



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

February 8, 2022

EA-21-173

Mr. John Ferrick
Site Vice President
Entergy Operations, Inc.
17265 River Road
Killona, LA 70057

**SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – INTEGRATED
INSPECTION REPORT 05000382/2021004 AND EXERCISE OF
ENFORCEMENT DISCRETION**

Dear Mr. Ferrick:

On December 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Waterford Steam Electric Station, Unit 3. On January 18, 2022, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

Two findings of very low safety significance (Green) are documented in this report. One of these findings involved a violation of NRC requirements. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

A licensee-identified violation which was determined to be of very low safety significance is documented in this report. We are treating this violation as an NCV consistent with Section 2.3.2 of the Enforcement Policy.

A violation of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 37 with respect to large components containing category 2 quantities of radioactive material stored in robust structures was identified. However, Entergy Operations, Inc. met all the criteria in NRC Enforcement Guidance Memorandum 14-001, "Interim Guidance for Dispositioning 10 CFR Part 37 Violations with Respect to Large Components or Robust Structures Containing Category 1 or Category 2 Quantities of Material at Power Reactor Facilities Licensed Under 10 CFR Parts 50 and 52" for the use of enforcement discretion. Therefore, the NRC is exercising enforcement discretion (EA-21-173) and will not issue enforcement action for this violation. Additional details are contained in the enclosure.

If you contest the violations or the significance or severity of the violations documented in this inspection report, 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 IV; the Director, Office of Enforcement; and the NRC Resident Inspector at Waterford Steam Electric Station, Unit 3.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement 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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; and the NRC Resident Inspector at Waterford Steam Electric Station, Unit 3.

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,



Signed by Agrawal, Ami
on 02/08/22

Ami N. Agrawal, Chief
Reactor Projects Branch D
Division of Reactor Projects

Docket No. 05000382
License No. NPF-38

Enclosure:
As stated

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WATERFORD STEAM ELECTRIC STATION, UNIT 3 – INTEGRATED INSPECTION
 REPORT 05000382/2021004 AND EXERCISE OF ENFORCEMENT DISCRETION – DATED
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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 05000382

License Number: NPF-38

Report Number: 05000382/2021004

Enterprise Identifier: I-2021-004-0124

Licensee: Entergy Operations, Inc.

Facility: Waterford Steam Electric Station, Unit 3

Location: Killona, LA 70057

Inspection Dates: October 01, 2021 to December 31, 2021

Inspectors: R. Alexander, Regional State Liaison Officer
D. Antonangeli, Health Physicist
B. Baca, Health Physicist
S. Campbell, Senior Reactor Systems Engineer
D. Childs, Resident Inspector
L. Flores, Reactor Inspector
N. Greene, Senior Health Physicist
A. Patz, Senior Resident Inspector
A. Sanchez, Senior Project Engineer
C. Speer, Reactor Systems Engineer
R. Williams, Operations Engineer

Approved By: Ami N. Agrawal, Chief
Reactor Projects Branch D
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting an integrated inspection at Waterford Steam Electric Station, Unit 3, 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. A licensee-identified non-cited violation is documented in report section: 71124.05.

List of Findings and Violations

Failure to Periodically Calibrate Radiation Monitors			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Occupational Radiation Safety	Green NCV 05000382/2021004-01 Open/Closed	[P.2] - Evaluation	71124.05
The inspectors identified a Green NCV of 10 CFR 20.1501(c) for failure to periodically calibrate area, process, and effluent radiation monitoring equipment used to perform (e.g. dose rate and effluent monitoring) measurements. Specifically, on or around July 2006, the licensee began changing the periodic calibrations of process, effluent, and area radiation monitors without proper technical justification or documented bases.			

Failure to Incorporate Relevant Operating Experience when Closing Governor Valves			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05000382/2021004-02 Open	[P.5] - Operating Experience	71152
The inspectors reviewed a self-revealed Green finding for the licensee’s failure to appropriately incorporate relevant operating experience for troubleshooting the main steam governor valves. Specifically, the licensee failed to evaluate or incorporate a vendor bulletin per procedure EN-OE-100, “Operating Experience Program,” and therefore did not restrict reactor power to 75 percent power when closing one governor valve for troubleshooting. The higher vibrations from the higher reactor power level impacted a steam line drain which sheared and forced a rapid unit downpower.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
EDG	EA-21-173	Failure to Comply with Exemptions of 10 CFR 37 Requirements for the Monitoring, Detecting, and Assessment of a Robust Structure	71124.08	Closed

PLANT STATUS

The unit operated at or near rated thermal power for the entire 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 performed activities described in IMC 2515, Appendix D, "Plant Status," conducted routine reviews using IP 71152, "Problem Identification and Resolution," observed risk significant activities, and completed on-site portions of IPs. 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

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

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

- (1) Low pressure safety injection system train A while train B is inoperable due to planned maintenance on October 21, 2021
- (2) Emergency diesel generator B while train A is inoperable due to planned maintenance on December 6, 2021
- (3) Component cooling water system train A while train B is inoperable due to planned maintenance on December 14, 2021

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated system configurations during a complete walkdown of the auxiliary component cooling water system on November 18, 2021.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Fire area RAB 7-001, elevation +35.00' reactor auxiliary building relay room on October 19, 2021

- (2) Fire areas NS-TB-003, turbine building mezzanine +40.00 East, and NS-TB-004, turbine building mezzanine +40.00 west on October 25, 2021
- (3) Fire area RAB 36-001, elevation -35.00' safety injection pump room A on November 1, 2021
- (4) Fire area RAB 32-001, elevation -35.00 & -4.00 auxiliary component cooling water room and pipe penetration area on November 2, 2021

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Elevation +35.00' reactor auxiliary building relay room on December 16, 2021

71111.07A - Heat Sink Performance

Annual Review (IP Section 03.01) (1 Sample)

The inspectors evaluated readiness and performance of:

- (1) Seal cooler heat exchangers for high pressure safety injection pumps, low pressure safety injection pumps, and containment spray pumps on December 30, 2021

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during reactor trip circuit breaker testing on December 16, 2021.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the simulator that involved a steam line break inside containment and a containment spray pump trip on overcurrent on October 27, 2021.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (6 Samples)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) Maintenance Rule program (a)(3) assessment on November 19, 2021
- (2) Open phase isolation system on November 24, 2021
- (3) Plant protection system following a power supply failure on November 29, 2021
- (4) Auxiliary component cooling water system following transition from (a)(2) to (a)(1) on December 2, 2021

- (5) Qualified safety parameter display system following multiple failures on December 13, 2021
- (6) Component cooling water system train B on December 17, 2021

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Unplanned action statement entry for Technical Specification 3.7.6.3 and protected train swap from train B to train A while restoring operability to control room air handling unit B on October 4, 2021
- (2) Planned high risk during a containment entry with letdown isolated for reactor coolant system leak repair on October 8, 2021
- (3) Planned high risk during the transfer of 3AB/31AB buses from train A to train B (4160V safety related buses) on October 14, 2021
- (4) Planned high risk during the transfer of 3AB/31AB buses from train B to train A (4160V safety related buses) on November 9, 2021

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (7 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) Control room heating, ventilating, and air conditioning system operability following identification that valve testing was not performed as scheduled on October 4, 2021
- (2) Broad range gas monitor train B operability following multiple control room alarm indications of toxic gas on October 26, 2021
- (3) Emergency diesel generator B operability following failure to meet maximum tested demand on October 29, 2021
- (4) Permanent temporary emergency diesel generator operability when aligned to extend the allowed emergency diesel generator outage time after emergency diesel generator B was declared inoperable on October 29, 2021
- (5) Essential services chilled water train B operability following identification of blown fuse in static uninterruptible power supply on November 22, 2021
- (6) Dry cooling tower process radiation monitors functionality on December 3, 2021
- (7) Control element assembly's operability following identification of high coil voltages on December 9, 2021

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) EC-82602, essential chiller AB and B uninterruptible power supply modification on November 16, 2021
- (2) EC-78927, train A broad range gas monitor modification on December 30, 2021

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (8 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) Atmospheric dump valve A following replacement of upper and lower volume boosters and associated instrument air lines showing vibration wear on October 12, 2021
- (2) Shield building ventilation train B following the cleaning of a clogged differential pressure sensing line associated with the exhaust damper on October 20, 2021
- (3) Emergency diesel generator B following digital reference unit work performed on November 1, 2021
- (4) Emergency feedwater train A isolation and flow control valve following calibration on November 12, 2021
- (5) Dry cooling tower fan 6A motor vibration testing following tube bundle washing on December 6, 2021
- (6) Emergency diesel generator A room outside air intake damper following louver actuator replacement on December 9, 2021
- (7) Emergency feedwater steam generator 1 flow control valve following positioner replacement and calibration on December 9, 2021
- (8) Essential services chilled water chiller A following trip on low refrigerant pressure on December 10, 2021

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (4 Samples)

- (1) Control room heating, ventilating, and air conditioning system prior test on June 22, 2021
- (2) Auxiliary component cooling water pump A surveillance test on October 6, 2021
- (3) Containment spray train B system actuation test on October 18, 2021
- (4) Emergency diesel generator B surveillance test on October 28, 2021

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

- (1) The inspectors evaluated the following submitted Emergency Action Level and Emergency Plan changes.
 - Waterford Emergency Plan, Revision 52 (effective August 2, 2021)

- EP-001-001, Recognition and Classification of Emergency Conditions, Revision 35 (effective August 2, 2021, implementing NEI 99-01, Revision 6-based EALs, as approved by License Amendment No. 259, on May 19, 2021)
- EP-001-001, Recognition and Classification of Emergency Conditions, Revision 36 (effective August 2, 2021)
- W3F1-2021-0065, Waterford 3 Steam Electric Station Evacuation Time Estimate Sensitivity Study, Hurricane Ida Impact (dated September 20, 2021)

The evaluation of the documents does not constitute NRC approval.

71114.06 - Drill Evaluation

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

- (1) The inspectors observed and evaluated licensed operator performance in the simulator for Licensed Operator Requalification Training on November 18, 2021

RADIATION SAFETY

71124.02 - Occupational ALARA Planning and Controls

Implementation of ALARA and Radiological Work Controls (IP Section 03.03) (4 Samples)

The inspectors reviewed as low as reasonably achievable practices and radiological work controls for the following activities:

- (1) Radiation Work Permit (RWP) 20210001, "RADIATION PROTECTION: Perform Job Coverage, Routine Surveys, Inspections and Walkdowns," Revision 0, and RWP 20210003, "CHEMISTRY Department to perform sampling and analysis in all Radiologically Controlled Areas," Revision 1, during radiological online activities and low level waste building storm recovery activities.
- (2) RWP 20210002, "OPERATIONS personnel to perform various work activities in Radiologically Controlled Areas," Revision 1, during radiological online activities and storm recovery activities.
- (3) RWP 20210004, "MAINTENANCE activities in all Radiologically Controlled Areas," Revision 0, during radiological online and site activities, to include the low level waste building storm recovery activities.
- (4) ALARA planning and control activities associated with In-Core Instrumentation outage work activities for Refueling Outage 24 in 2022 (ALARA package RWP 20220708). In addition, an outage specific go-no-go criteria, with adjustments made through the ALARA committee, was reviewed.

Radiation Worker Performance (IP Section 03.04) (1 Sample)

- (1) The inspectors evaluated radiation worker and radiation protection technician performance during work activities.

71124.05 - Radiation Monitoring Instrumentation

Walkdowns and Observations (IP Section 03.01) (9 Samples)

The inspectors evaluated the following radiation detection instrumentation during plant walkdowns:

- (1) Area Radiation Monitors located within the reactor auxiliary building
- (2) Gem-5 Passive Radiation Monitors located at the primary access point
- (3) Portable ion chambers staged for use in the radiologically controlled area
- (4) Portable friskers used at the exit of the fuel handling building
- (5) Area Radiation Monitors located within the fuel handling building
- (6) Argos Personal Contamination Monitors located at the exit of the radiologically controlled area
- (7) Cronos-4 Small Article Monitor located at the exit of the radiologically controlled area
- (8) Fastscan Whole Body Counter located within the dosimetry building
- (9) High Purity Germanium Detectors located within the chemistry lab

Calibration and Testing Program (IP Section 03.02) (15 Samples)

The inspectors evaluated the calibration and testing of the following radiation detection instruments:

- (1) Fastscan Whole Body Counter, SN #13000002
- (2) Gem-5 Passive Monitor, HP-DS-084
- (3) Gem-5 Passive Monitor, HP-DS-088
- (4) Cronos-4 Small Article Monitor, HP-DS-093
- (5) Argos Personal Contamination Monitor, HP-DS-096
- (6) Tri-Carb 4910 Liquid Scintillation Counter, SN #SGL044201425
- (7) High Purity Germanium (HPGe) Detector, Detector #1
- (8) High Purity Germanium (HPGe) Detector, Detector #2
- (9) G5000W Alpha Beta Proportional Counter, SN #121601
- (10) Eberline AMS-4, HP-RD-300
- (11) Ludlum Model 9-3 Ion Chamber, CHP-DR-529
- (12) Containment High Range Area Radiation Monitor A, ARM-IRE-5400A
- (13) Containment High Range Area Radiation Monitor B, ARM-IRE-5400B
- (14) Fuel Handling Building Airborne Isolation Radiation Monitor, ARM-IR-0300.2
- (15) Containment Personnel Air Lock Area Radiation Monitor, ARM-IR-5018

Effluent Monitoring Calibration and Testing Program Sample (IP Sample 03.03) (2 Samples)

The inspectors evaluated the calibration and maintenance of the following radioactive effluent monitoring and measurement instrumentation:

- (1) Plant Stack Effluent Monitor, PRM-IR-0100.2
- (2) Fuel Handling Building Exhaust A, PRM-IR-5107A

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

Radioactive Material Storage (IP Section 03.01) (3 Samples)

The inspectors evaluated the licensee's performance in controlling, labeling and securing the following radioactive materials:

- (1) Source 101288, Cs-137 Radioactive Source in JL Shepherd Calibrator
- (2) Source 111288, Cs-137 Radioactive Source in JL Shepherd Calibrator
- (3) Drums of radioactive material and waste stored in the Low Level Radwaste Storage Building (LLRWSB)

Radioactive Waste System Walkdown (IP Section 03.02) (2 Samples)

The inspectors walked down the following accessible portions of the solid radioactive waste systems and evaluated system configuration and functionality:

- (1) Radwaste Compactor Building
- (2) Radwaste Solidification Building

Waste Characterization and Classification (IP Section 03.03) (3 Samples)

The inspectors evaluated the following characterization and classification of radioactive waste:

- (1) UN2916, Radioactive Material, Type B(U) package, Class 7 - Mixed Bead Resin (Package 19-1030)
- (2) UN3321, Radioactive Material, Low Specific Activity (LSA-II), Class 7, RQ-Radionuclides - Resin (Package 20-1005)
- (3) UN3321, Radioactive Material, Low Specific Activity (LSA-II), Class 7, RQ-Radionuclides - Resin (Package 20-1010)

Shipment Preparation (IP Section 03.04) (1 Sample)

- (1) The inspectors observed the preparation of radioactive shipment 21-3041, dated November 18, 2021.

Shipping Records (IP Section 03.05) (4 Samples)

The inspectors evaluated the following non-excepted radioactive material shipments through a record review:

- (1) Shipment 21-1001: UN2912, Radioactive Material, Low Specific Activity (LSA-I), Class 7
- (2) Shipment 21-1003: UN3321, Radioactive Material, Low Specific Activity (LSA-II), Class 7
- (3) Shipment 21-1007: UN2916, Radioactive Material, Type B(U) package, Class 7, Fissile-Excepted, RQ-Radionuclides
- (4) Shipment 21-1010: UN3321, Radioactive Material, Low Specific Activity (LSA-II), Class 7

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 02.10) (1 Sample)

- (1) October 1, 2020, through September 30, 2021

BI02: RCS Leak Rate Sample (IP Section 02.11) (1 Sample)

- (1) October 1, 2020, through September 30, 2021

EP01: Drill/Exercise Performance (DEP) Sample (IP Section 02.12) (1 Sample)

- (1) October 1, 2020 through September 30, 2021

EP02: Emergency Response Organization (ERO) Drill Participation (IP Section 02.13) (1 Sample)

- (1) October 1, 2020 through September 30, 2021

EP03: Alert And Notification System (ANS) Reliability Sample (IP Section 02.14) (1 Sample)

- (1) October 1, 2020 through September 30, 2021

71152 - Problem Identification and Resolution (PI&R)

Semiannual Trend Review (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensee's corrective action program for potential adverse trends in essential services chilled water chiller performance that might be indicative of a more significant safety issue.

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

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

- (1) Steam drain line break below governor valve No. 3 on December 11, 2020

INSPECTION RESULTS

Failure to Periodically Calibrate Radiation Monitors			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Occupational Radiation Safety	Green NCV 05000382/2021004-01 Open/Closed	[P.2] - Evaluation	71124.05

The inspectors identified a Green NCV of 10 CFR 20.1501(c) for failure to periodically calibrate area, process, and effluent radiation monitoring equipment used to perform (e.g. dose rate and effluent monitoring) measurements. Specifically, on or around July 2006, the licensee began changing the periodic calibrations of process, effluent, and area radiation monitors without proper technical justification or documented bases.

Description: Per NRC review of the licensee's pre-inspection self-assessment, LO-WLO-2021-0012, it identified that numerous radiation monitors included in Waterford 3's licensing basis were out compliance with federal regulations. The licensee conducted an adverse condition analysis on July 19, 2021 and cited a recent NRC identified violation as a missed opportunity to identify this out-of-compliance state for these detectors. Inspectors identified additional gaps in their corrective actions to address this noncompliance. At the time of inspection, the calibration frequency noncompliance had been identified four months prior to the inspection. However, the calibrations, and their associated frequencies, that would bring them into compliance are still awaiting approval. Since identification, nine of these radiation monitors have been calibrated but only due to regularly scheduled maintenance. Additionally, 29 of the 41 radiation monitors are still past due on their required calibration frequencies. There is still no justification for the current frequencies.

Upon NRC review of the adverse condition analysis, it identified that around July 2006, Waterford 3 started to increase these calibration frequencies for their radiation monitors due to the mis-categorizing of the monitors as non-critical. These radiation monitors' classifications were changed by work request 77057 in July 2006, AR 111079 (2011), AR125379 (2012), AR140232 (2012), AR141402 (2012), and AR180345 (2013). Due to this incorrect classification, the monitors could be extended multiple times without technical justification to support the corresponding change in calibration frequency.

Eight identified radiation monitors that had their calibration frequencies changed were process and effluent monitors. The requirements for these monitors are listed in the licensee's Final Safety Analysis Report (FSAR), Chapter 11, Section 5.2.5 states, in part, calibration is performed every 18 months or indication of equipment malfunction. In this case, 6 of these 8 calibrations frequencies were retired for their process monitors which means they no longer performed calibration on these process monitors. Additionally, one process and one effluent monitor had their frequencies extended to 3 and 5 years, respectively, from the required 18 months without proper technical justification.

In addition to the eight process and effluent monitors, thirty-three area radiation monitors had their calibration frequencies extended without proper technical justification. These frequencies were changed mostly from 3-year frequencies to 6.75 years as well as a couple having extensions to 9-year calibration frequencies. Area radiation monitors listed in the licensee's FSAR, Chapter 12, Table 12.3-2, and are used, in part, to (1) measure ambient gamma radiation and to indicate to operations personnel the ambient gamma radiation in specific areas of the plant, (2) announce and warn of abnormal radiation levels in specific areas of the plant, (3) provide base data in controlling access of personnel to radiation areas, (4) warn of uncontrolled or inadvertent movement of radioactive material in the plant, (5) provide local indication and alarms at key points where a substantial change in radiation levels might be of immediate importance to personnel frequenting the area, and (6) furnish information for making radiation surveys. Additionally, a specific note for these monitors in Table 12.3-2 of the FSAR points out these monitors are used by radiation protection during shutdown for personnel protection.

Upon review of calibration records, it was shown that 51 percent of these area radiation detectors required parameter adjustments or maintenance of some form at the end of their calibration frequency. The level of adjustments or maintenance does not support these extended calibration frequencies. The inspectors determined the preventative maintenance program, as described in licensee Procedure EN-DC-324, "Preventative Maintenance Program," Revision 26, does not prescriptively include the involvement of radiation protection within its program or process. By not including a member from the radiation protection organization during the calibration frequency change process for these radiation monitors, the licensee personnel implementing the changes failed to fully understand the radiation monitor functions, as described in the FSAR, and how they are related to Title 10 of the Code of Federal Regulations (10 CFR) Part 20, "Standards for Protection Against Radiation," Subpart F, "Surveys and Monitoring."

Corrective Actions: The licensee has evaluated this issue via an adverse condition analysis, which is addressed in this writeup. The licensee entered this additional information pertaining to the writeup in their corrective action program.

Corrective Action References: Condition Report CR-WF3-2021-06593

Performance Assessment:

Performance Deficiency: The licensee failed to periodically calibrate 41 of their area, process, and effluent radiation monitors in accordance with their requirements.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Plant Facilities/Equipment and Instrumentation attribute of the Occupational Radiation Safety cornerstone and adversely affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Additionally, the finding was similar to Example 6.b in Appendix E to Inspection Manual Chapter (IMC) 0612, "Examples of Minor Issues." This example states that an issue is more than minor if the performance deficiency had the potential to lead to a more significant radiation safety concern because of an ineffective radiation program barrier. Specifically, when recalibrated or response checked, the as-found condition of the instrument was not within acceptance criteria for the calibration. In this case, it was an ineffective radiation program barrier due to the process allowing maintenance to adjust these frequencies without any technical justifications. Furthermore, upon review, it was shown that 51 percent of these area radiation detectors required parameter adjustments or maintenance upon their next calibration.

Significance: The inspectors assessed the significance of the finding using Appendix C, "Occupational Radiation Safety SDP." The inspectors determined the finding had a very low safety significance (Green) because: (1) it was not associated with ALARA planning and work controls, (2) it was not an overexposure, (3) there was no potential for an overexposure; and (4) the ability to assess dose was not compromised.

Cross-Cutting Aspect: P.2 - Evaluation: The organization thoroughly evaluates issues to ensure that resolutions address causes and extent of conditions commensurate with their safety significance. Specifically, in this case, the licensee failed to identify the extent of conditions of a previous non-cited violation documented in CR-WF3-2019-07366.

Enforcement:

Violation: Title 10 CFR 20.1501(c) states, in part, the licensee shall ensure that instruments and equipment used for quantitative radiation measurements (e.g., dose rate and effluent monitoring) are calibrated periodically for the radiation measured.

Contrary to the above, beginning in July 2006, the licensee failed to ensure that monitors used for quantitative radiation measurements are calibrated periodically for the radiation measured. Specifically, the licensee began changing the periodic calibrations of these monitors without providing adequate technical justification for the change. As a result, 51 percent of the area radiation monitors required some form of maintenance at calibration, six of the process monitors had their calibrations canceled, and all monitors did not have proper technical justification to support the change in calibration frequency.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Licensee-Identified Non-Cited Violation	71124.05
<p>This violation of very low safety significance 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>	
<p>Violation: Title 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.</p>	
<p>Contrary to the above, from September 23, 2019 to July 19, 2021, the licensee failed to establish measures to assure that a condition adverse to quality was promptly identified and corrected. Specifically, during a self-assessment, the licensee identified a failure to adequately characterize and correct the conditions outlined in CR-WF3-2019-7366, which documented a non-cited violation for the failure to periodically calibrate emergency plan radiation monitors. Although the licensee corrected the radiation monitors specifically noted in the non-cited violation from 2019, they failed to ensure the calibration frequencies for additional, related radiation monitors, as described in Updated Final Safety Analysis Report (UFSAR) 11.5.2 for Continuous Process and Effluent Radiological Monitoring instruments and USFAR 12.3.4.1 for Area Radiation Monitoring System instruments, were being calibrated at required and committed frequencies. Nor did the licensee ensure that existing frequencies were justified through a sound technical assessment of performance. The radiation monitor calibration frequencies are described in numerous licensee documents, including the applicable UFSAR sections, the Offsite Dose Calculation Manual, the Technical Requirements Manual, the Technical Specifications, and/or plant procedures. As a result, the licensee failed to identify 41 radiation monitors which were not calibrated per associated calibration requirements and commitments.</p>	
<p>The licensee initiated corrective actions to perform a cause evaluation and develop corrective actions to address the conditions for all associated and affected radiation monitors.</p>	
<p>Significance/Severity: Green. The significance of the finding was assessed using IMC 0609, Appendix C, "Occupational Radiation Safety SDP," and because the finding was not: (1) related to as low as is reasonably achievable planning, (2) did not involve an overexposure, (3) did not involve a substantial potential for overexposure, and (4) the ability</p>	

to assess dose was not compromised, the finding was determined to be of very low safety significance (Green).

Corrective Action References: The condition was entered into the corrective action program as CR-WF3-2021-03832.

Enforcement Discretion	Enforcement Action EA-21-173: Failure to Comply with Exemptions of 10 CFR 37 Requirements for the Monitoring, Detecting, and Assessment of a Robust Structure	71124.08
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Description: During the 2012 refueling outage, the licensee removed old steam generator units and their old reactor vessel head from the containment building and transferred them to a large concrete storage module outside of the protected area. Although this waste material exceeded the threshold for a Category 2 quantity of radioactivity, it did not contain discrete radioactive sources, ion-exchange resins, or activated material that weighed less than 2,000 kg. Therefore, the steam generators and old reactor vessel head are considered waste material that is exempt from 10 CFR 37 Subparts B, C, and D, but must comply with the requirements of 10 CFR 37.11. The inspectors observed that some of these requirements were not met.

Corrective Actions: The licensee entered the issue into the corrective action program.

Corrective Action References: CR-WF3-2021-06611

Enforcement:

Severity/Significance: Minor

Violation: 10 CFR 37.11 requires, in part, minimal security requirements for a category 2 quantity of radioactive waste that is exempt from 10 CFR 37 Subparts B, C, and D. Contrary to the above, from March 19, 2014 (initial compliance date with 10 CFR 37) to the present, the licensee failed to meet the minimal security requirements for a category 2 quantity of radioactive waste that is exempt from 10 CFR 37 Subparts B, C, and D. Specifically, the licensee stored a category 2 quantity of exempt waste in a large concrete storage module without meeting all the security requirements of 10 CFR 37.11.

Discretion Basis: This violation met the criteria for Enforcement Discretion as described in Enforcement Guidance Memorandum (EGM) 14-001, "Interim Guidance for Dispositioning 10 CFR Part 37 Violations with Respect to Large Components or Robust Structures Containing Category 1 or Category 2 Quantities of Material at Power Reactor Facilities Licensed Under 10 CFR Parts 50 and 52."

Failure to Incorporate Relevant Operating Experience when Closing Governor Valves			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05000382/2021004-02 Open	[P.5] - Operating Experience	71152
The inspectors reviewed a self-revealed Green finding for the licensee's failure to appropriately incorporate relevant operating experience for troubleshooting the main steam governor valves. Specifically, the licensee failed to evaluate or incorporate a vendor bulletin per procedure EN-OE-100, "Operating Experience Program." and therefore did not restrict			

reactor power to 75 percent power when closing one governor valve for troubleshooting. The higher vibrations from the higher reactor power level impacted a steam line drain which sheared and forced a rapid unit downpower.

Description: On December 11, 2020, the licensee identified steam coming from the protective enclosure for the high-pressure turbine. The steam leakage rate quickly increased and started to affect reactor power. In response, the licensee performed a rapid downpower for Unit 3 down to Mode 3, Hot Standby. Upon inspection, the licensee found that the source of the leak was a sheared drain line pipe at a socket weld joint directly beneath governor valve 3.

After performing an apparent cause analysis, the licensee identified three primary causes of the failure. Cause 1 was that the vendor pipe weld was changed from the expected groove weld to be a socket weld. Socket welds cause a higher stress concentration. Cause 2 was assumed poor workmanship. Though the pipe shearing destroyed any firm evidence, the welds at the other three governor valves were found to be poor and therefore the destroyed weld was also assumed to be poor. Cause 3 was increased vibrations due to governor valve troubleshooting. The licensee maintained Unit 3 power at 89% when closing and troubleshooting one of the four governor valves.

In November 2020, governor valves 1 and 4 were exhibiting unexpectedly high oscillations. In order to troubleshoot, the licensee reduced power to 89 percent and closed the suspect governor valve. This power level was in accordance with licensee procedure, OP-903-007, "Turbine Inlet Valve Cycling Test." However, according to a vendor technical bulletin issued in 2014, the maximum power should be approximately 75 percent when the valves are closed for longer than one hour in order to limit high vibrations in the turbine skid. This lower power would maintain the same steam flow through the other three governor valves with one valve closed as the valves would experience at 100 percent power and all four valves open. By operating the plant at 89 percent power and therefore at a higher steam flow through each governor valve, vibrations in the entire turbine valve skid increased and caused fatiguing of the drain line piping. The licensee was aware of the 2014 vendor technical bulletin and did identify higher vibrations in the main turbine bearings during the troubleshooting. However, the vibrations did not exceed procedural limitations and therefore the licensee did not reduce reactor power. The licensee maintained the plant in this high flow condition for approximately 69 hours.

The licensee procedure to examine relevant operating experience at the time of the vendor bulletin issuance was EN-OE-100, "Operating Experience Program," Revision 20. EN-OE-100 stated, in part, that when industry sources identify a condition that has an impact, condition reports are generated to provide for evaluations and corrective action plans. The licensee was unable to identify any record of the relevant vendor bulletin in the station's corrective action program.

Corrective Actions: The licensee's immediate actions were to fix the failed weld. The licensee also performed nondestructive evaluation of the other similar three governor valve drain welds. No flaws were identified. All four welds were then modified to improve fatigue performance. The licensee incorporated the vendor bulletin into OP-903-007 to preclude maintaining reactor power greater than 75 percent power if one of the governor valves is expected to be closed for more than an hour. The licensee screened for other vendor bulletins that may be applicable. To limit the effects of vibrations on pipe stress, the licensee is also evaluating adding pipe supports to the drain lines.

Corrective Action References: CR-WF3-2020-7058

Performance Assessment:

Performance Deficiency: The failure to establish appropriate power limits as recommended by the vendor was a performance deficiency.

The failure to adequately evaluate and incorporate vendor recommend guidance for establishing power levels for closing one governor valve. Specifically, the licensee failed to implement EN-OE-100, "Operating Experience Program," Revision 20, and evaluate and incorporate vendor recommended guidance to set reactor power limits for closing one governor valve at power.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Procedure Quality attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination process (SDP) for Findings At-Power." Using IMC 0609, Appendix A, Exhibit 1, "initiating Events Screening Questions," the inspectors determined the finding to be of very low safety significance (Green) because the steam break did not cause a loss of mitigation equipment relied upon to transition the plant to a stable shutdown condition.

Cross-Cutting Aspect: P.5 - Operating Experience: The organization systematically and effectively collects, evaluates, and implements relevant internal and external operating experience in a timely manner. The licensee chose not to implement relevant external operating experience and guidance from the vendor. As a result, the governor valve drain pipe experienced high stress and failed.

Enforcement: Inspectors did not identify a violation of regulatory requirements associated with this finding.

EXIT MEETINGS AND DEBRIEFS

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

- On November 18, 2021, the inspectors presented the Radiation Safety inspection results to Mr. B. Lindsey, Regulatory Assurance Performance Improvement Manager, and other members of the licensee staff.
- On January 4, 2022, the inspectors presented the EP performance indicator verification and Emergency Plan/EAL change review inspection results to J. Overly, Manager, Emergency Preparedness, and other members of the licensee staff.
- On January 18, 2022, the inspectors presented the integrated inspection results to John Ferrick and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.04	Drawings	G160 Sheet 1	Flow Diagram Component Closed Cooling Water System	50
71111.04	Drawings	G160 Sheet 2	Flow Diagram Component Closed Cooling Water System	53
71111.04	Drawings	G160 Sheet 3	Flow Diagram Component Closed Cooling Water System	32
71111.04	Drawings	G160 Sheet 4	Flow Diagram Component Closed Cooling Water System	17
71111.04	Drawings	G160 Sheet 5	Flow Diagram Component Closed Cooling Water System	22
71111.04	Drawings	G160 Sheet 6	Flow Diagram Component Closed Cooling Water System	16
71111.04	Procedures	OP-002-003	Component Cooling Water	321
71111.04	Procedures	OP-009-002	Emergency Diesel Generator	359
71111.04	Procedures	OP-009-008	Safety Injection System	46
71111.05	Fire Plans	NS-TB-003	Turbine Building Mezzanine +40.00 East	1
71111.05	Fire Plans	NS-TB-004	Turbine Building Mezzanine +40.00 West	1
71111.05	Fire Plans	RAB 32-001	Auxiliary Component Cooling Water Room and Pipe Penetration Area -4.00, -35.00 RAB	10
71111.05	Fire Plans	RAB 36-001	Safety Injection Pump Room "A" -35.00 RAB	9
71111.05	Fire Plans	RAB 7-001	Elev. +35.00' RAB Relay Room	12
71111.06	Calculations	EC-F00-013	Hydraulic Calculation of Suppression System FPM-29	2
71111.06	Calculations	MNQ3-5	Flooding Analysis Outside Containment	6
71111.06	Drawings	G322 Sheet 9	Cable Vault & Electrical Equipment Room Sections & Details Sh.9	9
71111.06	Engineering Changes	EC-0000038535	+35 Relay Room Flooding Added to MNQ3-5	08/14/2012
71111.07A	Calculations	EC-M97-001	Component Cooling Water Flow to the HPSI/LPSI Pumps	0
71111.07A	Miscellaneous	ER-W3-2001-1125-000	CCW Monitoring Plan	0
71111.07A	Miscellaneous	ER-W3-2001-1125-001	CCW Monitoring Plan clarifications	0
71111.07A	Miscellaneous	W3-DBD-001	Safety Injection System Design Basis Document	305
71111.07A	Miscellaneous	W3-DBD-013	Containment Spray System Design Basis Document	302
71111.07A	Procedures	CE-002-007	Maintaining Component Cooling Water Chemistry	310
71111.07A	Procedures	PE-001-015	Generic Letter 89-13 Heat Exchanger Test Basis	5
71111.07A	Procedures	PE-004-024	ACCW & CCW System Flow Balance	308

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.07A	Procedures	SEP-HX-WF3-001	Generic Letter 89-13 Heat Exchanger Test Basis	0 and 1
71111.11Q	Procedures	EP-001-001	Recognition and Classification of Emergency Conditions	36
71111.11Q	Procedures	OP-903-107	Plant Protection System Functional Test	317
71111.12	Corrective Action Documents	CR-WF3-YYYY-NNNN Condition reports generated following maintenance on component cooling water train B	2021-07027, 2021-07075, 2021-07079	
71111.12	Corrective Action Documents	CR-WF3-YYYY-NNNN	2021-02446, 2021-02757, 2021-02795, 2021-02895, 2021-02951, 2021-02952, 2021-03164, 2020-07373, 2020-03189, 2020-06696, 2020-04736, 2019-05281, 2019-04383, 2021-01707	
71111.12	Corrective Action Documents Resulting from Inspection	CR-WF3-YYYY-NNNN No preventive maintenance planned for vendor recommended testing of open phase system	2021-06829	12/06/2021
71111.12	Engineering Changes	EC 52305	Design Change to Detect Open Phase Condition on Primary Side of Startup Transformers A and B	6/25/2015
71111.12	Engineering Changes	EC-0000083893	CYCLE 23, REFUEL 23 MAINTENANCE RULE (A)(3) PERIODIC ASSESSMENT	02/25/2021
71111.12	Miscellaneous	TD-P517.0015	PCS2000 Open Phase Detection System Vendor Manual	1
71111.12	Procedures	EN-DC-203	Maintenance Rule Program	5
71111.12	Procedures	EN-DC-203	Maintenance Rule Program	4
71111.12	Procedures	EN-DC-204	Maintenance Rule Scope and Basis	5

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.12	Procedures	EN-DC-204	Maintenance Rule Scope and Basis	6
71111.12	Procedures	EN-DC-205	Maintenance Rule Monitoring	8
71111.12	Procedures	EN-DC-205	Maintenance Rule Monitoring	7
71111.12	Procedures	EN-DC-207	Maintenance Rule Periodic Assessment	4
71111.12	Procedures	ME-004-071	Startup Transformer	323
71111.12	Procedures	OP-600-035	Alarm Response Procedure for Main Transformer, Unit Auxiliary Transformer, Startup Transformer Local Panel	19
71111.12	Procedures	PE-004-024	ACCW & CCW System Flow Balance	308
71111.12	Work Orders	Work orders for component cooling water train B outage	00559313, 52924292, 52930183, 52988813	12/17/2021
71111.13	Procedures	EN-OP-119	Protected Equipment Postings	14
71111.13	Procedures	EN-WM-104	On Line Risk Assessment	44
71111.13	Procedures	OP-002-005	Chemical and Volume Control	69
71111.13	Procedures	OP-006-001	Plant Distribution (7KV, 4KV and SSD) System	341
71111.13	Work Orders		52783895, 52919862, 00567589, 567999-01	
71111.15	Corrective Action Documents	CR-WF3-2021-05431	OP-903-119 Section 5.1 HVC ISI Valve Test was not performed as scheduled on 10/4/2021	10/18/2021
71111.15	Corrective Action Documents	CR-WF3-2021-05818	Dry cooling tower sump #1 radiation monitor non-functional	10/21/2021
71111.15	Corrective Action Documents	CR-WF3-2021-05875	Received unexpected annunciator for toxic gas detected	10/24/2021
71111.15	Corrective Action Documents	CR-WF3-2021-06010	EDG B could not be raised to 110% of design basis load	10/29/2021
71111.15	Corrective Action Documents	CR-WF3-2021-06909	Essential chiller A tripped	12/10/2021
71111.15	Corrective Action Documents	CR-WF3-2021-06924	Unexpected annunciator for control element drive mechanism control system timer failure alarm	12/09/2021
71111.15	Corrective Action Documents	CR-WF3-YYYY-NNNN	2021-05238, 2021-05322, 2021-06180, 2021-06194, 2021-06234, 2021-05698, 2021-05700, 2021-05711	
71111.15	Corrective Action Documents Resulting from	CR-WF3-2021-06132	Control room heating, ventilating, and air conditioning system in-service testing relief was not not requested	11/03/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Inspection			
71111.15	Corrective Action Documents Resulting from Inspection	CR-WF3-2021-06133	General assumptions were no longer accurate after incorporation of updated code case	11/03/2021
71111.15	Drawings	G8532302	HVAC Air Flow Diagram Control Room	2
71111.15	Drawings	G853SH22	HVAC Air Flow Diagram Control Room	7
71111.15	Miscellaneous		FSAR Section 6.4 CR Air Conditioning	10
71111.15	Miscellaneous		Waterford 3 Position Paper on TS Amendment 250 (TSTF-545) Implementation	09/16/2017
71111.15	Miscellaneous	FSAR Section 9.4.1	CONTROL ROOM AIR CONDITIONING SYSTEM	310
71111.15	Miscellaneous	PSA-WF3-01	WF3 Internal Events PSA Model Summary Report	2
71111.15	Miscellaneous	W3-DBD-038	Safety Related HVAC - Control Room Design Basis Document	301
71111.15	Procedures	8002201-FTP-GOV	Factory Test Procedure for Governor Equipment	2
71111.15	Procedures	EN-EP-202	Equipment Important to Emergency Response (EITER)	3
71111.15	Procedures	EN-OP-104	Operability Determination Process	17
71111.15	Procedures	MI-003-504	Broad Range Gas Detection System Channel Function Test and Calibration HVCIA5510 A or HVCIA5510 B	316
71111.15	Procedures	OP-006-010	TEDG Operations	1
71111.15	Procedures	OP-100-014	Tech Spec and Tech Requirements Compliance	358
71111.15	Procedures	OP-901-315	TEDG Emergency Start	1
71111.15	Procedures	OP-903-001	Technical Specification Surveillance Logs	90
71111.15	Procedures	OP-903-068	Emergency Diesel Generator and Subgroup Relay Operability Verification	326
71111.15	Procedures	OP-903-119	Secondary Auxiliaries Quarterly IST Valve Test	36
71111.15	Work Orders		558595	
71111.18	Engineering Changes	EC-82601, EC-82602, WO 00544077-07	Essential Chiller Control Panel WC-1 (3B-SB) and WC-1 (3C-SAB) UPS	11/16/2021
71111.19	Drawings	1564-7398	OPP & PAR Blade Damper with Ext Linkage DA-2-7402	4
71111.19	Miscellaneous	W3-DBD-002	Emergency Diesel Generator & Automatic Load Sequencer	306

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Design Basis Document	
71111.19	Procedures	EN-MA-143	Use of Viper or Votes Infinity Air Operator Valve Diagnostics	13
71111.19	Procedures	OP-002-004	Chilled Water System	322
71111.19	Procedures	OP-903-043	Shield Building Ventilation System Operability Check	316
71111.19	Procedures	OP-903-118	Primary Auxiliaries Quarterly IST Valve Tests	61
71111.19	Procedures	OP-903-120	Containment and Miscellaneous Systems Quarterly IST Valve Tests	35
71111.19	Procedures	OP-903-121	Safety Systems Quarterly IST Valve Tests	35
71111.19	Procedures	OP-903-124	CVAS Pressure Boundary Testing	307
71111.19	Work Orders		449514, 52927045, 00569649, 52978821, 00571637	
71111.22	Calculations	NOSG-LPL-90-01	Control Room Habitability	01/04/1991
71111.22	Procedures	MM-003-045	Control Room Air Conditioning System Surveillance	316
71111.22	Procedures	OP-903-036	Containment Spray Actuation Signal Test	308
71111.22	Procedures	OP-903-050	Component Cooling Water and Auxiliary Component Cooling Water Pump and Valve Operability Test	43
71111.22	Procedures	OP-903-068	Emergency Diesel Generator and Subgroup Relay Operability Verification	326
71111.22	Procedures	OP-903-116	Train B Integrated Emergency Diesel Generator/Engineering Safety Features Test	55
71111.22	Work Orders	WO-WF3-52965875-01	OP-903-119 Sect. 5.1 Perform HVC ISI Valve Test	06/22/2021
71114.04	Miscellaneous		10CFR50.54(Q)(3) Screening – EP-001-001, Recognition and Classification of Emergency Conditions, Rev. 35	07/28/2021
71114.04	Miscellaneous		10CFR50.54(Q)(3) Screening – EP-001-001, Recognition and Classification of Emergency Conditions, Rev. 36	07/28/2021
71114.04	Miscellaneous		10CFR50.54(Q)(3) Screening – Waterford 3 Emergency Plan, Rev. 52	07/27/2021
71114.04	Miscellaneous		10CFR50.54(Q)(3) Screening (Change 19) – Waterford 3 Emergency Plan, Rev. 52	07/27/2021
71114.04	Miscellaneous		10CFR50.54(Q)(3) Evaluation (Changes 13-15, 20, 27-30, 48, 53, 56, & 57) – Waterford 3 Emergency Plan, Rev. 52	07/29/2021
71114.04	Miscellaneous		10CFR50.54(Q)(3) Evaluation (Change 19) – Waterford 3 Emergency Plan, Rev. 52	07/27/2021
71114.04	Miscellaneous		10CFR50.54(Q)(3) Evaluation – WF3 SES Evacuation Time	9/8/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Estimate Sensitivity Study, Hurricane Ida Impact	
71114.04	Miscellaneous	W3F1-2021-0065	Waterford 3 Steam Electric Station Evacuation Time Estimate Sensitivity Study, Hurricane Ida Impact	09/20/2021
71114.04	Procedures	EN-EP-305	Emergency Planning 10CFR50.54(q) Review Program	8
71114.04	Procedures	EP-001-001	Recognition and Classification of Emergency Conditions	35
71114.04	Procedures	EP-001-001	Recognition and Classification of Emergency Conditions	36
71124.02	ALARA Plans	20220708	Refuel 24: In-Core Instrument (ICI) Removal/Installation/Cut up of ICIs, Work on ICI Equipment, Replacement Swagelok Bodies, and Heated Junction Thermocouple (HJTC) Work Activities	0
71124.02	Corrective Action Documents	CR-WF3-YYYY-XXXXX	2021-01251, 2021-01493, 2021-02285, 2021-02400, 2021-05550	
71124.02	Miscellaneous		Plan Of the Day: Waterford 3 Daily ALARA Report	11/16/2021
71124.02	Miscellaneous		Waterford 3 Refueling Outage 22: Post Outage ALARA Report	
71124.02	Miscellaneous		Waterford 3 Refueling Outage 23: Post Outage ALARA Report	
71124.02	Miscellaneous		Waterford 3 Abbreviated 5-Year Exposure Reduction Plan: 2021 - 2025	0
71124.02	Miscellaneous		Waterford 3 Site Dose Totals Online/Outage for 2018-2020	
71124.02	Miscellaneous	TSR-17-01	Temporary Shielding Request: Shadow Shield around Dewatering Tank in the RadWaste Services Building	11/14/2017
71124.02	Procedures	EN-RP-102	Radiological Control	7
71124.02	Procedures	EN-RP-105	Radiological Work Permits	19
71124.02	Procedures	EN-RP-110	ALARA Program	14
71124.02	Procedures	EN-RP-110-01	ALARA Initiative Deferrals	1
71124.02	Procedures	EN-RP-110-03	Collective Radiation Exposure (CRE) Reduction Guidelines	4
71124.02	Procedures	EN-RP-110-04	Radiation Protection Risk Assessment Process	8
71124.02	Procedures	EN-RP-110-06	Outage Dose Estimating and Tracking	1
71124.02	Procedures	HP-001-114	Technical Procedure Control of Temporary Shielding	17
71124.02	Radiation Work Permits (RWPs)	202010004	Maintenance Activities in all Radiologically Controlled Areas	0
71124.02	Self-Assessments		Waterford 3 Annual Radiation Protection Program Report: 2020	02/24/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71124.02	Self-Assessments	LO-WLO-2021-00012	Occupational ALARA Planning and Controls - Waterford 3 Steam Electric Station	07/19/2021
71124.02	Self-Assessments	QA-14/15-2021-W3-01	Combined Radiation Protection and Radwaste Audit	10/25/2021
71124.05	Calibration Records		GEM-5 Passive Radiation Monitor, HP-DS-084	07/19/2021
71124.05	Calibration Records		GEM-5 Passive Radiation Monitor, HP-DS-088	07/12/2021
71124.05	Calibration Records		CRONOS-4 Small Article Monitor, HP-DS-093	07/13/2021
71124.05	Calibration Records		ARGOS Personal Contamination Monitor, HP-DS-096	05/19/2021
71124.05	Calibration Records		G5000W-A Alpha/Beta Proportional Counter Standard One Analysis Report	11/10/2021
71124.05	Calibration Records		High Purity Germanium Detector #2 Efficiency Verification Worksheet	05/05/2020
71124.05	Calibration Records		High Purity Germanium Detector #1 Efficiency Verification Worksheet	05/14/2020
71124.05	Calibration Records		Tri-Carb 4910 liquid scintillation counter quench curve	11/01/2020
71124.05	Calibration Records		Fastscan Whole Body Counter, SN #13000002	06/02/2021
71124.05	Calibration Records		Ludlum Model 9-3 Ion Chamber, CHP-DR-529	04/15/2021
71124.05	Calibration Records		Eberline AMS-4, HP-RD-300	09/29/2020
71124.05	Calibration Records	WO-WF3-52370443	Area Radiation Monitor, ARMIR5018	10/24/2020
71124.05	Calibration Records	WO-WF3-52780184	Containment High Range Radiation Monitor, ARMIR5400A	01/29/2019
71124.05	Calibration Records	WO-WF3-52781284	Containment High Range Radiation Monitor, ARMIR5400B	01/21/2019
71124.05	Calibration Records	WO-WF3-52803287	Fuel Handling Building Ventilation Area Isolation Radiation Monitor, ARMIR300.2	07/18/2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71124.05	Calibration Records	WO-WF3-52878303	Plant Vent Stack Safety Channel B Particulate and Gaseous Radiation Monitor, PRMIR0100.2	01/19/2021
71124.05	Calibration Records	WO-WF3-52882477	Purge Isolation Area Radiation Monitor, ARMIR5027	10/22/2020
71124.05	Calibration Records	WO-WF3-52882522	Containment High Range Radiation Monitor, ARMIR5400B	10/19/2020
71124.05	Calibration Records	WO-WF3-52891699	Fuel Handling Building Ventilation Area Isolation Radiation Monitor, ARMIR0300.2	01/11/2021
71124.05	Calibration Records	WO-WF3-52921908	Purge Isolation Area Radiation Monitor, ARMIR5027	08/17/2021
71124.05	Corrective Action Documents	CR-WF3-YYYY-NNNN	2019-07366, 2019-07469, 2019-08495, 2019-08554, 2019-08783, 2020-00881, 2020-01083, 2020-01533, 2020-01879, 2020-03038, 2020-03063, 2020-04019, 2020-04501, 2020-05171, 2020-05621, 2020-07298, 2021-200377, 2021-00730, 2021-01249, 2021-01276, 2021-01554, 2021-202644, 2021-02839, 2021-03832, 2021-03858, 2021-03862, 2021-03864, 2021-03868, 2021-04102, 2021-04484, 2021-05818, 2021-05472	
71124.05	Corrective Action Documents Resulting from Inspection	CR-WF3-YYYY-NNNN	2021-06490, 2021-06579, 2021-06593, 2021-06594	
71124.05	Miscellaneous		Technical Requirements Manual	168
71124.05	Procedures	EN-CY-102	Laboratory Analytical Quality Control	16
71124.05	Procedures	EN-DC-324	Preventive Maintenance Program	26
71124.05	Procedures	EN-RP-317-10	Calibration of Portable Dose Rate Instruments	2
71124.05	Procedures	EP-001-001	Recognition and Classification of Emergency Conditions	36
71124.05	Procedures	MI-003-360	Containment High Range Safety Channel A or B Area Radiation Monitor Calibration ARMIR5400 A or ARMIR5400 B	309
71124.05	Procedures	MI-003-368	Fuel Handling Building Ventilation System Normal Effluent Exhaust A or B Particulate and Gaseous Radiation Monitor Calibration PRMIR5107.A or PRMIR5107.B	17
71124.05	Procedures	MI-003-371	Fuel Handling Building Ventilation System Emergency	311

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Exhaust High Range Noble Gas Radiation Monitor Channel Calibration PRMIR3032	
71124.05	Procedures	OP-901-401	High Airborne Activity in Control Room	304
71124.05	Procedures	OP-901-402	High Airborne Activity in Reactor Auxiliary Building	5
71124.05	Procedures	OP-901-404	High Airborne Activity in FHB	2
71124.05	Procedures	UNT-007-029	Control of the Radiation Monitor System Database	4
71124.05	Self-Assessments	LO-WLO-2021-0012	Pre-NRC Self-Assessment, IP71124.05 Radiation Monitoring Instrumentation	07/21/2021
71124.08	Corrective Action Documents	CR-XXX-YYYY-NNNN	HQN-2019-02856, HQN-2020-01535, HQN-2021-00340, WF3-2019-08685, WF3-2020-01725, WF3-2021-03727, WF3-2021-04701	
71124.08	Corrective Action Documents Resulting from Inspection	CR-WF3-YYYY-NNNN	2021-06456, 2021-06506, 2021-06530, 2021-06611	
71124.08	Miscellaneous		Low Level Radwaste Storage Building (LLRWSB) Recovery Plan - Hurricane Ida	09/15/2021
71124.08	Miscellaneous		2019-2021 Log of Radioactive Waste Shipments	11/15/2021
71124.08	Miscellaneous	37-01	Removal of Irradiated Components from the Old Steam Generator Storage Facility (OSGSF)	0
71124.08	Miscellaneous	EN-RP-121, Att. 5	Radioactive Material Category 1 and 2 Accountability (Typical)	10/25/2021 to 11/16/2021
71124.08	Miscellaneous	W3F1-2020-0011	Spent Fuel Storage Radioactive Effluent Release Report for 2019	02/13/2020
71124.08	Miscellaneous	W3F1-2020-0026	2019 Annual Radioactive Effluent Release Report	04/27/2020
71124.08	Miscellaneous	W3F1-2021-0021	Spent Fuel Storage Radioactive Effluent Release Report for 2020	03/04/2021
71124.08	Miscellaneous	W3F1-2021-0037	2020 Annual Radioactive Effluent Release Report	04/29/2021
71124.08	Procedures	EN-RP-121	Radioactive Material Control	17
71124.08	Procedures	EN-RP-143	Source Control	14
71124.08	Procedures	EN-RW-101	Radioactive Waste Management	3
71124.08	Procedures	EN-RW-102	Radioactive Shipping Procedure	18
71124.08	Procedures	EN-RW-102	Radioactive Shipping Procedure	19

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71124.08	Procedures	EN-RW-105	Process Control Program	5
71124.08	Procedures	EN-RW-106	Integrated Transportation Security Plan	7
71124.08	Procedures	Waterford-3 Plan/NEI 14-04	Waterford-3 Part 37 Security Plan for the Protection of Category 1 and Category 2 Quantities of Radioactive Material	1
71124.08	Radiation Surveys		Storage Survey for FHB +46 Fuel Handling Area	11/16/2021
71124.08	Radiation Surveys	WF3-2108-00028	OCA Radioactive Material Storage Areas	08/04/2021
71124.08	Radiation Surveys	WF3-2110-00109	OCA +15 Radwaste Compactor Building	10/12/2021
71124.08	Radiation Surveys	WF3-2110-00216	Radwaste Solidification Building	10/28/2021
71124.08	Radiation Surveys	WF3-2111-00039	OCA - LLRWSB +15	11/04/2021
71124.08	Self-Assessments	LO-WLO-2021-00049	10 CFR Part 37 Program Assessment	07/13/2021
71124.08	Self-Assessments	LO-WLO-2021-0012	Pre-NRC Self Assessment: IP71124.08 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	03/30/2020
71124.08	Shipping Records	19-1030	UN2916, Radioactive Material, Type B(U) package, Class 7	11/21/2019
71124.08	Shipping Records	20-1005	UN3321, Radioactive Material, Low Specific Activity (LSA-II), Class 7, RQ-Radionuclides	04/16/2020
71124.08	Shipping Records	20-1010	UN3321, Radioactive Material, Low Specific Activity (LSA-II), Class 7, RQ-Radionuclides	09/03/2020
71124.08	Shipping Records	21-1001	UN2912, Radioactive Material, Low Specific Activity (LSA-I), Class 7	01/19/2021
71124.08	Shipping Records	21-1003	UN3321, Radioactive Material, Low Specific Activity (LSA-II), Class 7	02/03/2021
71124.08	Shipping Records	21-1007	UN2916, Radioactive Material, Type B(U) package, Class 7, Fissile-Excepted, RQ-Radionuclides	05/10/2021
71124.08	Shipping Records	21-1010	UN3321, Radioactive Material, Low Specific Activity (LSA-II), Class 7	05/13/2021
71124.08	Shipping Records	21-3041	UN2908, Radioactive Material, Excepted Package - Empty	11/18/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Packaging, Class 7	
71124.08	Work Orders	WO 52954702-01	Sealed Source Leak Test	07/15/2021
71151	Corrective Action Documents	CR-WF3-YYYY-NNNN	2020-04507, 2020-06251, 2021-00040, 2021-00062, 2021-00115, 2021-04678, 2021-04976, 2021-05167	
71151	Miscellaneous		WF3 DEP PI Evaluation Packages for Opportunities evaluated 11/11/2020 through 08/29/2021	4Q/2020 - 3Q/2021
71151	Miscellaneous		Scenario Package: 2020-02-Emergency Communicator	2Q/2020
71151	Miscellaneous		ERO Participation PI Data Packages - ERO Rosters and Qualification Records	4Q/2020 - 3Q/2021
71151	Miscellaneous	EPP-424, Att. 7.3	ANS Siren Testing Record Packages	4Q/2020 - 3Q/2021
71151	Miscellaneous	Scenario No. 2021-02	EOF Offsite Communicator PI Session	02/24/2021
71151	Miscellaneous	WSXM-LOR-206DEPSIM	Simulator Exercise Guide: 2020 Cycle 6 EP DEP Evaluation	09/17/2020
71151	Procedures	EN-FAP-EP-005	Emergency Preparedness Performance Indicators	15
71151	Procedures	EPP-002-010	Notifications and Communications	316
71151	Procedures	EPP-424	Siren Testing and Siren System Administrative Controls	20
71152	Corrective Action Documents	CR-WF3-2020-7058	Steam leak developed from a drain line	12/11/2020
71152	Corrective Action Documents	CR-WF3-YYYY-NNNN	2019-1877, 2019-4813, 2019-8826, 2020-2697, 2020-2700, 2020-7243, 2020-7303, 2021-6909	
71152	Procedures	EN-OE-100	Operating Experience Program	20
71152	Procedures	OP-903-007	Turbine Inlet Valve Cycling Test	19 and 20

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