



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

May 4, 2018

Mr. Tom Vehec  
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 – NUCLEAR REGULATORY  
COMMISSION INTEGRATED INSPECTION REPORT 05000321/2018001  
AND 05000366/2018001**

Dear Mr. Vehec:

On March 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Edwin I. Hatch Nuclear Plant Units 1 and 2. On April 25, 2018, the NRC inspectors discussed the results of this inspection with Mr. Richard Spring and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. Further, inspectors documented a licensee-identified violation which was determined to be of very low safety significance in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement; and the NRC resident inspector at the Edwin I. Hatch Nuclear Plant Units 1 and 2.

T. Vehec

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This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

*/RA/*

Alan Blamey, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

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

Enclosure:  
IR 05000321/2018001, 05000366/2018001

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SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – NUCLEAR REGULATORY  
 COMMISSION INTEGRATED INSPECTION REPORT 05000321/2018001  
 AND 05000366/2018001 May 4, 2018

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**U.S. NUCLEAR REGULATORY COMMISSION  
Inspection Report**

Docket Numbers: 50-321, 50-366

License Numbers: DPR-57, NPF-5

Report Numbers: 05000321/2018001; and 05000366/2018001

Enterprise Identifier: 2018-001-0057

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch Nuclear Plant

Location: Baxley, Georgia

Inspection Dates: January 1, 2018 to March 31, 2018

Inspectors: C. Jones, Senior Resident Inspector  
M. Endress, Senior Resident Inspector  
P. Niebaum, Senior Resident Inspector  
A. Alen, Resident Inspector  
K. Miller, Resident Inspector  
N. Peterka, Fuel Facilities Inspector  
J. Viera, Operations Engineer  
B. Collins, Reactor Inspector (71111.08)  
R. Kellner, Senior Health Physicist (71124.08)  
W. Monk, Reactor Inspector  
W. Pursley, Health Physicist (71124.01)

Approved By: A. Blamey, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring licensee’s performance by conducting baseline inspections at Edwin I. Hatch, Units 1 and 2 in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC’s program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. NRC and self-revealed findings, violations, and additional items are summarized in the table below. Licensee-identified non-cited violations are documented in the Inspection Results section of the Report.

### List of Findings and Violations

Failure to comply with Type B shipping container Certificate of Compliance (CoC) requirements.			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Public Radiation Safety	NRC Identified Green Non-Cited Violation (NCV) 05000321, 366/2018001-01 Opened/Closed	Not Applicable	71124.08
An NRC Identified Green NCV of 10 Code of Federal Regulations (CFR) 71.17, General license: NRC-approved package, was identified for the licensee’s failure to comply with the Type B shipping container Certificate of Compliance (CoC) requirements. 10 CFR 71.17(c)(2) states, in part, that a holder of a General license to utilize an NRC-approved package shall ‘comply with the terms and conditions of the license, certificate, or other approval, as applicable, and the applicable requirements of subparts A, G, and H of this part’. Specifically, on several occasions the licensee placed in transit Type B containers which did not pass the CoC leak test requirement(s).			

## PLANT STATUS

Unit 1 began the inspection period at 94 percent rated thermal power (RTP) in the end of cycle coast down period. On February 4, 2018, operators shut down the unit for a scheduled refueling outage. The unit was restarted on March 4, 2018, and returned to 100 percent RTP on March 8, 2018. The unit operated at or near 100 percent RTP for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent RTP. On February 10, 2018, power was reduced to 75 percent RTP due to the loss of feedwater heating, and returned to 100 percent power on February 14, 2018. On February 14, 2018, power was reduced to 26 percent RTP due to the loss of one reactor recirculation pump. The unit returned to 100 percent RTP on February 16, 2018 and operated at or near 100 percent RTP for the remainder of the inspection period.

## INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards."

## REACTOR SAFETY

### 71111.01 - Adverse Weather Protection

#### Impending Severe Weather (1 Sample)

The inspectors evaluated readiness for impending adverse weather conditions for a winter snow storm on January 3, 2018.

### 71111.04 - Equipment Alignment

#### Partial Walkdown (4 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 1 – '1B' residual heat removal (RHR) train while the redundant train was out of service for maintenance on January 31, 2018
- (2) Unit 1 – Division II plant service water (PSW) following '1B' emergency diesel generator (EDG) service water piping replacement on February 21, 2018
- (3) Unit 1 – High-Pressure Coolant Injection (HPCI) following plant startup surveillance testing on February 26, 2018

(4) Unit 1 - Reactor Core Isolation Cooling (RCIC) following plant startup surveillance testing on February 26, 2018

Complete Walkdown (1 Sample)

The inspectors evaluated system configuration during a complete walkdown of the Unit 1 RHR System on March 8, 2018.

71111.05AQ - Fire Protection Annual/Quarterly

Quarterly Inspection (5 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Unit 1, Northeast Diagonal, Fire Zone 1205B
- (2) Unit 1, Steam Chase, Fire Zone 1203F
- (3) Unit 1, Drywell, Fire Zone 1201
- (4) 1C and 1B EDG Rooms, Fire Zones 1403 and 1407
- (5) PSW/ RHR service water intake structure, Fire Zone 0501.

71111.06 - Flood Protection Measures

Internal Flooding (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the Unit 1 condenser bay and station battery rooms on February 22, 2018.

71111.08 - Inservice Inspection Activities (1 Sample)

The inspectors evaluated boiling water reactor non-destructive testing by observing/reviewing the following examinations from February 5 – 9, 2018:

- (1) Ultrasonic Examination
  - a) 24" main steam system pipe-to-elbow and pipe-to-branch connection welds (1B21-1MS-24A-8, -8BC-1), American Society of Mechanical Engineers (ASME) Class 1 (observed)
  - b) 24" RHR system weld overlay dissimilar metal weld (1E11-1RHR-24A-R-12-13), ASME Class 1 (observed)
- (2) Magnetic Particle Examination
  - a) 24" RHR system welded attachment (1E11-1RHR-24A-R-6RL-1), ASME Class 1 (observed)
- (3) Liquid Penetrant Examination
  - a) Work Order (WO) 767568, 2" HPCI system pipe-to-valve and valve-to-pipe welds (1E41F111 valve replacement), ASME Class 2 (reviewed; associated with welding package, which was also reviewed).

## 71111.11 - Licensed Operator Requalification Program and Licensed Operator Performance

### Operator Requalification (1 Sample)

The inspectors observed and evaluated a crew of licensed operators in the plant's simulator during licensed operator requalification training on March 14, 2018.

### Operator Performance (1 Sample)

The inspectors observed and evaluated Unit 1 Reactor Operator performance during control rod scram testing, control rod insert/withdrawal timing, control rod drive flushing, and control rod manipulations during power ascension on February 23, 24, and 26, 2018.

## 71111.12 - Maintenance Effectiveness

### Routine Maintenance Effectiveness (1 Sample)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) Unit 2, Failure of adjustable speed drive (ASD) resulting in the 'B' recirculation pump trip on February 14, 2018.

## 71111.13 - Maintenance Risk Assessments and Emergent Work Control (4 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Unit 2 elevated risk due to 2B reactor recirculation pump trip while in operating Mode 1 at 100% RTP on February 14, 2018
- (2) Unit 1 elevated risk due to vessel plug installation on February 22, 2018
- (3) Unit 1 elevated risk due to indications discovered on the top guide assembly on February 23, 2018
- (4) Unit 1 elevated risk during the repair and subsequent return to service of the HPCI system after valve repairs were completed on March 22, 2018.

## 71111.15 - Operability Determinations and Functionality Assessments (3 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Unit 1 – incorrect weight of a motor operated valve in the HPCI system utilized in the piping design load calculations drawing on January 10, 2018
- (2) Unit 1 – 'A' train of the standby gas treatment system did not develop sufficient flow on January 26, 2018
- (3) Unit 1 – 'B' emergency diesel generator (EDG) cylinder liner o-rings are at the end of life on March 22, 2018.

#### 71111.18 - Plant Modifications (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Unit 1 'A' EDG jumpers for a Loss of Coolant Accident / Loss of Site Power (LOCA/LOSP).

#### 71111.19 - Post Maintenance Testing (6 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) NMP-ES-017-021, Motor Operated Valve (MOV) Diagnostic Procedure after repairs of the RHR heat exchanger bypass valve on February 19, 2018
- (2) 34SO-P41-001-1, Plant service water (PSW) system flow test after replacement of a PSW pipe on the 1B EDG on February 21, 2018
- (3) 34SV-T46-003-1, Standby gas treatment ventilation and operability test after seal replacement on February 20, 2018
- (4) 34SV-C41-001-1, U1 Standby Liquid Control monthly test following pump work on March 16, 2018
- (5) 34-SV-E51-002-2, RCIC Pump Operability test following work on barometric condenser on March 15, 2018
- (6) 51GM-MNT-055-0, Maintenance of Rockwell Edwards Tilting Disk Check Valves following maintenance on the U1 'A' RHR injection check valve on February 16, 2018.

#### 71111.20 - Refueling and Other Outage Activities (1 Sample)

The inspectors evaluated the Unit 1 refueling outage 1R28 activities from February 5, 2018 to February 28, 2018.

#### 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

##### Routine (4 Samples)

- (1) 34SV-R43-003-1, Diesel Generator 1C Monthly Test, Ver. 19.1
- (2) 42SV-R43-021-1, Diesel Generator 1A LOCA/LOSP Logic System Functional Test (LSFT), Ver. 14.0
- (3) 34SV-E41-005-1, HPCI Pump Operability 165 PSIG Test, Ver. 5.13
- (4) 34SV-E51-004-1, RCIC Pump Operability 150 PSIG Test, Ver. 5.9.

##### In-service (1 Sample)

- (1) 34SV-C41-003-1, Standby Liquid Control Injection Test, Ver. 12.0.

Containment Isolation Valve (1 Sample)

(1) 42SV-TET-001-0, Local Leak Rate Testing Testing Methodology, Ver. 12.1 on February 25, 2018.

71114.06 - Drill Evaluation

Emergency Planning Drill (1 Sample)

The inspectors evaluated a simulator based emergency scenario on March 14, 2018.

**RADIATION SAFETY**

71124.01 - Radiological Hazard Assessment and Exposure Controls

Radiological Hazard Assessment (1 Sample)

The inspectors evaluated radiological hazards assessments and controls.

Instructions to Workers (1 Sample)

The inspectors evaluated worker instructions.

Contamination and Radioactive Material Control (1 Sample)

The inspectors evaluated contamination and radioactive material controls.

Radiological Hazards Control and Work Coverage (1 Sample)

The inspectors evaluated radiological hazards control and work coverage.

High Radiation Area and Very High Radiation Area Controls (1 Sample)

The inspectors evaluated risk-significant high radiation area and very high radiation area controls.

Radiation Worker Performance and Radiation Protection Technician Proficiency (1 Sample)

The inspectors evaluated radiation worker performance and radiation protection technician proficiency.

71124.08 - Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

Radioactive Material Storage (1 Sample)

The inspectors evaluated the licensee's radioactive material storage.

#### Radioactive Waste System Walk-down (1 Sample)

The inspectors evaluated the licensee's radioactive waste processing facility during plant walkdowns.

#### Waste Characterization and Classification (1 Sample)

The inspectors evaluated the licensee's radioactive waste characterization and classification.

#### Shipment Preparations (1 Sample)

The inspectors evaluated the licensee's radioactive material shipment preparation processes.

#### Shipment Records (1 Sample)

The inspectors evaluated the licensee's non-excepted package shipment records.

### **OTHER ACTIVITIES – BASELINE**

#### 71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below for the period from January 2017 through December 2017 (6 Samples)

- (1) unplanned scrams per 7,000 critical hours, IE01, both units
- (2) unplanned power changes per 7,000 critical hours, IE03, both units
- (3) unplanned scrams with complications, IE04, both units.

#### 71152 - Problem Identification and Resolution

##### Annual Follow-up of Selected Issues (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) The inspectors conducted a detailed review of the licensee's N21 Feedwater system, specifically the feedwater heaters (FWH) on Units 1 and 2. Over the past year, the licensee has experienced two significant, but unrelated reactor down powers caused by issues with feedwater heating. Both down powers were caused by environmental and equipment issues from FWHs, but there was no common cause between the two plant transients. These issues were selected for review because although the feedwater system is not safety-related, a loss or significant reduction of feedwater heating can cause a significant change in core reactivity. Inspectors reviewed 14 condition reports (CR) related to FWHs material condition and plant down powers and also interviewed the N21 system engineer in order to identify any potential adverse trends in the system's material status as evidenced by any long-standing, non-conforming conditions. It was

determined that the licensee promptly identified the issues, evaluated the root causes, and have taken adequate corrective actions to prevent recurrence. The corrective actions of updating FWH equipment lineup and maintenance procedures, verifying the water and steam leak management program, and updating the welding repair inspection process were determined to adequately resolve the feedwater heating issues. Other documents reviewed by the inspectors included one-line and elementary diagrams, corrective action reports (CARs), and condition reports (CRs).

71153 - Follow-up of Events and Notices of Enforcement Discretion

Personnel Performance (1 Sample)

The inspectors evaluated the Unit 2 'B' Recirculation pump trip and subsequent downpower and licensee's performance on February 14, 2018.

**INSPECTION RESULTS**

Licensee Identified Non-Cited Violation	Report Section: 71124.01- Radiological Hazard Assessment and Exposure Controls
This violation of very low safety significant was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a Non-Cited Violation, consistent with Section 2.3.2 of the Enforcement Policy.	
<p>Violation: Hatch Nuclear Plant Technical Specification (TS) 5.7.2 states in part, areas with radiation levels greater than 1000 mRem/hr, measured at 30 cm from the radiation source or from any surface the radiation penetrates, but less than 500 Rads in 1 hour measured at 1 meter from the radiation source or from any surface that the radiation penetrates, shall be provided with locked or continuously guarded doors to prevent unauthorized entry.</p> <p>Contrary to the above, February 6, 2018, the licensee identified dose rates of 72 Rem/hr on contact, and 3.9 Rem/hr at 30 cm on the U-1 bottom head drain valve located in the 127 foot elevation of the Subpile room, in the Unit 1 Drywell. For approximately 4 hours, the entrance to the room was not locked or continuously guarded to prevent unauthorized entry as required by TS 5.7.2.</p> <p>Significance/Severity: The finding was of very low safety significance (Green) because it was not an as low as reasonably achievable (ALARA) planning issue, there was no overexposure nor potential for an overexposure, and the licensee's ability to assess dose was not compromised.</p> <p>Corrective Action Reference(s): The licensee identified and documented the failure to control access to the Lock High Radiation Area (LHRA) in Condition Report 10458608.</p>	

Title: Failure to comply with Type B shipping container Certificate of Compliance (CoC) requirements			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Public Radiation Safety	NRC Identified Green Non-Cited Violation (NCV) 05000321, 366/2018001-01 Opened/Closed	Not applicable	71124.08 - Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation
A Green NRC Identified NCV of 10 CFR 71.17, which addresses general licenses for NRC-approved packages, was identified for failure to comply with the package procedures relating to the use and maintenance of the packaging.			
<p><u>Description:</u> During review of completed shipping records provided by the licensee, NRC inspectors identified that documentation for a Type B radioactive shipping package, cask number 8-120B-4, used to transport Type B radioactive materials for radioactive shipment # 16-6001, did not meet the pre-shipment leak test inspection acceptance criteria specified in the CoC. Vendor procedure TR-TP-002, "Air Pressure Drop Test for Model 8-120B Cask", was used by the licensee to perform pre-shipment leak testing of the primary and secondary lid O-rings, and the vent port seal, to verify the integrity of the package. After identification by the NRC, investigation by the licensee determined that the documentation contained a transposition error and that the package had met the required acceptance criteria. However, further review of test documentation for shipments of Type B packages completed by the licensee since 2011 identified documentation for two previous shipments that did not meet the pre-shipment leak test inspection acceptance criteria specified in the CoC. Specifically, on November 8, 2012, less than required pressure was documented as being applied for cask number 8-120B-2S and on January 20, 2011, greater than acceptable leakage was documented for two of the three required tests of cask 8-120B-1S.</p> <p>Corrective Action(s): The licensee generated a condition report (CR) to capture the issue and the initial extent of condition review performed by the licensee identified two additional instances where documentation indicated pre-shipment leak tests had not met the acceptance criteria specified in the CoC. The licensee contacted site licensing and the cask vendor for assistance and guidance concerning potential NRC reporting requirements, and initiated a follow-up investigation to identify, develop, and implement appropriate corrective actions.</p> <p>Corrective Action Reference(s): The licensee entered this issue into their Corrective Action Program (CAP) as CR10462099.</p>			
<p><u>Performance Assessment:</u></p> <p>Performance Deficiency: The licensee's failure to identify and correct the leak test deficiencies of Type B shipping containers prior to placing them in transit, was a performance deficiency.</p> <p>Screening: The inspectors determined the performance deficiency was more than minor because it adversely affected the Plant Facilities/Equipment and Instrumentation attribute of the public radiation safety cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive material released into the public domain as a result of routine civilian nuclear reactor operations. Specifically, a procedure/document,</p>			

relating to the preparation, use, and maintenance of NRC approved Type B packaging was not properly implemented, and the package was shipped on a public highway.

**Significance:** The inspectors assessed the significance of the finding using Inspection Manual Chapter (IMC) 0609, Attachment 4, "Initial Characterization of Findings," dated October 7, 2016, and IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008. The issue was determined to be of very low safety significance (Green) in that the finding did not involve exceeding transportation radiation limits, there was no breach of the package during transit, and it was a CoC maintenance/use performance deficiency.

**Cross-cutting Aspect:** The inspectors determined that this finding did not involve a cross-cutting aspect because transcription error in the 2016 documentation is a minor violation and the violation for the 2011 and 2012 shipments is outside the nominal 3-year performance period, therefore it is not indicative of current licensee performance.

**Enforcement:**

**Violation:** 10 CFR 71.5(a) requires that a licensee who transports licensed material outside of the site of usage, as specified in the NRC license, or where transport is on public highways, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR Parts 107, 171-180, and 390-397.

10 CFR 71.17 states, in part, that a general license to transport licensed material, or to deliver licensed material to a carrier for transport, applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of subpart H of 10 CFR Part 71; has a copy of the CoC, or other approval of the package; and submits in writing to NRC, prior to the first use of the transport package, the licensee's name, license number, and package identification number specified in the package approval.

NRC CoC No. 9168, and vendor procedures TR-OP-035, "Handling Procedure for Transport Cask Model 8-120B CoC Number 9168," and TR-TP-002, "Pre-Shipment Leak Tests for 8-120B Cask CoC 9168," [previous revision titled "Air Pressure Drop Test for CNS 8-120B Cask"] delineates the required checks that cask users comply with in order to meet the license and CoC requirements, including pre-shipment leak testing of the primary and secondary lid O-rings, and the vent port seal, to verify the integrity of the package prior to shipment.

Contrary to the requirements of 10 CFR 71.17 identified above, on multiple occasions between January 2011 and June 2016, the licensee delivered shipping casks containing licensed material to a carrier for transport [Type B shipping casks containing Type B radioactive materials], that did not meet the CoC requirements for the shipping casks, in that satisfactory completion of pre-shipment leak testing of the containers was not satisfactorily completed as required.

**Enforcement Action(s):** This violation is being treated as a Non-Cited Violation, consistent with Section 2.3.2 of the Enforcement Policy.

## **EXIT MEETINGS AND DEBRIEFS**

The inspectors verified no proprietary information was retained or documented in this report.

The inspectors confirmed that proprietary information was controlled to protect from public disclosure.

- On April 25, 2018, the inspectors presented the quarterly baseline inspection results to Mr. Richard Spring, and other members of the licensee staff.

## **DOCUMENTS REVIEWED**

### **71111.01: Adverse Weather Protection**

#### Procedures:

34AB-Y22-002-0, Naturally Occurring Phenomena, Ver. 17.5  
NMP-OS-017, Severe Weather, Ver. 1.1

### **71111.04: Equipment Alignment**

#### Drawings:

H-16329 Sht. 1, R.H.R. System P&ID, Unit 1, Ver. 83.0  
H-16330 Sht. 2, R.H.R. System P&ID, Unit 1, Ver. 74.0

#### Documents:

Unit 1 Technical Specifications, Amendment 288

#### Procedures:

NMP-OS-010, Protected Train/Division and Protected Equipment Program, Ver. 8.0  
34SO-E11-010-1, Residual Heat Removal System, Ver. 44.14  
34SO-E41-001-1, High Pressure Coolant Injection (HPCI) System, Ver. 29.2  
34SO-E51-001-1, Reactor Core Isolation Cooling (RCIC) System, Ver. 30.0  
34SO-P41-001-1, Plant Service Water System, Ver. 36.14

#### Condition Reports:

10466499      10470300      10470305

### **71111.05AQ: Fire Protection Annual/Quarterly**

#### Drawings:

A-43965 Sht. 53A, NE RHR & Core Spray Room, Fire Zone 1205B, Rev. 2.0  
A-43966 Sht. 27A, Intake Structure, Fire Zone 0501, Rev. 2.0  
A-43965 Sht. 59B, North CRD Area, Fire Zone 1205F, Rev. 1.0  
A-43965 Sht. 58B, South CRD Area, Fire Zone 1203F, Rev. 2.0  
A-43965 Sht. 143B, Drywell/Torus, Fire Zone 1201, Rev. 1.0  
A-43966 Sht. 12B, Diesel Generator Room 1B, Fire Zone 1407, Ver. 3.0  
A-43966 Sht. 8B, Diesel Generator Room 1C, fire Zone 1403, Ver. 2.0

#### Documents:

Fire Protection Fire Hazards Analysis (FHA), Rev. 28.0

### **71111.06: Flood Protection Measures**

#### Documents:

Hatch Final Safety Analysis Report, Section 2.4, Rev. 35.0

### **71111.08: Inservice Inspection Activities**

#### Work Orders:

SNC767568, P3CAWO OBDN (IDO – CAR 263443) – Replacement Valve Needed 1E41F111,  
Rev. 0

#### Procedures:

NMP-MA-005-002, General Welding Standard for Pressure Boundary Applications, Ver. 5.3

NMP-MA-005, SNC Welding Program, Ver. 5.4  
PDI-UT-1, PDI Generic Procedure for the Ultrasonic Examination of Ferritic Pipe Welds, Rev. G  
PDI-UT-8, PDI Generic Procedure for the Ultrasonic Examination of Weld Overlaid Similar and Dissimilar Metal Welds, Rev. H  
GEH-UT-717, GE Hitachi: Procedure for the Examination of Reactor Pressure Vessel Nozzle Inside Radius Sections from the Outside Surface with Microtomo in accordance with Appendix VIII, Ver. 4  
GEH-UT-718, GE Hitachi: Procedure for the Examination of Reactor Pressure Vessel Nozzle Inside Radius Sections from the Outside Surface with Microtomo in accordance with Appendix VIII, Ver. 3  
GEH-UT-269, GE Hitachi: Procedure for Automated Phased Array Ultrasonic Examination of Weld Overlaid Dissimilar Metal and Austenitic Welds, Ver. 1  
NMP-ES-024-401, Magnetic Particle Examination, Ver. 11.0  
NMP-ES-024-502, PDI Generic Procedure for the Ultrasonic Examination of Ferritic Pipe Welds (Appendix VIII), Ver. 6.0  
NMP-ES-024-507, PDI Generic Procedure for the Ultrasonic Examination of Dissimilar Metal Pipe Welds (Appendix VIII), Ver. 5.0  
NMP-ES-024-301, Liquid Penetrant Examination Color Contrast and Fluorescent, Ver. 13.0

Documents:

HNP-34, Record of Welder Performance Qualification Test (Joiner), dated 1/14/2018  
N1068298, Weldstar Certificate of Compliance/Conformance, dated January 28, 2015  
T110A-1, Welding Procedure Specification, Rev. 3  
547-1, Procedure Qualification Record, dated 5-7-84  
510-1, Procedure Qualification Record, dated 2-3-84  
507-1, Procedure Qualification Record, dated 1-26-84  
0011041997, Exelon Generation Certificate of Calibration: IR Thermometer (SN 26990019), dated 07/18/2017  
Sonic Systems International, Inc. Certificate of Qualification: UT LII-L (Parker), dated 12-6-17  
Sonic Systems International, Inc. Vision Acuity Record (Parker), dated 10/21/2017  
GE Hitachi Certificate of Qualification: UT LIII (Rachal), dated 07/24/14  
GE Hitachi Vision Acuity Record (Rachal), dated 07/25/17  
Sonic Systems International, Inc. Certificate of Qualification: UT LIII-PDI (Blecha), dated 12-6-17  
Sonic Systems International, Inc. Vision Acuity Record (Blecha), dated 11/30/17  
GE Hitachi Certificate of Qualification: UT LII (Subido), dated 10/25/17  
GE Hitachi Vision Acuity Record (Subido), dated 04/21/17

**71111.11: Licensed Operator Requalification Program**

Documents:

Scenario H-LR-AF-00108, Ver. 2.0

Procedures:

34AB-C11-003-1, Inability to Move a Control Rod, Ver. 11.2  
34GO-OPS-001-1, "Plant Startup", Ver. 44.1  
34SV-C11-004-1, CRD Timing, Ver. 8.2  
42SV-C11-003-0, Control Rod Scram Testing, Ver. 11.0

**71111.12: Maintenance Effectiveness**

Documents:

(a)(1) or (a)(2) evaluation for the 2B Recirculation Pump trip caused by incorrect wiring on Relay 2B31K4B

Maintenance Rule Expert Panel 2018-03 Meeting Summary

NUMARC 93-01, Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Rev. 4A

Work Orders:

SNC486064

Condition Reports:

10461980

Procedures:

NMP-ES-027, Maintenance Rule Program, Ver. 7.0

**71111.13: Maintenance Risk Assessments and Emergent Work Evaluation**

Procedures:

NMP-OS-010-002, Hatch Protected Equipment Logs, Ver. 11.0

31GO-OPS-024-0, Outage Safety Assessment, Ver. 4.1

34AB-B31-001-2, Reactor Recirculation Pump(s) Trip, or Recirc Loops Flow Mismatch, or ASD Power Cell Failure, Ver. 11.0

34SV-E41-002-1, HPCI Pump Operability, Ver. 32.0

Condition Reports:

10461980      10462334      10462388      10462981

Documents:

Equipment Out of Service Calculations 2/14/2018

Work Orders:

SNC486064

SNC925688

**71111.15: Operability Determinations and Functionality Assessments**

Documents:

Operability Determination #1-18-001/0 and 2-18-001/0, 1B Emergency Diesel Generator exceeded grace period for cylinder liner o-ring replacement, 01/17/2018

Procedures:

NMP-AD-012, Operability Determinations and Functional Assessments, Ver. 13.3

Condition Reports:

10448521      10452309      10450503

**71111.18: Plant Modifications**

Documents:

42SV-R43-021-1, Diesel Generator 1A LOCA/LOSP LFST, Ver. 14.0

Procedures:

NMP-ES-054, Temporary Modifications, Ver. 3.1

NMP-ES-054-001, Temporary Modification Processing, Ver. 3.2

**71111.19: Post Maintenance Testing**

Condition Reports:

10452309      10462941

Procedures:

NMP-ES-017-021, MOV Diagnostic Procedure for VOTES Infinity, Ver. 2.1

NMP-MA-014-001, Post Maintenance Testing Guidance, Ver. 4.3

34SO-P41-001-1, Plant Service Water System, Ver. 36.14

34SV-C41-001-1, Standby Liquid Control Monthly Test, Ver. 10.1

34SV-E51-002-2, RCIC Pump Operability, Ver. 26.0

34SV-T46-003-1, Standby Gas Treatment Ventilation and Operability, Ver. 12.3

Drawings:

H-11600, P&ID for Service Water @ Diesel Generator Sheet 2, Unit 1, Ver. 37.0

Work Orders:

SNC766166, SNC852124, SNC852122, SNC850599, SNC850600

**71111.20: Refueling and Other Outage Activities**

Condition Reports:

10465324

Procedures:

31GO-OPS-024-0, Outage Safety Assessment, Ver. 4.1

34GO-OPS-001-1, Plant Startup, Ver. 44.1

34GO-OPS-013-1, Normal Plant Shutdown, Ver. 32.0

34GO-OPS-015-1, Maintaining Cold Shutdown or Refueling Condition, Ver. 15.0

34GO-OPS-065-0, Control Rod Movement, Ver. 13.2

52GM-MME-004-1, Reactor Vessel Reassembly, Attachment 2 - RPV Head Tensioning, Ver. 26.0

52GM-C11-001-0, CRD Removal and Installation, Ver. 7.0

**71111.22: Surveillance Testing**

Procedures:

34SV-C41-003-1, Standby Liquid Control Injection Test, Ver. 12.0

34SV-E41-005-1, HPCI Pump Operability 165 PSIG Test, Ver. 5.13

34SV-E51-004-1, RCIC Pump Operability 150 PSIG Test, Ver. 5.9

34SV-R43-003-1, Diesel Generator 1C Monthly Test, Ver. 19.1

34SV-R43-021-1, Diesel Generator 1A LOCA/LOSP LSFT, Ver. 14.0

42SV-TET-001-0, "LLRT Testing Methodology," Ver. 12.1

Condition Reports:

10459395

## **71114.06: Drill/Training Evaluation**

### Documents:

Scenario H-LR-AF-00108, Ver. 2.0

## **Section 71124.01: Radiological Hazard Assessment and Exposure Controls**

### Procedures, Guidance Documents, and Manuals

NMP-FLS-016-001, Control of Radiological Diving Operations, Ver. 1.2  
NMP-HP-206, Issuance, Use and Control of Radiation Work Permits, Ver. 4.3  
NMP-HP-300, Radiation and Contamination Surveys, Ver. 4.3  
NMP-HP-302, Restricted Area Classification, Postings, and Access Control, Ver. 9.1  
NMP-HP-302-001, Radiological Key Control, Ver. 2.11  
NMP-HP-302-002, Radioactive Material Labeling Instruction, Ver. 1.1  
NMP-HP-303, Personnel Decontamination, Ver. 3.1  
NMP-HP-304, Decontamination of Areas, Tools, and Equipment, Ver. 2.2  
NMP-HP-404, Release of Materials from the RCA and Protected Areas, Ver. 3.0  
NMP-HP-514, Operation of 3M Airmate Hood and PAPR Blower Unit, Ver. 1.1  
62RP-RAD-016-0, Control of High Radiation Areas, Ver. 35.1

### Records and Data

Air Sample Record for Air Sample Survey 18-036-4, U1 DW 127' Initial Entry, 02/05/2018  
Air Sample Record for Air Sample Survey 18-036, U1 Rx Head Removal, 02/06/2018  
Air Sample Record for Air Sample Survey 18-036-1, U1 DW Walkdown, 02/05/2018  
EI Hatch NSTS Annual Inventory Reconciliation Report, 01/17/2018  
NMP-HP-400, Control and Accountability of Radioactive Sources Inventory, Form 4,  
Radioactive Source Inventory, 09/13/2017  
SNC Refuel Outage H1R28 – Day 8 6-Hour Update and Morning Report, 02/14/218  
Radiological Survey # 153557, U1 Drywell 114 (DW114)  
Radiological Survey # 153625, U1 DW Subpile Room (1DW114Subpile)  
Radiological Survey # 152714, Plant Hatch U2 Turbine 130'  
Radiological Survey # 153117 SFP LHRA Surveillance (CRF228)  
Radiological Survey # 153118 SFP LHRA (CRF228)  
Radiological Survey # 153143, U1 LHRA Surveillance  
Radiological Survey # 153129, U2 LHRA Surveillance  
RWP No. 18-1602, Initial Entry Habitability/Surveys, Equipment Hatches, Vessel Hydro, Hot  
Torques & 900# Walkdown  
RWP No. 18-1611, DW – Radiological High Risk/Work Involving Removal or Exposure to  
Irradiated Material and High Rad Decon  
RWP No. 18-1614, Subpile Room Work – Carousel PMs/Repairs, Lighting, Cable Pulls and  
LPRMs/RPIS/Shootout Steel/CRD Mob/Demob  
RWP No. 18-1621, 1E11-F50A Inspection and Repair  
RWP No. 18-1206, High Rad Decon, Tri-Nukes/CRB/SRM/LPRM/RPIS, Fuel Inspections,  
Removal of Irradiated Material from the FSFP, Cavity and Dryer/Separator Pool  
RWP No. 18-1013, Diving Support, Torus Proper Hatches, Initial Entry, FME, Coating/Painting  
and Support Activities  
U1 R28 RP Refueling Floor Turnover Report, 02/13/2018  
62RP-RAD-055-0, Forms HPX-1191 and HPX-1192, Annual Inventory of U1/U2 Spent Fuel  
Pools, 10/18/2016

## Corrective Action Program (CAP) Documents

### Condition Reports (CRs)

10361645	10366149	10400988	10427565
10434861	10434929	10439137	10458608

### Corrective Action Reports (CARs)

270360  
271217  
271717  
272340

### Self-Assessments

Check-In Self-Assessment (CISA), High, Locked and Very High Radiation Area Access Control, 08/03/2017

## **Section 71124.08: Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation**

### Procedures, Guidance Documents, and Manuals

HNP PCP, Solid Radioactive Waste Process Control Program for Edwin I. Hatch Nuclear Plant, Ver. 5

NMP-GM-002, Corrective Action Program, Ver. 14.4

NMP-GM-002-001, Corrective Action Program Instructions, Ver. 36.1

NMP-HP-403, Control and Monitoring of Materials in Radiation Controlled Areas, Ver. 3.4

NMP-HP-405, Shipment of Radioactive Waste and Radioactive Material, Ver. 2.3 and 3.2

NMP-HP-405-001, Use of the Radman Program for Shipment of Radioactive Waste and Radioactive Material, Ver. 1.0

NMP-HP-406 Performing Surveys for Shipments of Radioactive Containers, Ver. 2.0

NMP-HP-407 Radioactive Materials - Additional Transportation Controls for Category 1 and 2 Quantities of Radioactive Materials, Ver. 3.2

NMP-HP-408, Solid Radioactive Waste Scaling Factor Determination and Implementation and Waste Classification, Ver. 2.0

NMP-HP-415, Storage of Radwaste in Outdoor Process Shields, Ver. 2.1

TR-OP-035, Handling Procedure for Transport Cask Model 8-120B Certificate of Compliance Number 9168, Ver. 27

TR-TP-002, Air Pressure Drop Test for Model 8-120B Cask, Ver. 17

TR-TP-002, Pre-Shipment Leak Tests for Model 8-120B Cask Certificate of Compliance 9168, Ver. 24

Vendor Manual, Cask Book for Model 8-120B USA/9168/B(U), Ver. 46 and 47

52IT-MNT-009-0, Inspection and Testing Procedure, Sea-Land Containers, Ver. 2.1

62RP-RAD-040-0, Resin Dewatering/Drying System, Ver. 8.4

62RP-RAD-049-0, Cask Handling for NRC Approved Type A 14-190 and/or 14-210 Casks, Ver. 1.1

62RP-RAD-050-0, Waste Separation and Temporary Storage Facility and Sealand Storage Facility, Ver. 4.0

### Records and Data

NRC Certificate of Compliance No. 9168, Docket 71-9168, USA/9168/B(U)-96, Rev. 21, 22, and 23

Certificate of Completion, Energy Solutions DOT/NRC Radioactive Waste Packaging, Transportation and Disposal Training [for three qualified shippers], 07/07/2016, 06/08/2017, and 10/26/2017

Leak Test Record, TR-TP-002, Appendix A 8-120B Air Leak Test Inspection Form, Cask Number 8-12B-2S, 11/08/2012

Radiological Survey # 152798, Protected Area Radiological Postings, 01/14/2018

Hatch Nuclear Plant Radioactive Material Shipment Logs for Calendar Years 2016 and 2017, various dates

Safety Analysis Report for Model 8-120B Type B Shipping Packaging, Rev. 9 and 11

10 CFR Part 61 Data, Waste Stream Characterization - Scaling Factors for U2 CUPS 2017, 05/30/2017

10 CFR Part 61 Data, Scaling Factor Analysis - U2 Torus Filters 2017, 03/07/2017

10 CFR Part 61 Data, 2017 Scaling Factor Analysis For: U1 CPS, U2 CPS and Dry Active Waste, 12/16/2016

#### Shipping Records

Shipment ID # 16-5004, (LSA-II) Resin Shipment, 03/24/2016

Shipment ID # 16-5012, (LSA-II) Resin Shipment, 10/13/2016

Shipment ID # 16-6001, Type B, Category 2 quantity, Resin Shipment, 06/30/2016

Shipment ID # 17-4009, (LSA-1) Dry Active Waste (DAW) Shipment, 03/08/2017

Shipment ID # 17-4015, (LSA-1) DAW Shipment, 01/02/2018

Shipment ID # 17-5013, (LSA-II) Resin Shipment, 08/11/2017

Shipment ID # 18-RW-007, (LSA-1) DAW Shipment, 02/14/2018

#### Corrective Action Program (CAP) Documents

##### Condition Reports (CRs)

10204360      10233035      10235869

10263771      10293159      10318523

10361645      10408152

#### Self-Assessments

Check-In Self-Assessment, Pre-NRC Inspection of Inspection Procedure 71124, Attachment 08, Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation, 12/12/2017

#### **71151: Performance Indicator Verification**

##### Procedures:

NMP-AD-029, Preparation and Reporting of Regulatory Assessment Performance Indicator Data and the Monthly Operating Report, Ver. 1.0

##### Documents:

NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 7.0

Unplanned Scrams Per 7,000 Critical Hours data, January – December 2017

Unplanned Power Changes Per 7,000 Critical Hours data, January – December 2017

#### **71152: Problem Identification and Resolution**

##### Condition Reports:

CR 10331226, U2 7A Feedwater Heater 2N21B005A Plug Required, 2/15/2017

CR 10334881, 12<sup>th</sup> Stage "A" FWH Drain Plug Leaking, 2/23/2017

CR 10363397, Unsat Welds on Manway Cap, 5/9/2017  
CR 10363974, Hatch U2 Reduced Power to 27% due to Environmental and Equipment Issues, 5/11/2017  
CR 10364401, Helium Leak Detection Procedure Changes, 5/12/2017  
CR 10366391, MPFF of the N21-01 Function – 4<sup>th</sup> Stage 2A FWH, 5/17/2017  
CR 10368063, Steam Leak on U2 “A” 4<sup>th</sup> Stage FWH Clamp,  
CR 10368759, Leak on 2A 4<sup>th</sup> Stage FWH Temporary Clamp, 5/24/2017  
CR 10402428, Water Leak on the 10<sup>th</sup> Stage FW Heater, 8/26/2017  
CR 10417512, Adhere to Design Documentation for 4<sup>th</sup> Stage FWH, 10/9/2017  
CR 10422705, 8<sup>th</sup> Stage FW Heater B004A Level Low Alarm, 10/24/2017  
CR 10457961, 1N36F009A (12<sup>th</sup> Stage A Extraction Check Valve) Not Fully Closed, 2/5/2018  
CR 10457962, 1N36F009B (12<sup>th</sup> Stage B Extraction Check Valve) Not Fully Closed, 2/5/2018  
CR 10457963, 1N36F009D (12<sup>th</sup> Stage D Extraction Check Valve) Not Fully Closed, 2/5/2018

**71153: Event Followup**

Condition Reports:

10461980