



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

November 13, 2017

Mr. Mano Nazar
President and Chief Nuclear Officer
Nuclear Division
NextEra Energy Seabrook, LLC
Mail Stop: EX/JB
700 Universe Blvd.
Juno Beach, FL 33408

SUBJECT: SEABROOK STATION, UNIT NO. 1 – INTEGRATED INSPECTION REPORT
05000443/2017003 AND INDEPENDENT SPENT FUEL STORAGE
INSTALLATION REPORT NO. 07200063/2017001

Dear Mr. Nazar:

On September 30, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Seabrook Station, Unit No. 1 (Seabrook). On November 8, 2017, the NRC inspectors discussed the results of this inspection with Mr. Eric McCartney, Regional Vice President-North Region and other members of his staff. The results of this inspection are documented in the enclosed report.

The NRC inspectors did not identify any findings or violations of more than minor significance.

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 the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Fred Bower, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket No. 50-443
License No. NPF-86

Enclosure:
Inspection Report 05000443/2017003
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

SUBJECT: SEABROOK STATION, UNIT NO. 1 – INTEGRATED INSPECTION REPORT
 05000443/2017003 AND INDEPENDENT SPENT FUEL STORAGE
 INSTALLATION REPORT NO. 07200063/2017001 DATED
 NOVEMBER 13, 2017

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 50-443

License No: NPF-86

Report No.: 05000443/2017003

Licensee: NextEra Energy Seabrook, LLC (NextEra)

Facility: Seabrook Station, Unit No. 1 (Seabrook)

Location: Seabrook, NH 03874

Dates: July 1, 2017 through September 30, 2017

Inspectors: P. Cataldo, Senior Resident Inspector
P. Meier, Resident Inspector
A. Ziedonis, Salem Resident Inspector
B. Dionne, Health Physicist
O. Masnyk Bailey, Health Physicist
D. Lawyer, Health Physicist

Approved By: Fred Bower, Chief
Reactor Projects Branch 3
Division of Reactor Projects

TABLE OF CONTENTS

SUMMARY	3
1. REACTOR SAFETY	4
1R01 Adverse Weather Protection.....	4
1R04 Equipment Alignment	4
1R05 Fire Protection	5
1R11 Licensed Operator Requalification Program and Licensed Operator Performance ...	5
1R12 Maintenance Effectiveness.....	6
1R13 Maintenance Risk Assessments and Emergent Work Control	7
1R15 Operability Determinations and Functionality Assessments.....	7
1R19 Post-Maintenance Testing.....	8
1R22 Surveillance Testing	8
2. RADIATION SAFETY.....	9
2RS6 Radioactive Gaseous and Liquid Effluent Treatment	9
2RS7 Radiological Environmental Monitoring Program	10
4. OTHER ACTIVITIES	11
4OA1 Performance Indicator Verification.....	11
4OA2 Problem Identification and Resolution	12
4OA5 Other Activities	13
4OA6 Meetings, Including Exit.....	14
SUPPLEMENTARY INFORMATION.....	A-1
KEY POINTS OF CONTACT	A-1
LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED	A-1
LIST OF DOCUMENTS REVIEWED.....	A-2
LIST OF ACRONYMS.....	A-10

SUMMARY

IR 05000443/2017003; 07/01/2017 to 09/30/2017; Seabrook; Routine Integrated Inspection Report.

This report covered a three-month period of inspection by resident inspectors and announced baseline inspections performed by regional inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

No findings were identified.

REPORT DETAILS

Summary of Plant Status

Seabrook operated at full power for the entire assessment period, with the exception of a down-power to 94 percent rated thermal power (RTP) on September 15, 2017, to perform scheduled main turbine control valve testing. Documents reviewed for each section of this inspection report are listed in the Attachment.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 1 sample)

External Flooding

a. Inspection Scope

During the period of August 7 to 11, 2017, the inspectors performed an inspection of the external flood protection measures for Seabrook. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), Chapters 2.4.2.2 and 3.4.1, which depicts the design flood levels and areas containing safety-related equipment to identify areas that may be affected by external flooding. The inspectors conducted a general site walkdown of outside areas, the fuel storage building, the control building, and the emergency diesel generator (EDG) building, to ensure that NextEra erected flood protection measures in accordance with design specifications. The inspectors also reviewed operating experience for mitigating external flooding during severe weather to determine if NextEra planned or established adequate measures to protect against external flooding events and, more specifically, that credited operator actions were adequate.

b. Findings

No findings were identified.

1R04 Equipment Alignment

Partial System Walkdowns (71111.04 – 4 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- 'B' residual heat removal (RHR) with 'A' RHR out-of-service (OOS) on July 11
- 'B' cooling water tower (CWT) with 'A' CWT OOS on July 13
- 'A' emergency feedwater (EFW) pump with 'B' EFW OOS on August 18
- 'B' safety injection (SI) pump during maintenance on CBS-V-47 on September 19

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, technical specifications (TSs), work orders (WOs), condition reports (CRs), and the impact of ongoing work

activities on redundant trains of equipment in order to identify conditions that could have impacted the system's performance of its intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether NextEra staff had properly identified equipment issues and entered them into the corrective action program (CAP) for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 5 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that NextEra controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Vital battery rooms (CB-F-1D-A, CB-F-1E-A, CB-F-1F-A, CB-F-1G-A) on July 10
- PAB 6' (PAB-F-1A-Z, PAB-F-1J-Z, PAB-F-1B-Z) on September 19
- PAB 7' (PAB-F-1A-Z) on September 19
- PAB 7' charging pump rooms (PAB-F-1C-A, PAB-F-1D-A, PAB-F-1E-A) on September 19
- PAB 26' (PAB-F-1A-Z) on September 19

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program and Licensed Operator Performance (71111.11Q – 2 samples)

.1 Quarterly Review of Licensed Operator Regualification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on September 14, conducted as just-in-time training for the power changes and main turbine control valve testing that was planned for the next day, September 15. The inspectors evaluated operator performance during the reactivity manipulations associated with boration and dilution activities, as well as control rod manipulations and turbine load changes that are performed to set proper conditions for the control valve surveillance. The inspectors

verified completion of risk significant operator actions, including proper reactivity oversight, and use of applicable plant procedures for both reactor and secondary plant controls. The inspector's assessed the clarity and effectiveness of communications, implementation of actions in response to both expected and unexpected alarms throughout the simulator evolution, and the oversight and direction provided by the control room supervisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed the control room operators during a pre-job briefing and performance of the quarterly main steam isolation valve (MSIV) partial-stroke testing, conducted on July 26. The briefing included the associated trip risks regarding partial closure testing of MSIVs, applicable heat stress environments for participants, critical step performance, as well as human error reduction techniques during performance of time-critical evolutions during the testing. Also on July 26, the inspectors observed the flushing of EDG jacket water heat exchanger DG-E-42A, which included assessment of procedure use and adherence, and peer checking standards.

The inspectors also observed performance of quarterly main turbine control valve testing, on September 15. This included reactivity manipulations associated with turbine load control adjustments, control rod manipulations, and boration/dilution activities, which were performed to maneuver the plant from 100 percent RTP to approximately 94 percent RTP, and back to 100 percent RTP, for performance of the surveillance. The inspectors observed communications, command and control, management oversight, procedure use and adherence, as well as response to various alarms and operator review of various alarm response procedures.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 3 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, and component (SSC) performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance WOs, and Maintenance Rule (MR) basis documents to ensure that NextEra was identifying and properly evaluating performance problems within the scope of the MR. For each sample selected, the inspectors verified that the SSC was properly scoped into the MR in accordance with 10 CFR 50.65 and verified that the (a)(2) performance criteria established by NextEra staff was reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that NextEra

staff was identifying and addressing common cause failures that occurred within and across MR system boundaries.

- 'A' control room chiller repairs
- Diesel driven fire pumps
- Maintenance and control of oil used in safety-related applications (Quality Control)

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 5 samples)

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that NextEra performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that NextEra personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When NextEra performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- 'A' RHR breaker maintenance, switchyard work, and service air compressor 'C' work on July 11
- Unit substation US-63 relay maintenance on July 28
- 'B' electro-hydraulic control pump compensator replacement on August 3
- Supplemental emergency power system (SEPS) outage during week of August 21
- SEPS planned work and Bus 6 relay work on September 7

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 3 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions based on the risk significance of the associated components and systems:

- CWT basin high salinity on July 16
- Containment atmosphere particulate radiation monitor, RM-6526-1, trending above the alert limit on July 18
- Pressurizer spray loop temperature indicator on August 1

The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to NextEra's evaluations to determine whether the components or systems were operable. The inspectors confirmed, where appropriate, compliance with bounding limitations associated with the evaluations. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by NextEra.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 6 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with the information in the applicable licensing basis and/or design basis documents, and that the test results were properly reviewed and accepted and problems were appropriately documented. The inspectors also walked down the affected job site, observed the pre-job brief and post-job critique where possible, confirmed work site cleanliness was maintained, and witnessed the test or reviewed test data to verify quality control hold point were performed and checked, and that results adequately demonstrated restoration of the affected safety functions.

- Troubleshooting activities on the containment isolation valve for containment sump on July 28
- 'C' vital battery replacement from July 10 to July 30
- CWT level indicator 6120 replacement on August 4
- 'B' EFW oil leak repair on August 18
- CBS-V-47, 'A' train common suction valve to SI pump A/B from refueling water storage tank, thermal overload relay replacement on August 19
- SEPS outage during the week of August 21

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 5 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and NextEra procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied.

Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- 'A' RHR surveillance test on July 11 (in-service test)
- Pressurizer pressure protection channel 4, RC-P-458, operational surveillance test on July 19
- Emergency core cooling system (ECCS) gas voids on July 21
- MSIV quarterly surveillance test on July 26
- Invar wire measurements in the 'B' RHR vault on August 2

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06 – 6 samples)

a. Inspection Scope

The inspectors reviewed the treatment, monitoring, and control of radioactive gaseous and liquid effluents. The inspectors used the requirements in 10 CFR Part 20, 10 CFR Part 50, Appendix I; TS; Offsite Dose Calculation Manual (ODCM); applicable industry standards; and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors conducted in-office review of the Seabrook Station's 2016 annual radioactive effluent and environmental reports, radioactive effluent program documents, UFSAR, ODCM, and applicable event reports.

Walk-downs and Observations (1 sample)

The inspectors walked down the gaseous and liquid radioactive effluent monitoring and filtered ventilation systems to assess the material condition and verify proper alignment according to plant design. The inspectors also observed potential unmonitored release points and reviewed radiation monitoring system surveillance records and the routine processing and discharge of gaseous and liquid radioactive wastes.

Calibration and Testing Program (1 sample)

The inspectors reviewed gaseous and liquid effluent monitor instrument calibration, functional test results, and alarm set-points based on National Institute of Standards and Technology calibration traceability and ODCM specifications.

Sampling and Analyses (1 sample)

The inspectors reviewed: radioactive effluent sampling activities, representative sampling requirements; compensatory measures taken during effluent discharges with

inoperable effluent radiation monitoring instrumentation; the use of compensatory radioactive effluent sampling; and the results of the inter-laboratory and intra-laboratory comparison program including scaling of hard-to-detect isotopes.

Instrumentation and Equipment (1 sample)

The inspectors reviewed the methodology used to determine the radioactive effluent stack and vent flow rates to verify that the flow rates were consistent with TS/ODCM and UFSAR values. The inspectors reviewed radioactive effluent discharge system surveillance test results based on TS acceptance criteria. The inspectors verified that high-range effluent monitors used in emergency operating procedures are calibrated and operable and has post-accident effluent sampling capability.

Dose Calculations (1 sample)

The inspectors reviewed: changes in reported dose values from the previous annual radioactive effluent release reports; several liquid and gaseous radioactive waste discharge permits; the scaling method for hard-to-detect radionuclides; ODCM changes; land use census changes; public dose calculations (monthly, quarterly, annual); and records of abnormal gaseous or liquid radioactive releases.

Problem Identification and Resolution (1 sample)

The inspectors evaluated whether problems associated with the radioactive effluent monitoring and control program were identified at an appropriate threshold and properly addressed in NextEra's CAP.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (71124.07 – 3 samples)

a. Inspection Scope

The inspectors reviewed the Radiological Environmental Monitoring Program (REMP) to validate the effectiveness of the radioactive gaseous and liquid effluent release program and implementation of the Groundwater Protection Initiative (GPI). The inspectors used the requirements in 10 CFR Part 20; 10 CFR Part 40; 10 CFR Part 50 Appendix I; and the site's TSs, ODCM, Nuclear Energy Institute (NEI) 07-07, and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed: Seabrook Station annual radiological environmental and effluent monitoring reports; REMP program audits; ODCM changes; land use census; UFSAR; and inter-laboratory comparison program results.

Site Inspection (1 sample)

The inspectors walked down various thermoluminescent dosimeter and air and water sampling locations and reviewed associated calibration and maintenance records. The inspectors observed the sampling of various environmental media as specified in the

ODCM and reviewed any anomalous environmental sampling events including assessment of any positive radioactivity results. The inspectors reviewed any changes to the ODCM. The inspectors verified the operability and calibration of the meteorological tower instruments and meteorological data readouts. The inspectors reviewed environmental sample laboratory analysis results, laboratory instrument measurement detection sensitivities, and results of the laboratory quality control program audit, and the inter- and intra-laboratory comparison program results. The inspectors reviewed the groundwater monitoring program as it applies to selected potential leaking SSCs; and 10 CFR 50.75(g) records of leaks, spills, and remediation since the previous inspection.

Groundwater Protection Initiative Implementation (1 sample)

The inspectors reviewed: groundwater monitoring results; changes to the GPI program since the last inspection; anomalous results or missed groundwater samples; leakage or spill events including entries made into the decommissioning files (10 CFR 50.75(g)); evaluations of surface water discharges; and NextEra's evaluation of any positive groundwater sample results including appropriate stakeholder notifications and effluent reporting requirements.

Identification and Resolution of Problems (1 sample)

The inspectors evaluated whether problems associated with the REMP were identified at an appropriate threshold and properly addressed in NextEra's CAP.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Mitigating Systems Performance Index (3 samples)

a. Inspection Scope

The inspectors reviewed NextEra's submittal of the Mitigating Systems Performance Index for the following systems for the period of July 1, 2016, through June 30, 2017:

- Emergency alternating current power system (MS06)
- High pressure injection system (MS07)
- Heat removal system (MS08)

To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7. The inspectors also reviewed NextEra's operator narrative logs, CRs, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 1 sample)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, “Problem Identification and Resolution,” the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify NextEra entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended CR screening meetings. The inspectors also confirmed, on a sampling basis, that, as applicable, for identified defects and non-conformances, NextEra performed an evaluation in accordance with 10 CFR Part 21.

b. Findings

No findings were identified.

.2 Annual Sample: Emergency Diesel Generator Jacket Water Heat Exchanger Tube Leaks

a. Inspection Scope

The inspectors performed an in-depth review of NextEra’s apparent cause evaluation and corrective actions associated with CR 2178517, which documented a tube leak in the ‘B’ EDG jacket water heat exchanger, in January 2017. In particular, the leak represented a second tube failure event since November 2016 associated with the EDG heat exchanger for new tubes installed in May 2016.

The inspectors assessed NextEra’s problem identification threshold, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of corrective actions to determine whether NextEra was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of NextEra’s CAP and 10 CFR Part 50, Appendix B.

b. Findings and Observations

No findings were identified.

NextEra determined the most probable cause of the tube failures was manufacturing defects on a new set of 58 tubes replaced in May 2016. NextEra determined the most likely cause for having a second tube failure in as many months was the failure to perform Eddy Current Testing (ECT), (non-destructive tube analysis), during the November 2016 event failure investigation, which would have identified these manufacturing defects in the tubes replaced in May 2016.

NextEra sent a sample of tubes for lab analysis to confirm that manufacture defects were the cause of the premature tube failures. Temporary corrective actions were performed following the January 2017 tube failure until all the tubes were replaced during the April 2017 outage. The temporary corrective actions included plugging the suspect tubes to prevent contaminating the jacket water. Because the heat transfer area was reduced by plugging the suspect tubes, an evaluation was performed to ensure the 'B' EDG remained operable. No further tube leaks occurred between January and April 2017.

Although the NextEra subject matter expert recommended ECT of the tubes during the November 2016 investigation, it was not performed to minimize 24 hours of unavailability for the 'B' EDG, as the ECT contractor was not immediately available. In hindsight, the evaluation determined that this was not the correct decision as another failure occurred within a relatively short amount of time. However, this did not place Seabrook in undue risk as the leakage that did occur was of insufficient magnitude to render the 'B' EDG inoperable, and the station was timely in addressing the tube failure in January 2017 before the conditions worsened. Corrective actions included a revision to the maintenance procedure that requires ECT on heat exchangers following tube replacement or any repairs affecting the tubing.

The inspectors determined that NextEra's evaluation and extent-of-condition reviews were thorough, and the causes were appropriately identified. The inspectors also determined that the corrective actions were reasonable and addressed the tube leaks in the 'B' EDG jacket water heat exchanger.

4OA5 Other Activities

Operation of an Independent Spent Fuel Storage Installation (ISFSI) at Operating Plants (60855, 60855.1)

a. Inspection Scope

During the period of August 14 to 17, 2017, inspectors observed and evaluated Seabrook's loading of the second (No. 2 of 8) dry shielded canister (DSC) (DSC Serial No. FPL/NEXT-32PTH, DFS Component No. 1-DFS-MM-1048-20) associated with their 2017 ISFSI dry cask loading campaign. The inspectors also reviewed NextEra's planned activities related to long-term operation and monitoring of the ISFSI. The inspectors verified compliance with the Certificate of Compliance (CoC), TSs, applicable regulations, and station procedures.

The inspectors observed fuel assemblies being loaded into the DSC. The inspectors observed the movement of the transfer cask into the spent fuel pool (SFP) and movement of the loaded DSC from the SFP into the seismic restraint. The inspectors also observed DSC processing operations including: welding, non-destructive weld examinations, draining, vacuum drying, pressure testing, helium backfill, decontamination, and surveying. During performance of these activities, the inspectors verified that procedure use, communication, and coordination of ISFSI activities met established Seabrook standards and requirements.

The inspectors reviewed Seabrook's program associated with fuel characterization and selection for storage. The inspectors reviewed the second cask fuel selection package to verify that NextEra was loading fuel in accordance with the CoC, TS, and procedures.

The inspectors reviewed a recording of the fuel assemblies loaded into the second DSC to verify the loading was in accordance with the applicable loading plan.

The inspectors observed radiation protection technicians as they performed surveys and provided job coverage for the cask loading workers. The inspectors reviewed selected survey data maps and radiological records from the first and second DSC loading to confirm that radiation survey levels were within limits specified by the TS and consistent with values specified in the final safety analysis review.

The inspectors toured the ISFSI pad to assess the material condition of the pad and the horizontal storage modules (HSM). The inspectors also verified that transient combustibles were not being stored on the ISFSI pad or the vicinity of the HSMs.

The inspectors reviewed corrective action reports and the associated follow-up actions that were generated to ensure that issues were entered into the CAP, prioritized, and evaluated commensurate with their safety significance.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On November 8, 2017, the inspectors presented the inspection results to Mr. Eric McCartney, Regional Vice President-North Region, and other members of the Seabrook Station staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

E. McCartney, Regional Vice President-North Region
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J. Berg, Chemistry/Environmental Supervisor
K. Boehl, ALARA Specialist
K. Browne, Licensing Manager
B. Bryant, Work Management Director
K. Cetto, Cask Loading Lead, TN
M. Collins, Engineering Director
J. Connelly, Shift Manager
D. Currier, EP Manager
S. Folsom, Supt. Maintenance Programs
J. Geddings, TN Management
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G. Goncarous, Staff Chemist
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H. Ham, Maintenance Supervisor
R. Harrsch, Operations Director
D. Hickey, RP Supervisor
B. Holman, Manager Construction
G. Hoxie, Manager, Nuclear Projects
J. Isakson, TN Management
D. Low, QA/QC Inspector
P. Malenfant, Senior Analyst
G. Mikos, Project Manager
M. Nadeau, RP Analyst
K. Randall, Reactor Engineering Supervisor
D. Robinson, Chemistry Manager
T. Smith, RP Supervisor
D. Strand, Radiation Protection Manager
C. Thomas, Sr. Licensing Engineer
S. Ting, Chemistry Engineer
P. Waite, Work Package Coordinator, TN Americas, LLC (TN)
R. Weaton, Maintenance Manager
M. Williams, Project Coordinator, TN

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened/Closed

None

Opened

None

Closed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

NM11800, Hazardous Condition Response and Recovery Plan, Revision 30
ON1090.13, Response to Natural Phenomena Affecting Plant Operators, Revision 14
OS1200.03, Severe Weather Conditions, Revision 29

Condition Reports

2148431 2150819

Miscellaneous

Regulatory Guide 1.52, Revision 2
UFSAR 2.4.2.2, Revision 14
UFSAR 3.4.1, Revision 14

Section 1R04: Equipment Alignment

Procedures

OX1436.02, Turbine Driven Emergency Feedwater Pump Quarterly And Monthly Valve Alignment, Revision 28
OX1456.02, ECCS Monthly System Verification, Revision 20

Maintenance Orders/Work Orders

40489415 40505118 40505555 40536228

Drawings

1-RH-B20663, Residual Heat Removal System Train B Detail, Revision 21
1-SI-20446, Safety Injection System Intermediate Head Injection System Detail, Revision 18

Section 1R05: Fire Protection

Miscellaneous

Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, PAB-F-1A-Z, PAB-F-1J-Z, PAB-F-1B-Z, PAB-F-1C-A, PAB-F-1D-A, PAB-F-1E-A
Seabrook Station Fire Protection Pre-Fire Strategies, Volume II, CB-F-1D-A, CB-F-1E-A, CB-F-1F-A, CB-F-1G-A

Section 1R11: Licensed Operator Requalification Program

Procedures

OS1000.10, Operation At Power, Revision 39
OS1426.12, Diesel Generator A and B Daily and Weekly Surveillances, Revision 22
OX1430.02, Main Steam Isolation Valve Quarterly Test, Revision 17
OX1431.03, Main Control Valve Quarterly Test, Revision 33

Miscellaneous

17-REOR-009, Reactor Engineering Operating Recommendation, Revision 0
 OP-AA-104-1000, Operations Performance Management, Revision 7
 Seabrook Control Room vs. Seabrook Simulator – SRC Approved Differences
 TR-AA-230-1000, Systematic Approach To Training Process, Revision 0
 TR-AA-230-1007, Conduct of Simulator Training and Evaluation, Revision 5
 TR-AA-221-1000, Simulator Change Control, Revision 3

Section 1R12: Maintenance EffectivenessProcedures

DBD-CBA-01, Control Room Complex HVAC Systems, Revision 6
 EN-AA-108-1001, Failure Investigation Process, Revision 4
 EN-AA-203-1001, Operability / Functionality Assessments, Revision 26
 MA 4.9, Control and Storage of Equipment and Materials, Revision 18
 MA-AA-100-1011, Equipment Troubleshooting, Revision 1
 OX1423.28, Control Room Air Conditioning System Quarterly Surveillance, Revision 6
 PI-AA-100, Condition Assessment and Response, Revision 8
 WM-AA-203, Online Scheduling Process, Revision 15

Condition Reports

0573623	1970241	2089967	2156562	2156562	2200874
2205604	2208680	2208718	2214324	2214324	2215096
2216952	2217444	2217868	2223217	2223484	2223573
2223575	2223966	2223971	2224700		

Maintenance Orders/Work Orders

40443580	40511322	40521264	40543017	40549460
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Miscellaneous

EC 289444
 EE 98-015
 Preventive Maintenance Identification (PMID) 8198, Startup Feedwater Pump lube Oil Samples
 PMID 8263, Turbine Driven Emergency Feedwater Pump Lube Oil Samples
 PMID 8270, Motor Driven Emergency Feedwater Pump Lube Oil Samples
 PMID 10214, Take Oil Samples From Inventory And Analyze For Cleanliness
 UFSAR 9.4, Revision 14

Section 1R13: Maintenance Risk Assessments and Emergent Work ControlProcedures

ON1031.10, Operation of Electro-Hydraulic Control System, Revision 25
 OX1446.01, AC Power Source Weekly Operability Surveillance, Revision 26
 OX1446.02, Bus E5 & E6 18 Month Offsite Power Supply Transfer Operability Test, Revision 7
 OX1456.02, ECCS Monthly System Verification, Revision 19
 WM-AA-100, Risk Management Program, Revision 2
 WM-AA-100-1000, Work Activity Risk Management, Revision 10

Condition Reports

2221909

Maintenance Orders/Work Orders

40363059	40404603	40451818	40483802	40489434	40510602
40510603	40517057	40517058	40549669	40556495	

Miscellaneous

Maintenance Rule (a)(4) Risk Profile for Work Week 1730-09

Section 1R15: Operability Determinations and Functionality AssessmentsProcedures

EN-AA-203-1001, Operability Determinations / Functionality Assessments, Revision 25
 HN0955.67, Alarm Response for Containment Atmosphere Radiation Monitors, Revision 1
 HX0955.32, RDMS Setpoint Determination for RP Monitors, Revision 31
 OS1000.01, Heatup from Cold Shutdown to Hot Standby, Revision 63
 OS1001.06, Pressurizer Bubble Formation, Revision 13
 OS1002.02, Operation of Letdown, Charging and Seal Injection, Revision 54
 OS1016.05, Service Water Cooling Tower Operation, Revision 33

Condition Reports

2109684	2215329	2215542	2218093
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Maintenance Orders/Work Orders

40491073

Miscellaneous

PI Data Point 1AP111, containment atmosphere particulate radiation monitor (RM-6526-1) trend, 07/18/13 – 07/18/17
 RDMS Data Base Item Change Request Number 17-065, Containment Particulate Monitor, completed 07/18/17
 UFSAR, Chapter 5.2.5.5, Revision 17
 UFSAR, Chapter 12.3.4.2, Revision 15
 UFSAR, Table 12.3-15, Revision 13
 UFSAR, Chapter 15, Revision 14
 Work Item HRMW-0002, Weekly Tech Spec Monitor Alarm Setpoint Verification

Drawings

1-RC-B20846, Reactor Coolant System Pressurizer, Revision 14

Section 1R19: Post-Maintenance TestingProcedures

IX1605.013, IST Solenoid Valve Time Response Testing, Revision 3
 LX0556.97, 1-EDE-B-1-C Battery Performance Test, Revision 10
 LX0557.03, Thermal Overload Protection Relay Replacement for Motor Operated Valves, Revision 15
 MA3.5, Post Maintenance Testing, Revision 22 & 23
 MA-AA-203-1000, Maintenance Testing, Revision 7
 MX0523.69, Supplemental Emergency Power System Annual Engine Maintenance, Revision 4
 MX0523.73, Supplemental Emergency Power System (SEPS) Long Term Engine Maintenance, Revision 4
 OX1405.07, Safety Injection Quarterly and 18 Month Pump Flow and Valve Test, Revision 18
 OX1436.03, Electric EFW Pump Quarterly, 18 Month / 30 Days cold Shutdown and Comprehensive Tests, and Monthly Valve Verification Surveillance, Revision 24

OX1456.81, Operability Testing of IST Valves, Revision 29
 OX1456.86, Operability Testing of IST Pumps, Revision 15
 OX1461.05, SEPS Annual Availability Surveillance, Revision 9
 OX1490.05, Miscellaneous Systems ASME Quarterly Valve Stroke Test, Revision 7

Condition Reports

2207011	2215242	2215704	2216192	2216884	2217130
2221884	2221909				

Maintenance Orders/Work Orders

40408625	40422201	40474905	40486360	40496856	40497399
40511194	40517056	40517057	40517058	40520745	40536228
40539891	40551952	40560650			

Miscellaneous

EC 288116

1-NHY-250,000, Data Sheets for Motor and Air Operated Valves and Dampers, Revision 83

Drawings

1-SI-B20446, Safety Injection System Intermediate Head Injection System Detail, Revision 18

Section 1R22: Surveillance Testing

Procedures

FP101035, Instrumentation of RHR and CS Equipment Vault Walls, Revision 0

IX1662.324, RC-P-458 Pressurizer Pressure Protection Channel IV Operational Test,
 Revision 15

OX1413.01, 'A' Train RHR Quarterly Flow and Valve Stroke Test and 18 Month Valve Stroke
 Observation, Revision 24

OX1430.02, Main Steam Isolation Valve Quarterly Test, Revision 17

OX1456.02, ECCS Monthly System Verification, Revision 19

OX1456.81, Operability Testing of IST Valves, Revision 27 & 29

OX1456.86, Operability Testing of IST Pumps, Revision 13

SFCP, Surveillance Frequency Control Program Manual, Revision 8

SITR, Inservice Testing Reference, Revision 25

SMPM, Structure Monitoring Program Manual, Revision 2

Condition Reports

2091712	2148021	2216191	2217092	2218375	2219736
2220988					

Maintenance Orders/Work Orders

40489979	40491017	40504447	40545883	40545884
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Miscellaneous

C-S-1-23903, Maximum Void Size in RHR Pump Piping

EE-2008-26

Narrative Logs, July 19, 2017, Days

SBK-L-08179

Drawings

1-RH-B20662, Residual Heat Removal System Train 'A' Detail, Revision 24

Section 2RS6: Radioactive Gaseous and Liquid Effluent TreatmentProcedures

CD0917.04, Monitoring of Plant Systems for Radioactivity, Revision 3
 CD0904.11, Split and Cross Check Analysis, Revision 7
 CDI-015, Sampling of Groundwater Monitoring Wells, Revision 4
 CP3.1, Primary Chemistry Control, Revision 41
 CP3.2, Secondary Chemistry Controls Program, Revision 40
 CP3.3, Miscellaneous System Closed Cooling Water Surveillances, Revision 30
 CP4.1, Effluent Surveillance Program, Revision 36
 CP8.1, Verification of Analytical Systems Performance, Revision 24
 CP10.1, Radiological Environmental Surveillance Schedule and Quality Assurance Program,
 Revision 1
 CS0908.01, Off-Site Dose Assessment, Revisions 16 & 17
 CS0908.02, RDMS Setpoints, Revision 10
 CS0910.10, WRGM Sampling, Revision 20
 CS0910.16, Storm Drains Radiation Monitor Sampling and Maintenance, Revision 12
 CS0911.06, Miscellaneous Secondary System Sampling, Revision 12
 CS0917.02, Gaseous Effluent Releases, Revision 17
 CS0917.03, Unmonitored Plant Releases, Revision 10
 CS0917.04, Monitoring Plant Systems for Radioactivity, Revision 3
 CS0920.07, Tritium Analysis by Liquid Scintillation, Revision 15
 CX0901.37, Regulatory Guide 1.21 Report, Revision 8
 CX0917.01, Liquid Effluent Release Setpoints, Revision 24
 EV-AA-100, Fleet Groundwater Protection Program, Revision 3
 EV-AA-100-1000, Groundwater Protection Program Communications/Notification Plan,
 Revision 7
 EV-AA-100-1001, Fleet Groundwater Protection Program Implementing Guidelines, Revision 4
 IX1660.874, RM-R-6519 SB Flash Tank Discharge Radiation Monitor Operational Test,
 Revision 8
 IX1660.160, RM-F-6577 Plant Stack Flow Transmitter Operational Test, Revision 9
 IX1660.765, RM-R-6505 Condenser Air Evacuators Discharge Radiation Monitor Operational
 Test, Revision 1
 IX1660.814, RM-R-6504 WG Compressors Discharge Radiation Monitor Calibration, Revision 9
 IX1660.816, RM-R-6509 WLTT's Discharge Radiation Monitor Calibration, Revision 10
 IX1660.876, RM-R-6521 Turbine Building Sump Pumps Discharge Radiation Monitor
 Operational Test, Revision 7
 IX1688.110, WL-F-1458-1 Waste Test Tank Discharge Flow Calibration, Revision 04
 MS05-01-01, Visual Inspection of Nuclear Air Treatment Systems (NUCON Procedure 12-255),
 Revision 2
 ON1244.01, Spill Response, Revision 34

Audits, Self-Assessments, and Surveillances

SBK 16-009, Seabrook Nuclear Oversight Report, Chemistry, Effluents and Environmental Programs, January 12, 2017

Condition Reports

02003534	02086810	02097827	02097831	02125151	02148282
02195218	02197264	02211565	02211663		

Maintenance Orders/Work Orders

40315262	40315265	40317753	40322921	40322926	40323916
40323918	40332281	40430418	40436777	40438432	40439034
40439101	40448499	40454605	40458745	40458746	40463327
40481697	40484409	40551746	94163453		

Miscellaneous

2016 SB Annual Radioactive Effluent Release Report, April 28, 2017
 AREVA Submittal SBC-1145: 2016 SB Land Use Census Analysis (AREVA Document No. 32-9261796-000) Sept 26, 2016
 AREVA Submittal SBC-1152: Estimated Public Doses from Seabrook Station Effluents in 2016 (AREVA Document No. 32-9269158-000), April 20, 2017
 Duke Energy / NUPIC QA Audit of GEL Laboratories – October 2016, November 1, 2016
 HPSTID-17-007, Historical Site Radiological Assessment 01/01/2016 through 12/31/2016, May 22, 2017
 HPSTID-16-006, Historical Site Radiological Assessment 01/01/2015 through 12/31/2015, June 23, 2016
 SB System Health Report: Radiation Monitoring System for 1st, 2nd, and 3rd Quarter 2017
 Seabrook Daily Quality Summary Reports, REMP 1/1/12 to 1/31/17
 Seabrook Updated Final Safety Analysis Report

Gas and Liquid Effluent Waste Permits Reviewed:

CS0908.01 Form B: Dose Calculation for Noble Gas Elevated Release, Permit 17-159, Plant Vent Continuous, May 10, 2017
 CS0917.02 Form C: GEW Containment Purge Release Permit, Permit No. 17-150, Containment Purge, April 12, 2017
 CS0917.03 Form B: Unmonitored Release Dose Assessment Report, Permit No 17-235, Emergency Feedwater, May 12, 2017
 CX0917.01 Form C: LEW Release Data Permit No 17-156, Waste Test Tank A, April 3, 2017
 Radioactive Release Permit Index Log (CHL-104) for 2017
 CX0917.01 Form C: LEW Release Data Permit No 17-234, Groundwater/Storm Drains, May 10, 2017
 CX0917.01 Form C: LEW Release Data Permit No 17-294, Steam Generator Blowdown Flash Tank, July 6, 2017

Section 2RS7: Radiological Environmental Monitoring ProgramProcedures

CP10.1, Radiological Surveillance and Quality Control Program, Revision 1
 CP 4.1, Effluent Surveillances Program, Revision 36
 EV-AA-100, Fleet Groundwater Protection Program, Revision 3
 EV-AA-100-1000, Groundwater Protection Program Communication/ Notification Plan, Revision 7
 EV-AA-100-1001, GWPP Implementing Guideline, Revision 4
 EV-AA-104, Radiological Environmental Monitoring Program (REMP), Revision 1
 EV-AA-207, Radiological Environmental Sampling of GW, Revision 1
 HD0956.03, Radiological Environmental Sampling of Groundwater, Revision 6
 CDI-015, Sampling of Groundwater Monitoring Wells, Revision 7
 HD0957.01, Calibration Environmental Air Samples, Revision 8
 HD0957.04, Configuration of Environmental Sample Telemetry Equipment, Revision 10
 HX0956.01, Radiological Environmental Sampling of Air Particulates and Radio-iodine, Revision 13
 HX0956.04, Radiological Environmental Sampling of Food Crops and Vegetation, Revision 12
 HX0956.05, Radiological Environmental Sampling of Milk, Revision 13

IN0654 550, Met System Checks/Data Collection, Revision 15
 IX0654.500, Met System Calibration, Revision 18
 JD0999.401, Site Area Monitoring Program, Revision 5
 JX0999.400, Environmental Monitoring of Direct Radiation, Revision 4
 JX0999.401, Land Use Census Performance, Revision 0
 JS0999.001, Radiochemistry Control Charts, Revision 4

Audits, Self-Assessments, and Surveillances

Assessment Report AR 02220902, Met Tower Delta T Discrepancies, August 18, 2017
 Level 1 Assessment Report AR 02221315, NRC IP 71124.07 Radiological Environmental
 Monitoring, August 4, 2017

Condition Reports

02059136	02138336	02138337	02155356	02158228	02179351
02184934	02187595	02195126	02195622	02200050	02223829
02223832					

Maintenance Orders/Work Orders

40467538 40468769

Miscellaneous

2016 Seabrook Station Annual Radiological Environmental Operating Report, April 28, 2017
 AREVA Submittal SBC-1145: 2016 SB Land Use Census Analysis (AREVA Document No.
 32-9261796-000) Sept 26, 2016
 Environmental Dosimetry Company, Quality Assurance Status Report,
 January – December 2016, March 8, 2017
 Environmental Dosimetry Company, Quality Systems Manual, August 1, 2012
 General Engineering Laboratories, LLC, 2016 Annual Quality Assurance Report for the
 Radiological Environmental Monitoring Program, March 10, 2017
 General Engineering Laboratories, LLC, Quality Assurance Plan, Revision 29
 HD0957.01 Form A: Environmental Air Sampler Calibration Record for Dry Gas Meter, Serial
 No. 14779959, November 3, 2016
 HD0957.01 Form A: Environmental Air Sampler Calibration Record for Dry Gas Meter, Serial
 No. 14779957, November 8, 2016
 HD0957.01 Form A: Environmental Air Sampler Calibration Record for Dry Gas Meter, Serial
 No. 13181304, November 9, 2016
 HPSTID-17-007, Historical Site Radiological Assessment 01/01/2016 through 12/31/2016,
 May 22, 2017 Normandeau Associates, Seabrook Environmental Studies: Quality
 Program and Standard Operating Procedures, Revision 12
 SS Memorandum #20170050, A. Giotas to J. Pelczar, 2017 Land Use Survey, August 23, 2017
 UFSAR, Chapter 2 Section 3 Meteorology, Revision 17

Section 40A1: Performance Indicator Verification

Procedures

LIC-AA-100-10003, NRC Performance Indicator, Revision 1

Miscellaneous

EN-AA-105-1005, Mitigating Performance Index, Revision 2
 LIC-17008, Seabrook Station NRC 2nd Quarter 2017 Performance Indicator Submittal
 MSPI Derivation Reports for MSPI Systems Emergency AC Power, High Pressure Injection, and
 Heat Removal, June 2017
 NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 7
 SBK-PRAE-15-001

Section 40A2: Problem Identification and ResolutionProcedures

MA 3.5, Post Maintenance Testing, Revision 19 and 23
 PI-AA-104-1000, Condition Reporting, Revision 12
 PI-AA-100-1007, Apparent Cause Evaluation, Revision 17
 OP-AA-108-1000, Operator Challenges Program Management, Revision 5

Condition Reports

2169614 2178517 2180139

Maintenance Orders/Work Orders

40500764 40502704 40514565

Section 40A5: Other ActivitiesProcedures

CX3910.19, Boron Monitoring for Storage Cask Loading & Unloading FME Plan R.1, Revision 1
 FS13-01-01, MSLT-DSC-AREVA, Helium Mass Spectrometer Leak Test Procedure, Revision 1
 FS13-01-09, SPM 9.3, NUHOMS –HD 32PTH Type-1 DSC Closure Procedure, Revision 1
 FS17-01-02, SPM 5.5, RKI Eagle Model 101-TRB Hydrogen Monitor Operating Procedure,
 Revision 1
 FS3000.07, TC & DSC Preparation for Loading, Revision 8
 FS3000.08, TC/DSC Handling Operations for Fuel Loading, Revision 9
 FX3000.11, DSC Transport from HSM to FSB, Revision 4
 FX3000.12, DSC Sealing Operations, Revision 12
 FX3000.14, DSC Transport from FSB to HSM, Revision 10
 HX3050.85, DFS Radiation Controls, Revision 9
 IS 3600.41, Dry Fuel Storage HSM Temperature System Calibration, Revision 3
 MSLT-DSC-AREVA, Helium Mass Spectrometer Leak test Procedure, FS13-01-01, Revision 1
 OS1015.07, Spent Fuel Building Assembly Operation, Revision 28
 OS4015.15, Spent Fuel Handling Tool Operation, Revision 14
 SO70, Special Nuclear Material Inventory and Control, Revision 21
 SPM 9.1, General Welding Procedure, FS13-01-05, Revision 2
 SPM 9.3, NUHOMS-HD-Type 1 NUHMOS DSC Closure Procedure, FS13-01-09, Handling
 Operations for Fuel Loading, Revision 3

Condition Reports

02218983 02219498 02220284 02220396

Maintenance Orders/Work Orders

40435103 40496788

Miscellaneous

10 CFR 72.212 Evaluation Report, Revision 9
 Appendix A to Certificate of Compliance no 1030, NUHOMS HD System Generic Technical Specifications, Amendment 2
 Calculation No. SBK-1FJF-16-180, Rev 2, Seabrook Station, Irradiated Fuel Assembly Selection for the Third Dry Cask Loading Campaign
 Form B of Spent Fuel Pool Boron concentrations Sampling, FX3000.08, Rev 9, TC/DSC
 Form SPM9.1b.1 Welding Performance Qualification
 Form SPM9.1a.1 Welding Procedures Specifications
 Form SPM9.1a.2 Procedure Qualification Record
 HPSTID 13-007, Determination of Dry Fuel Storage Neutron Correction Factor for Global TLDs.
 HPSTID 08-007, Site Dose Evaluation for Dry Fuel Storage
 HPSTID 08-008, Evaluation of Neutron Dosimetry and Survey Instruments for Dry Fuel Storage
 2016 Annual Radiological Environmental Operating Report dated April 28, 2017
 Liquid Penetrant Examination Reports August 15 & 16, 2017
 Off Site Dose Calculation Manual, Revision 37
 Post Job ALARA Review No. 13-01
 RWP 17-0031 Rev 2, Dry Fuel Storage Project Activities
 Survey M-20170915-3, TC/DSC Platform (FBS)/Dry Fuel Storage
 Survey M-20170713-1, HSYQ-001Q DFS Pad dated July 13, 2017
 Survey M-20170814-2, HSM 16 following loading of DCS 61 dated August 12, 2017

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CAP	corrective action program
CFR	<i>Code of Federal Regulations</i>
CoC	Certificate of Compliance
CR	condition report
CWT	cooling water tower
DSC	dry shielded canister
ECCS	emergency core cooling system
ECT	eddy current testing
EDG	emergency diesel generator
EFW	emergency feedwater
GPI	groundwater protection initiative
HSM	horizontal storage module
ISFSI	independent spent fuel storage installation
IMC	Inspection Manual Chapter
MR	Maintenance Rule
MSIV	main steam isolation valve
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
ODCM	offsite dose calculation manual
OOS	out-of-service
REMP	radiological environmental monitoring
RHR	residual heat removal
RTP	rated thermal power
SEPS	supplemental emergency power system
SFP	spent fuel pool
SI	safety injection
SSC	structure, system, and component
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
WO	work order