting aspect in Work Control component of the Human Performance Area, because the licensee did not plan work activities by incorporating risk insights, job site conditions, environmental conditions, or the need for planned contingencies, compensatory actions, and abort criteria. Specifically, pre-planning risk insights were not incorporated to establish proper control (through the use of netting, covers, curtain, catch bag, or continuous worker control) of foreign material entering the Level 1 foreign material exclusion area. H.3(a).

Enforcement: Hatch Unit 1 Technical Specification 5.4.1.a requires in part that written procedures shall be implemented covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, section 9.a requires in part that maintenance that can affect the performance of safety-related equipment be properly performed in accordance with written procedures. Licensee procedure NMP-MA-009, Foreign Material Exclusion Program, Version 9.0, section 5.17.3 requires in part that workers use work practices that prevent introduction of foreign material into systems or components. Procedure NMP-MA-009-1, Foreign Material Exclusion Program Requirements, Attachment 3, Version 5.0 lists the Level 1 foreign material exclusion requirements. Specifically, Section 7.4 requires that materials, equipment, and tools taken into or used within the foreign material exclusion area shall be made fail-safe to the most practical extent. Components to be installed do not need to be fail safe, however, use netting, cover, curtain, catch bag, etc. when/where practical to ensure that items cannot be lost. Also Section 7.6 requires that tools, equipment, and materials taken into the Level 1 foreign material exclusion area will not be left unused or unattended.

Contrary to the above, on March 7, 2011, the licensee failed to implement applicable procedures for control of foreign material in a Level 1 foreign material exclusion area, which is an activity that can affect the performance of safety-related equipment. This failure directly led to the entrance of foreign material into the intake bay which ultimately resulted in the unavailability of the 1C plant service water pump between March 8 and March 18. The licensee took corrective actions to retrieve the foreign material and the affected plant service water pump was returned to service on March 18. The licensee has entered this issue into their corrective action program as CR 2011102588 and CR 2011102657. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program, this violation is being treated as an

NCV, consistent with the Enforcement Policy. NCV 05000321/2011002-02, "Failure to control foreign material within a Level 1 foreign material exclusion area"

1R20 Refueling and Other Outage Activities

a. Inspection Scope

The inspectors performed the inspection activities described below for the Unit 2 refueling outage that began on March 28. 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.
- Verified that outage work did not impact the operation of the spent fuel cooling system.
- Reviewed the status and configuration of electrical systems to verify that those systems met technical specification requirements and the licensee's outage risk control plan.
- Observed decay heat removal parameters to verify that the system was properly functioning and providing cooling to the core, specifically during hot mid-loop operations.
- 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 requirements, commitments and administrative procedure prerequisites were met prior to changing plant configuration.
- Inspection of containment for as-found degraded conditions.

b. Findings

No findings were identified.

Enclosure

1R22 Surveillance Testinga. 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

- 34SV-R43-012-2, Diesel Generator 1B 24 Month Operability Test, January 11
- 34SV-E21-001-1, Core Spray Pump Operability, February 22
- 34SV-C11-007-1, Control Rod Drive Notch Timing, March 4

In-Service Test

- 34SV-E41-002-2, [High Pressure Coolant Injection] Pump Operability, January 26
- 34SV-E41-002-1, [High Pressure Coolant Injection] Pump Operability, February 16

Leak-rate Test

- 34SV-SUV-019-1, Unit 1 reactor coolant system leak detection, January 25

Containment Isolation Valve

- 42SV-TET-001-0, Local Leak Rate Test (LLRT) Testing Methodology for 2B21-F077B, March 29

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluationa. Inspection Scope

The inspectors observed the following emergency plan evolution. The inspectors observed licensee activities in the simulator and Technical Support Center to verify implementation of licensee procedure 10AC-MGR-006-0, Hatch Emergency Plan. The inspectors reviewed the classification of the simulated events and the development of protective action recommendations to verify these activities were conducted in accordance with licensee procedure 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,

Enclosure

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 Preparedness drill conducted on February 9

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

Cornerstone: Initiating Events

- Unplanned Scrams
- Unplanned Scrams with Complications
- Unplanned Power Changes

The inspectors reviewed raw PI data collected since between January, 2010 and December 2010 for the Initiating Events 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.

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.

4OA3 Event Follow-up

.1 (CLOSED) LER 05000321/2009-006, Revision 1, Main Control Room Air Conditioner Inoperable Due to Inoperable Solenoid Valve

a. Inspection Scope

The inspectors reviewed this LER revision 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. The original LER 05000321/2009-006 was previously closed in inspection report 05000321,366/2010-004 as a licensee-identified violation of TS 3.7.5 Control Room Air Conditioning System. The updated information contained in this revision does not change the disposition. LER 05000321/2009-006, Revision 1 is closed.

b. Findings

The enforcement aspects of a finding in this area are discussed in Section 4OA7 of NRC inspection report 05000321,366/2010-004.

.2 (CLOSED) LER 05000321/2010-005, Inability of Redundant Main Control Room Air Conditioner to Auto-Start for Pressurization Mode

a. Inspection Scope

The inspectors reviewed this LER revision 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 2010109805. LER 05000321/2010-005 is closed.

b. Findings

The enforcement aspects for this issue are discussed in Section 4OA7.

4OA5 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 (Closed) URI 05000321/2009006-07 and 05000366/2009006-07: Postulated Early Transfer of Non-Safety Busesa. Inspection Scope

During the component design bases inspection performed from May 4 – July 20, 2009, the team identified an unresolved item (URI) regarding the licensee's calculation that evaluated the adverse effects of a postulated early transfer of non-safety buses to a start-up transformer that energizes safety-related buses. This item was unresolved pending the NRC's review of Calculation SENH 92-133 to determine the adequacy of the methodology, and the NRC's review to determine if the postulated scenario was within the Hatch licensing bases.

b. Findings

Introduction: An NRC identified Green NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, was identified for the failure to properly analyze electrical bus transfers that could adversely affect redundant safety buses. Specifically, the licensee failed to analyze the effects of severe voltage dips on the 4.160 kV safety buses that could occur if a LOCA occurred coincident with bus transfers that occur during a unit trip.

Description: This finding describes the Hatch Unit 2 configuration with Unit 1 having a similar configuration. Unit 2 features three safety buses (2E, 2F, and 2G) that supply emergency core cooling system equipment. Redundant safety buses 2F and 2G are normally connected to the same winding of start-up transformer 2D. Following a main generator trip, Hatch utilizes a scheme whereby non-safety bus 2D is transferred to the same winding of the start-up transformer 2D that is supplying safety buses 2F and 2G.

Hatch calculation SENH 92-133, Bus Transfer Study, Rev. 1, determined that if the transfer of non-safety bus 2D occurred during block loading, voltage on safety buses 2F and 2G would dip to approximately 48% of 4.160 kV. One scenario where this could happen would be a turbine trip, such as one that occurs during a normal shutdown followed by a LOCA before the generator trip. The generator trip occurs approximately 30 seconds after a turbine trip. The team was concerned that in such a scenario, interaction of the non-safety related bus transfer scheme could degrade redundant safety buses below an acceptable level.

Safety bus voltage at 48% (of nominal) is considerably lower than the voltages required at the terminals of the starting motors, which range from 70% of 4000v (2800v) to 75% of 4000v (3000v). In addition, this severe dip could have adverse effects on other safety-related loads already connected to the safety buses. The inspector noted that these conditions were not discussed or justified in Calculation SENH 92-133. Specifically, the calculation did not address topics such as the following:

- Voltage less than manufacturers' rating could cause slow starting and overheating of motors. Slow starting could also challenge motor overcurrent devices resulting in tripping of the motors.
- Voltage dips resulting in less than approximately 71% at the terminals of running motors could cause motor stalling, with the associated large increases in current (up to locked rotor current). This could produce an additional voltage decrease below what was analyzed.
- Stalled motors could trip on overcurrent and may not be available for restarting if the safety buses subsequently transferred to the Emergency Diesel Generators.
- Below 60% voltage, contactors could drop out causing motors to stall, delaying their safety function.
- Control circuit fuses could blow if subjected to prolonged degraded voltage, or multiple pickup cycles during voltage perturbations.

The inspector noted that calculation SENH 92-133 results showed that the transient safety bus voltage would recover to approximately 70% within 1.09 seconds and that the starting motors would accelerate. The inspectors concluded that these results were not adequately demonstrated because the software program utilized did not correctly model the electrical system for this scenario. First, the program modeled running motors as constant current devices rather than constant kVA (volt-ampere) devices, which results in underestimating the current draw of running motors during voltage dips, thereby underestimating the total system voltage drop. In addition, running motors were modeled as lumped loads with averaged parameters. Consequently, the voltage drop in individual motor feeders was not considered, which, if properly modeled, could lead to lower voltages and higher currents at the loads. Also, the model did not properly reflect the behavior of loads during severe voltage dips, including the possibility of motor stalling due to inadequate torque or contactors dropping out. The team concluded that these factors could result in a voltage transient considerably longer than analyzed. The result of a prolonged transient could include the tripping of one or both safety buses from offsite power by action of the loss of voltage relays, or tripping of safety loads on

overcurrent. Either of these conditions would be considered an unacceptable interaction of the non-safety related transfer scheme with the Class 1E power system.

Analysis: The licensee's failure to properly analyze the effects of severe voltage dips during bus transfers was a performance deficiency. The finding was more than minor because it was associated with the Design Control attribute of the Mitigating System Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and closely parallels IMC 0612, Appendix E, Example 3.j, in that there was reasonable doubt regarding the capability of the system to perform its intended function pending re-analysis. Specifically, the licensee failed to properly analyze the effects of voltage dips that could occur following the transfer of the non-safety bus to the transformer supplying power to redundant safety-related buses during LOCA block loading. The finding was assessed for significance in accordance with NRC Manual Chapter 0609, using the Phase I and Phase II pre-solved SDP worksheets for mitigating systems.

It was determined that a Phase III analysis was required since this finding represented a potential loss of safety system function for multiple trains which was not addressed by the Phase II pre-solved tables/worksheets. The regional SRA performed a Phase III analysis for the deficiency. Because the failure of the onsite power system (such as including the turbine/generator tripping scheme) would have to occur concurrent with the loading of large ECCS motors onto safety-related buses in response to an accident the event, the period of vulnerability for the trip is was assumed to be a few seconds. Therefore the likelihood of the event results in a risk very much below the threshold for a colored finding. The finding is Green. Because this finding is not related to current licensee performance, no cross cutting aspect was identified.

Enforcement: 10 CFR 50, Appendix B, Criterion III, Design Control, states, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis for structures, systems, and components are correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, since June 1991, the licensee failed to properly analyze the effect of severe voltage dips during bus transfers. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as condition report CR 2009105775, this violation is being treated as an NCV, consistent with the NRC Enforcement Policy. This finding is identified as NCV 05000321/2011002-03 and 05000366/2011002-03, "Interaction of Non-safety Related Power System with Safety Systems during Bus Transfers."

40A6 Meetings, Including Exit

On April 6, 2011, the resident inspectors presented the inspection results to you and other members of your staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

Enclosure

On April 21, 2011 an additional exit was conducted concerning the closure of URI 05000321/2009006-07 and 05000366/2009006-07: Postulated Early Transfer of Non-Safety Buses.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

- A licensee-identified violation of Technical Specification 3.7.4 and 3.7.5 was discovered on August 3, 2010, when it was determined that the main control room air conditioner chiller 1Z41-B008B would fail to start from a standby condition rendering the chiller inoperable. The cause of violation was less than adequate design, because the chiller could not dissipate the unusually high ambient heat load due to the heat up of stagnant plant service water while a chiller is in standby. The significance of this violation was screened using the 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.

Unit 1 and Unit 2 Technical Specifications 3.7.4 and 3.7.5 require three control room air conditioning and two environmental control 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. Contrary to this requirement it was determined that the main control room air conditioner chillers could not automatically start up from standby conditions and thus three main control room air conditioning chillers were not operable for periods of time during high ambient heat conditions while Unit 1 and Unit 2 were in Mode 1. This violation is documented in the licensee's corrective action program as CR 2010109805 and was reported to the NRC as LER 05000321/2010-005. (4OA3.2)

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

S. Bargeron, Plant Manager
G. Brinson, Maintenance Manager
V. Coleman, Chemistry Manager
J. Dixon, Health Physics Manager
B. Duval, Site Support Manager
B. Hulett, Engineering Design Manager
G. Johnson, Engineering Director
C. Lane, Engineering Support Manager
D. Madison, Hatch Vice President
J. Merritt, Nuclear Security Manager
R. Varnadore, Operations Manager

LIST OF ITEMS OPENED AND CLOSED

Opened

None

Closed

05000321/2009006, Rev 1	LER	Main Control Room Air Conditioner Inoperable Due to Inoperable Solenoid (4OA3.1)
05000321/2010005	LER	Inability of Redundant Main Control Room Air Conditioner to Auto-Start for Pressurization Mode (4OA3.2)
05000321,366/2009006-07	URI	Postulated Early Transfer of Non-Safety Buses (4OA5.2)

Opened & Closed

05000321,366/2011002-01	NCV	Inaccessible fire hose station in the cable spreading room (1R05)
05000321/2011002-02	NCV	Failure to control foreign material within a Level 1 foreign material exclusion area. (1R19)
05000321,366/2011002-03	NCV	Interaction of Non-safety Related Power System with Safety Systems during Bus Transfers (Section 4OA5.2)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather

Procedures

34AB-Y22-002-0, Naturally Occurring Phenomena, Ver. 6.12

Condition Reports

2011102706

Section 1R04: Equipment Alignment

Procedures

34SO-E11-010-2, Residual Heat Removal System, Ver. 35.0

34SO-Z41-001-1, Control Room Ventilation System, Ver. 20.1

34SO-E51-001-1, Reactor Core Isolation Cooling System, Ver. 26.0

34SO-E41-001-2, High Pressure Coolant Injection System, Ver. 23.0

Drawings

H-26014, H-26015, H-26046, H-11609, H-16042, H-17068, H-17069, H-17070, H-17071, H-17072, H-17073, H-16334, H-16335

Other

Unit 2 Final Safety Analysis Report, Chapter 6.4, Habitability Systems

Unit 1 Final Safety Analysis Report, Chapter 4.7, Reactor Core Isolation Cooling

Unit 2 Final Safety Analysis Report, Chapter 6.3, Emergency Core Cooling Systems (ECCS)

Technical Specifications

Technical Specifications Bases

Section 1R05: Fire Protection

Condition Reports

2011100783

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 14 A/B, Unit 1 Pre-Fire Plan RPS Battery Room 1B

A-43965 sheet 15 A/B, Unit 1 Pre-Fire Plan RPS Battery Room 1A

A-43965 sheet 21 A/B, Unit 2 Pre-Fire Plan RPS Battery Room 2A

A-43965 sheet 22 A/B, Unit 2 Pre-Fire Plan RPS Battery Room 2B

A-43965 sheet 44 A/B, Unit 1 & 2 Pre-Fire Plan Cable Spreading Room

A-43965 sheet 11 A/B, Unit 1 Pre-Fire Plan Station Battery Room 1A

A-43965 sheet 12 A/B, Unit 1 Pre-Fire Plan Station Battery Room 1B

A-43965 sheet 17A/B, Unit 2 Pre-Fire Plan Station Battery Room 2A

A-43965 sheet 18 A/B, Unit 2 Pre-Fire Plan Station Battery Room 2A

Section 1R06: Internal Flood ProtectionDocuments

HNP-2-FSAR Chapter 9.3.3.2.2.B

E.I. Hatch Individual Plant Examination dated December 1992

HL-4690, E.I. Hatch response to request for additional information regarding Individual Plant Examination submittal, dated October 7, 1994

Section 1R11: Licensed Operator Requalification

Shutdown Cooling (SDC) Ops / Loss of SDC / SOER 09-1, LT-SG-50322-24

Section 1R12: Maintenance EffectivenessOther

System Health Report – W33 System – 4th quarter 2010

W33 Maintenance Rule Scoping Manual Documents

W33 MR Performance Criteria

System Health Report – T41 System - 4th quarter 2010

T41 Maintenance Rule Scoping Manual Documents

T41 MR Performance Criteria

NMP-ES-002, System Monitoring and Health Reporting, Ver. 14.0

Condition Reports

2010104190, 2010108910, 2010112831, 2010115444, 2011100721

Section 1R13: Maintenance Risk Assessments and Emergent Work EvaluationCondition Report

2011102432

Other

Control room logs

Procedure 40AC-ENG-020-0, Maintenance Rule (10CFR 50.65) Implementation and Compliance, Ver. 7.0

Procedure NMP-OS-010, Protected Train/Division and Protected Equipment Program, Ver. 4.0

Equipment Out of Service calculations 1/1/11 - 1/7/11

Equipment Out of Service calculations 1/15/11 - 1/21/11

Equipment Out of Service calculations 2/5/11 - 2/11/11

Equipment Out of Service calculations 2/21/11 - 2/25/11

Equipment Out of Service calculations 2/26/11 – 3/4/11

Section 1R15: Operability EvaluationsProcedures

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

34SO-T41-001-1, Core Spray and Residual Heat Removal Rooms Ventilation System, Ver. 4.7

42SV-T41-001-1, Safeguard Equipment Cooling System [Logic System Functional Test], Ver. 7.2

Drawings

H26020, H26021, H27664, H27665, H27666, H27667, H27668, H27669, H2770, H2771, H2772, H17041, H17042, H16023

Work Orders

1102150202, 1110188801

Other

Control room logs dated

Updated Final Safety Analysis Report

Hatch Technical Specifications

Hatch Technical Specification Bases

Part 21 report 2005-37-00, Existence of a possible defect in Bussmann KWN-R fuses, dated 9/27/2005

Prompt Determination of Operability, 1C residual heat removal service water pump

Unit 1 Final Safety Analysis Report, Chapter 10.18 Equipment Area Cooling System

As Built Notice 97-0193, Change 1T41-B001B, 2B, 3B, 4B, 5B from STBY to AUTO

Event Review Team report 97-003, Unit 1 emergency core cooling system room cooler control switches found mispositioned on 3/17/97

Condition Report

2010116060, 2011100530, 2005110047, 201110081, 2011100551, 2011101179, 2011101726, 2011101792, 2011102221, 2011102336, 2011102299, 2010111885

Section 1R18: Plant ModificationsProcedures

40AC-ENG-018-0, Temporary Modification Control, Ver. 6.6

Drawings

S54628, H44769

Condition Report

2010115453

Section 1R19: Post Maintenance TestingMaintenance Work Orders

1110042401, 1110070801, 1110070802, 2110108901, 1110125701, 1110321616, 1110321601, 1110321602,

Procedures

34SO-X41-001-1, Diesel Generator Building Ventilation System, Ver. 9.1

57SV-CAL-003-1, ATTS Transmitter Calibration, Ver. 19.13

34SV-SUV-019-1, Surveillance Checks, Ver. 33.41

34SV-C71-005-2, Turbine Control Valve Fast Closure Instrument Functional Test, Ver.14.8

52CM-MME-001-0, Packing Valves, Adjusting Packing, and Stroking Valves, Ver. 22.10

52CM-MME-013-0, Yarway Weldbond & Hancock Weld Valves Globe Valve Maintenance, Ver. 3.2

57SV-C32-003-1, Reactor High Water Level FT&C, Ver. 4.1

34SV-P41-001-1, Plant Service Water Pump Operability, Ver. 11.5

Drawing

H-16063, H-16145, H-19818, H-24728, H-16334, H-17843

Other

Control room logs

Unit 1 and Unit 2 Final Safety Analysis Report

DOEJ-HX2011103092-M001, Evaluate Operability Concerns Associated with Potential Magnet Ingestion into Plant Service Water Pump Suction

Condition Reports

2011100231, 2011100804, 2011101475, 2011101479, 2011101474, 2011102379, 2011103092, 2011102588, 2011102657

Section 1R20: Refueling and Outage Activities

Procedures

34GO-OPS-013-1/2, Normal Plant Shutdown

34AB-C71-001-2 Reactor Scram Procedure

34AB-G41-001-1, Loss of Fuel Pool Cooling

57SV-B21-020-2, Reactor Wide Rangel Level Indication calibration performed on 2/10/2009

DI-OPS-57-0393, Outage Safety Assessment

34FH-OPS-001-0, Fuel Movement Operation

42FH-ERP-014-0, Fuel Movement

DI-OPS-37-0889, Fuel Movement Rules

Other

Operating Logs

Technical Specification

Updated Final Safety Analysis Report

2R21 Maintenance & Refueling Outage Level 1 and Level 2 outage plan

Section 1R22: Surveillance Testing

Condition Reports

2011100965, 2011102006

Procedures

34SV-R43-012-2, Diesel Generator 1B 24 Month Operability Test, Ver. 3.0

34SV-E41-002-1, [High Pressure Coolant Injection] Pump Operability, Ver. 25.22

34SV-SUV-019-1, Surveillance Checks, Ver. 33.41

34SV-E41-002-2, [High Pressure Coolant Injection] Pump Operability, Ver. 30.23

34SV-E21-001-1, Core Spray Pump Operability, Ver. 19.0

34SV-C11-007-1, Control Rod Drive Notch Timing, Ver. 1.7

42EN-INS-002-0, Containment Leakage Testing Plan, Ver. 7.0

42SV-TET-001-0, LLRT Testing Methodology, Ver. 4.0

42SV-TET-001-2, Primary Containment Type B and Type C Leak Rate Testing, Ver. 32.0

42SV-TET-001-0, Local Leak Rate Test Data Sheet for 2B21-F077B, dated 3/29/2011

Section 1EP6: Drill Evaluation

EP Exercise Narrative and Timeline for drill conducted February 9

Drill event notification forms from drill conducted February 9

Section 4OA2: Identification and Resolution of Problems

Procedures

NMP-GM-002, Corrective Action Program, Ver. 11.0

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

Condition Report

2010116039, 2010100239, 2005110047, 2010112788, 2011100347,

Other

Control Room Logs

Section 4OA3: Event Follow-up

Condition Reports

2009111828, 2010109805

Documents

Standing Order S-2010-2, Normal Operation of MCR A/C Units and Resets of tripped MCR Chiller during emergency conditions

Procedures

34SO-Z41-001-1, Control Room Ventilation System, ver. 20.1

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

Calculation

SENH 92-133, Bus Transfer Study, Rev. 0 and Rev. 1