



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

November 1, 2010

Mr. Paul Freeman
Site Vice President
Seabrook Nuclear Power Plant
NextEra Energy Seabrook, LLC
c/o Mr. Michael O'Keefe
P.O. Box 300
Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT NO. 1 - NRC INTEGRATED INSPECTION
REPORT 05000443/2010004

Dear Mr. Freeman:

On September 30, 2010, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at Seabrook Station, Unit No. 1. The enclosed report documents the inspection findings discussed on October 7, 2010, with you and other members of your staff.

These inspections examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any), will be available electronically for public inspection in the

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Sincerely,

Arthur L. Burritt, Chief
Projects Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report No. 05000443/2010004
W/ Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

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U. S. NUCLEAR REGULATORY COMMISSION**REGION I**

Docket No.: 50-443

License No.: NPF-86

Report No.: 05000443/2010004

Licensee: NextEra Energy Seabrook, LLC

Facility: Seabrook Station, Unit No.1

Location: Seabrook, New Hampshire 03874

Dates: July 1, 2010 through September 30, 2010

Inspectors: W. Raymond, Senior Resident Inspector
J. Johnson, Resident Inspector
E. Burkett, Reactor Engineer
G. Johnson, Reactor Engineer
T. Moslak, Health Physicist
A. Turilin, Project Engineer

Approved by: Arthur Burritt, Chief
Projects Branch 3
Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000443/2010004; 07/01/2010-09/30/2010; Seabrook Station, Unit No. 1; Routine Integrated Report.

The report covered a three-month period of inspection by resident and regional specialist inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

No findings were identified.

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REPORT DETAILS

Summary of Plant Status

Seabrook operated at full power for the period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Preparation (71111.01 – 2 samples)

.1 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

The inspectors completed one impending adverse weather inspection sample. For this sample, the inspectors reviewed NextEra's readiness to protect risk significant systems from excessive air temperatures on July 1-6, 2010. For this period, the inspectors verified that NextEra prepared and responded to the severe weather conditions in accordance with procedure OS1200.03, "Severe Weather Conditions." The inspectors also reviewed corrective actions for problems identified during the inspection and examined Next Era's extent of condition review for these issues. The inspection included walk downs of plant areas including the normal and emergency AC electrical distribution systems and the screen wash, service water and emergency feedwater systems.

The inspectors reviewed Seabrook's updated final safety analysis report (UFSAR) regarding design features, and verified the adequacy of the station procedures for severe weather protection. The inspectors reviewed previously identified deficiencies related to extreme weather preparation and verified that the issues were appropriately dispositioned through the corrective action program. The documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings were identified.

.2 Readiness to Cope with External Flooding

a. Inspection Scope

The inspectors completed one external flooding inspection sample. The inspectors reviewed NextEra's readiness for providing protection for risk significant systems from external flooding prior to the period when Hurricane Earl was projected to impact the site. The inspection included a review of the UFSAR and applicable flood analyses to identify those areas that can be affected by external flooding and the design flood levels for areas containing safety-related equipment. The inspectors toured the site to observe

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the status of the seawall and other flood protection features. The inspectors walked down plant areas containing risk significant structures, systems, and components (SSCs) that were potentially susceptible to flooding, including the safeguards system vaults, the service water (SW) building, the primary auxiliary building, and the emergency feedwater (EFW) building. The inspectors verified that the procedures for coping with flooding that credit operator actions could be implemented and evaluated implementation of flood protection preparation procedures and compensatory measures during impending conditions of flooding or heavy rains.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04 - 4 samples, 71111.04S - 1 sample)

.1 Partial Walkdown

a. Inspection Scope

The inspectors completed four partial system walk down inspection samples for the plant systems listed below. The inspectors verified that valves, switches, and breakers were correctly aligned in accordance with Seabrook's procedures and that conditions that could affect system operability were appropriately addressed. The inspectors reviewed applicable piping and instrumentation drawings and system operational lineup procedures. The documents reviewed are listed in the Attachment.

- A Train 125 Vdc vital distribution system during maintenance and testing on 1-EDE-B-1B on July 27-29, 2010
- A and B EDGs during work on the supplemental emergency power system per WOs 1205229 and 1205225 on August 17, 2010
- A EDG during testing and maintenance on the B EDG per WO 01205706 on August 23, 2010
- Emergency core cooling system (ECCS) per WO 1205378 on August 17, 2010, during work

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

The inspectors performed one complete system walk down inspection review of the containment combustible gas control system to verify the system was properly aligned and capable of performing its safety function. To ascertain the required system configuration, the inspectors reviewed plant procedures, system drawings, the UFSAR, and the technical requirements manual (TRM). The inspectors walked down the accessible portions of the system to verify overall material condition; that valves were correctly positioned; that electrical power was available; that major system components

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were properly labeled; that essential support systems were operational; and that ancillary equipment or debris did not interfere with system performance. The inspectors reviewed applicable piping and instrumentation drawings and system operational lineup procedures. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05Q - 4 samples)

.1 Quarterly Review of Fire Areas:

a. Inspection Scope

The inspectors completed four quarterly fire protection inspection samples. The inspectors examined the areas of the plant listed below to assess: the control of transient combustibles and ignition sources; the operational status and material condition of the fire detection, fire suppression, and manual fire fighting equipment; the material condition of the passive fire protection features; and the compensatory measures for out-of-service or degraded fire protection equipment. The inspectors verified that the fire areas were maintained in accordance with applicable portions of Fire Protection Pre-Fire Strategies and Fire Hazard Analysis. The documents reviewed are listed in the Attachment.

- MS-F-4A-Z (Main Steam Feedwater Area East-MSIV Room)
- MS-F-4A-Z (Main Steam Feedwater Area East-CGC Room)
- FSB-F-1-A (Fuel Storage Building, 7, 10, 21, & 64 ft)
- PAB-F-2C-Z (PCCW Pump Area, 25 ft)

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07A - 2 samples)

.1 B EDG Heat Exchanger Testing

a. Inspection Scope

The inspectors completed one heat sink performance inspection sample. Specifically the inspectors reviewed the 2009 performance testing of the B diesel generator cooling water heat exchanger to verify that the heat exchanger could fulfill its design function. The inspectors reviewed thermal performance monitoring (WO 01186249), trending data for heat exchanger temperatures and fouling factors, and ES1850.017, "SW Heat Exchanger Program." The inspectors interviewed the system engineer to evaluate the process used to monitor the heat exchanger and commitments in Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment." The inspectors conducted system walk downs and reviewed condition reports to verify that issues associated with the heat exchanger were identified and corrected.

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b. Findings

No findings were identified.

.2 A EDG Heat Exchanger Testing

a. Inspection Scope

The inspectors completed one heat sink performance inspection sample. Specifically the inspectors reviewed the 2010 performance testing of the A diesel generator cooling water heat exchanger to verify that the heat exchanger could fulfill its design function. The inspectors reviewed thermal performance monitoring (WO 01206946), trending data for heat exchanger temperatures and fouling factors, and ES1850.017, "SW Heat Exchanger Program." The inspectors interviewed the system engineer to evaluate the process used to monitor the heat exchanger and commitments in Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment." The inspectors conducted system walk downs and reviewed condition reports to verify that issues associated with the heat exchanger were identified and corrected.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11Q - 1 sample)

.1 Quarterly Resident Inspector Review

a. Inspection Scope

The inspectors completed one quarterly licensed operator requalification program inspection sample. The inspectors observed a simulator examination of licensed operators on July 15, 2010, for scenarios involving a loss of heat sink and reactor coolant system leaks. The inspectors reviewed operator actions to implement the abnormal and emergency operating procedures in response to these events. The inspectors examined the operators capability to perform actions associated with high-risk activities, the Emergency Plan, previous lessons learned items, and the correct use and implementation of procedures. The inspectors observed and reviewed the training evaluator's critique of operator performance and verified that deficiencies were identified and entered into the corrective action program. The inspectors reviewed operator training related deficiencies entered into the corrective action program. The inspectors also assessed the adequacy of the simulator's physical fidelity with the Seabrook control room. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

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1R12 Maintenance Effectiveness (71111.12Q - 3 samples)a. Inspection Scope

The inspectors completed three maintenance effectiveness inspection samples for the systems listed below. The inspectors reviewed performance-based problems or completed performance and condition history reviews involving these in-scope structures, systems or components (SSCs) to assess the effectiveness of the maintenance program. The reviews focused on: proper maintenance rule (MR) scoping in accordance with 10 CFR 50.65; characterization of reliability issues; tracking system and component unavailability; 10 CFR 50.65 (a)(1) and (a)(2) classifications; identifying and addressing common cause failures, trending key parameters, and the appropriateness of performance criteria for SSCs classified (a)(2) as well as the adequacy of goals and corrective actions for SSCs classified (a)(1). For the periodic assessment inspection sample, the inspectors reviewed the assessment frequency, the performance criteria, the use of operating experience and corrective actions. The inspectors reviewed system health reports, maintenance backlogs, and MR basis documents. The documents reviewed are listed in the Attachment.

- Service water, SW-01, MR (a)(1) classification due to system unavailability with a focus on equipment performance (AR220576)
- Diesel air handling system, DAH-01, MR (a)(1) classification due to temperature switch failure (AR204134)
- 480 Vac electrical distribution system MR (a)(1) classification due to breaker failures (AR40896)

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 5 samples)a. Inspection Scope

The inspectors completed five maintenance risk assessment and emergent work control inspection samples for the planned work items described below. The inspectors reviewed the scheduling and control of the planned work activities to evaluate the overall effect on plant risk. The inspectors conducted interviews with operators, risk analysts, maintenance technicians, and engineers to assess their knowledge of the risk associated with the work, and to ensure that other equipment was properly protected. The inspectors reviewed the availability of opposite train guarded and protected equipment. The compensatory measures were evaluated against Seabrook procedures, Maintenance Manual 4.14, "Troubleshooting," Revision 0 and Work Management Manual 10.1, "On-Line Maintenance," Revision 3. Specific risk assessments were conducted using Seabrook's "Safety Monitor," as applicable. The documents reviewed are listed in the Attachment. The inspectors reviewed the maintenance items listed below.

- Planned work associated with the B station battery on July 27, 2010 (WO 01198691)
- Planned work associated with the B emergency diesel generator on August 23, 2010 (WO 01211181)

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- Planned work associated with the turbine driven emergency feedwater pump test on September 22, 2010 (WO 01207386)
- Planned work associated with replacement of the thermal overload protection relay for the D service water pump discharge isolation valve (SW-V-31) on September 29, 2010 (WO 1196498)
- Planned work associated with enclosure air handling fan 1-EAH-FN-180A on August 18, 2010 (WO 1186699)

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15 - 5 samples)

a. Inspection Scope

The inspectors completed five operability evaluation inspection samples. The inspectors reviewed the operability evaluations and condition reports listed below to verify that identified conditions did not adversely affect safety system operability or overall plant safety. The evaluations were reviewed using criteria specified in NRC Regulatory Issue Summary 2005-20, "Revision to Guidance formerly contained in NRC Generic Letter 91-18, Information to Licensees Regarding two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability" and Inspection Manual Part 9900, "Operability Determinations and Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety." In addition, where a component was determined to be inoperable, the inspectors verified that TS limiting condition for operation implications were properly addressed. The documents reviewed are listed in the Attachment. The inspectors also performed field walk downs and interviewed personnel involved in identifying, evaluating or correcting the identified conditions. The following items were reviewed:

- CR396420, operability of the reactor coolant leakage monitoring system with degraded radiation monitoring detection system on July 30, 2010
- CR391249, operability of emergency core cooling system valves with partially tested interlocks on August 13, 2010
- CR574120, operability of control building with EC145305 test results for degraded concrete, on September 30, 2010
- CR 579532, operability of the containment building following identification of an embedded section of wood on September 14, 2010
- CR579871, operability of the steam driven emergency feedwater pump with degraded steam line isolation valve on September 17, 2010.

b. Findings

No findings were identified.

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1R18 Plant Modifications (71111.18 - 2 samples).1 Permanent Modification – EC 156597: Transfer Canal / Cask Pit Liner Replacementa. Inspection Scope

The inspectors completed one permanent modification inspection sample. The inspectors reviewed modification package EC 156597, which replaced the coating on the transfer canal and cask loading pit in the fuel storage building. The review was completed to verify that the design bases and performance capability of the system were not degraded. The inspectors verified the new configuration was accurately reflected in the design documentation, and that the post-modification testing was adequate to ensure the SSCs would function properly. The inspectors interviewed plant staff, and reviewed issues entered into the corrective action program to verify that NextEra was effective at identifying and resolving problems associated with permanent modifications. The 10 CFR 50.59 evaluation associated with this modification was also reviewed. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2 Temporary Modification – EC 249139: Spent Fuel Pool Gate Latch Modificationa. Inspection Scope

The inspectors completed one temporary modification inspection sample. The inspectors reviewed design package EC 249139, which modified the lock pin keepers on the spent fuel pool gate. The review was completed to verify that the design bases and performance capability of the system were not degraded. The inspectors verified the configuration was accurately reflected in the plant documentation, and that the post-modification testing was adequate to ensure the SSCs would function properly. The 10 CFR 50.59 evaluation associated with this temporary modification was also reviewed. The inspectors interviewed plant staff, and reviewed issues entered into the corrective action program to verify that NextEra was effective at identifying and resolving problems associated with temporary modifications. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 - 8 samples)a. Inspection Scope

The inspectors completed eight post-maintenance testing (PMT) inspection samples. The inspectors observed portions of PMT activities listed below to verify the tests were performed in accordance with the approved procedures. The inspectors assessed the test adequacy by comparing the test methodology to the scope of the maintenance work performed. The inspectors evaluated the test acceptance criteria to verify that the test

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procedure ensured that the affected systems and components satisfied applicable design, licensing bases and TS requirements. The inspectors also reviewed recorded test data to confirm all acceptance criteria were satisfied during testing. The documents reviewed are listed in the Attachment.

- Leak tightness test of the waste liquid discharge line, WLD-943, after modification and testing activities conducted per WO 01172978
- Retest of the RHR common cross connect to SI/Charging valve 1-CS-V-460 on September 23, 2010, following a leak repair per WO 610869
- Retest of service water pump D discharge isolation valve (SW-V-31) on September 29, 2010, following replacement of the thermal overload protection relay per WO 1196498
- Retest of the SG B Blowdown IRC Isolation Valve (1-SB-V-3) on September 21, 2010, after replacement of a solenoid valve per WO 01202905
- Retest of safety injection pump (SI-P-6B) on August 6, 2010, after a lube oil system leak repair per WO 1211462
- Retest of the B SEPS on August 15 to 19, 2010, after replacement of the right bank starter motor per WO 120526901
- Retest of valve RH-FCV-611 on August 25, 2010, after replacement of the thermal overload per WO 1196483
- Retest of control building air handling fan CBA-FN-14B on August 25, 2010, after replacement of the motor shaft and breaker per WO1202802

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 6 samples)

a. Inspection Scope

The inspectors completed six surveillance testing inspection samples. The inspectors observed portions of surveillance testing activities for safety-related systems to verify that the system and components were capable of performing their intended safety function, to verify operational readiness, and to ensure compliance with required TS and surveillance procedures. The inspectors attended selected pre-evolution briefings, performed system and control room walk downs, observed operators and technicians perform test evolutions, reviewed system parameters, and interviewed the system engineers and field operators. The test data recorded was compared to procedural and TS requirements, and to prior tests to identify any adverse trends. The documents reviewed are listed in the Attachment. The following surveillance activities were reviewed:

- IS1672.901, Service Water Train A Tower Actuation Logic Test, Revision 0, on July 16, 2010 (WO 01186954)
- OX1401.02, RCS Leak Rate Calculation, in July and August 2010
- LX0556.04, Station Battery Service Test, on July 27-29, 2010 (WO 01198961)
- LX0557.07, 480 Volt Molded Case Circuit Breaker Technical Specification Surveillance, on July 10 and September 8, 2010 (WO01196428, 01196425)

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- OX 1423.14, Fuel Storage Building Air Clean Up System Surveillance – Train A on August 20, 2010 (WO 1205764)
- OX 1406.02, Containment Spray Pump and Valve Quarterly Operability, 18 Month Position Indication and Comprehensive Pump Testing on August 24, 2010 (WO 1205733)

The inspectors reviewed deficiencies related to surveillance testing and verified that the issues were entered into the corrective action program. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06 - 1 sample)

.1 Simulator-Based Licensed Operator Requalification Training Evolution

a. Inspection Scope

The inspectors completed one drill evaluation inspection sample. On July 15, 2010, the inspectors observed a drill from the control room simulator during licensed operator requalification training. The inspectors evaluated the drill performance relative to developing event classifications and notifications. The inspectors reviewed the Seabrook Emergency Initiating Condition Matrix. The inspectors referenced Nuclear Energy Institute 99-02, "Regulatory Assessment PI Guideline," Revision 5, and verified that NextEra correctly counted the drill's contribution to the NRC PI for drill and exercise performance.

b. Findings

No findings were identified.

2. **RADIATION SAFETY**

Cornerstone: Occupational Radiation Safety

2RS01 Radiological Hazard Assessment and Exposure Controls (71124.01 – 1 sample)

a. Inspection Scope

During the periods August 16 - 19, 2010, and September 20 - 23, 2010, the inspectors conducted the following activities to verify that NextEra was evaluating, monitoring, and controlling radiological hazards for work performed in locked high radiation areas (LHRA) and other radiological controlled areas, and that workers were adhering to these controls when working in these areas. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, technical specifications, and NextEra's procedures.

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Radiological Hazards Control and Work Coverage

The inspector identified areas at Seabrook where radiologically significant work was being done. The inspector reviewed radiation survey maps and radiation work permits (RWP) associated with these areas to determine if the associated controls were acceptable. The inspector interviewed selected workers to determine if the workers were informed of the radiological conditions at the job site, electronic dosimeter alarm set points, and actions to be taken if a dosimeter alarms. Specific work activities observed included replacement of the non-metallic liner in the transfer canal and cask wash pit in the fuel storage building.

The inspector toured the accessible radiological controlled areas in the plant, including the primary auxiliary building, fuel handling building, decay heat vault, and waste processing building, and with the assistance of a radiation protection technician performed independent surveys of selected areas to confirm the accuracy of survey data and the adequacy of postings. During this tour, the inspector verified that selected locked high radiation areas (LHRA) were properly secured and posted.

In evaluating the radiation work permits (RWP), the inspector reviewed electronic dosimeter dose/dose rate alarm set points to determine if the set points were consistent with the survey indications and plant policy. The inspector verified that workers were knowledgeable of the actions to be taken when the dosimeter alarms, or malfunctions, for tasks being performed under selected RWPs.

Problem Identification and Resolution

A review of Nuclear Oversight Daily Quality Summary reports, related condition reports, and an audit report (No.SBK-10-012) was conducted to determine if identified problems and negative performance trends were identified and entered into the corrective action program, and evaluated for resolution.

Relevant condition reports (CR), associated with radiation protection control access were reviewed and discussed with NextEra staff to determine if the follow up activities were being conducted in an effective and timely manner, commensurate with their safety significance. The inspector also reviewed the electronic dosimeter dose and dose rate alarm reports to determine that for every alarm a condition report was initiated and that the cause was appropriately established.

High Radiation Area and Very High Radiation Area Controls

Procedures for controlling access to High Radiation Areas (HRA) and Very High Radiation Areas (VHRA) were reviewed to determine if the administrative and physical controls were adequate. The inspector also reviewed the physical and procedural controls for securing and removing highly contaminated/activated materials stored in the spent fuel pool and transfer canal. The inspector discussed with radiation protection management, the adequacy of current LHRA/VHRA controls, including prerequisite communications and authorizations, and verified that any changes made to relevant procedures did not substantially reduce the effectiveness and level of worker protection.

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Radiation Worker Performance and Radiation Protection Technician Performance

The inspector observed and questioned radiation workers and radiation protection technicians regarding radiological controls applied to various tasks, including replacement of the non-metallic liner in the transfer canal. The inspector determined that the workers were aware of current RWP requirements, radiological conditions, access controls, and that the skill level was appropriate with respect to the potential radiological hazards and the work being performed.

The inspector attended the Radiation Protection Department pre-job briefing for replacement of the non-metallic liner in the transfer canal to assess the level of detail provided to workers regarding planned work activities, including the job hazards assessment, industrial safety measures, and radiological controls.

The inspector reviewed Condition Reports, related to radiation worker and radiation protection technician errors, and personnel contamination event reports to determine if an observable pattern traceable to a similar cause was evident.

Contamination and Radioactive Material Control

At the RCA control point, the inspector observed workers surveying and releasing potentially contaminated materials for unrestricted use. The inspector verified that the counting instrumentation was located in a low background area and that the instruments sensitivity was appropriate for the type of contamination being measured.

Storage and Transfer of Spent Radioactive Resin

The inspector reviewed the preparations made for transfer of highly radioactive spent resin from the A-spent resin sluice tank to three liners located in the waste processing building, on September 23, 2010. The inspector reviewed the implementing procedure (HN0960.09), attended the pre-job briefing, and toured the areas affected by the resin transfer. The inspector examined the postings of the locked high radiation areas/high radiation areas in the plant affected by the resin transfer, the stationing of guards to prevent personnel entries into the affected areas, the appropriate selection and placement of personnel dosimetry, and reviewed the final doses received by workers making the resin transfer.

b. Findings

No findings were identified.

2RS02 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

During the period August 16 - 19, 2010, the inspector conducted the following activities to verify that NextEra was properly implementing operational, engineering, and administrative controls to maintain personnel exposure as low as is reasonably achievable (ALARA) for tasks performed since the last inspection of this area in 2009 and in performing on going activities. Implementation of these controls was reviewed

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against the criteria contained in 10 CFR 20, applicable industry standards, and NextEra's procedures.

Radiological Work Planning

The inspector reviewed pertinent exposure information regarding the fall 2009, OR13 refueling outage, current exposure trends, and ongoing activities to assess ALARA performance. A review of 2009 outage dose was conducted to compare actual exposures with forecasted estimates to determine if differences were properly addressed in Work-In-Progress and Post-Job ALARA reviews.

The inspector evaluated the departmental interfaces between radiation protection, operations, maintenance crafts, and engineering to identify missing ALARA program elements and interface problems. The evaluation was accomplished by attending an ALARA briefing for replacement of the non-metallic liner in the transfer canal, reviewing Station Radiation Safety Committee meeting minutes, and a Nuclear Oversight audit; and interviewing the acting Radiation Protection Manager.

Verification of Dose Estimates

The inspector reviewed the assumptions and basis for the annual (2010) site collective dose, exposure projections and actual exposure data for routine power operations. The inspector reviewed the effectiveness of initial job planning measures and NextEra's efforts in monitoring and controlling dose, during job completion.

The inspector reviewed Next Era's procedures associated with monitoring and re-evaluating dose estimates when the forecasted cumulative exposure for tasks differed from the actual exposure received. The inspector reviewed the dose/dose rate alarm reports, and exposure data for selected individuals receiving the highest Total Effective Dose Equivalent (TEDE) for 2009 and for 2010, to confirm that no individual exposure exceeded the regulatory limit, or met the performance indicator reporting guideline.

Jobs-In-Progress

The inspector observed a job-in-progress to evaluate the effectiveness of dose and contamination control measures. The job observed was replacement of the non-metallic liner in the transfer canal. As part of this evaluation, the inspector attended the pre-job ALARA briefing, reviewed the RWP and associated survey maps, evaluated contamination control measures, and observed the job in progress.

Problem Identification and Resolution

The inspector reviewed elements of Next Era's corrective action program related to implementing ALARA program controls, including condition reports, Nuclear Oversight daily quality summary reports, an audit, and dose/dose rate alarm reports, to determine if problems were being entered at a conservative threshold and resolved in a timely manner.

b. Findings

No findings were identified.

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2RS08 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage and Transportation (71124.08 – 1 sample)

a. Inspection Scope

During the period September 20 - 23, 2010, the inspector conducted the following activities to verify that Next Era's radioactive material processing and transportation programs complied with the requirements of 10 CFR 20, 61, 71; and Department of Transportation (DOT) regulations 49 CFR 170-189.

Radioactive Waste Systems Walkdown

The inspector walked down accessible portions of the radioactive liquid and solid radwaste processing systems and storage areas with the cognizant site staff. During the tour, the inspector evaluated if the systems and facilities were consistent with the descriptions contained in the Updated Final Safety Analysis Report (UFSAR) and the Process Control Program (PCP), evaluated the general material conditions of the systems and facilities, and identified any changes to the systems. The inspector reviewed the current processes for transferring radioactive resin/sludge to shipping containers, and the subsequent de-watering process.

Also, the inspector walked down portions of radwaste systems that are no longer in service or abandoned in place, and discussed with the plant engineer the status of administrative and physical controls for these systems including components of the site liquid radwaste evaporators, waste solidification system, the steam generator blowdown treatment system and boron recovery system.

The inspector visually inspected various radioactive material storage locations with the Radiological Waste Services, Senior Technical Analysts including areas of the Seabrook Radwaste Material Storage Building, Unit 2 Cooling Tower, in-plant storage areas, and outside yard locations within the site protected area, to evaluate inventories, material conditions/labeling of the storage containers, and radiological controls.

Waste Characterization and Classification

The inspection included a selective review of the waste characterization and classification program for regulatory compliance, including:

- The radio-chemical sample analytical results for various radioactive waste streams
- The development of scaling factors for hard-to-detect radio-nuclides from radio-chemical data;
- The methods and practices used to detect changes in waste streams
- The characterization and classification of waste relative to 10 CFR 61.55; and the determination of DOT shipment subtype per 49 CFR 173.

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Shipment Preparation

The inspection included a review of radioactive waste program records, shipment preparation procedures, and training records, including:

- Reviewing radwaste and radioactive material shipping logs for calendar years 2009 and 2010
- Verifying that training was provided to appropriate personnel responsible for classifying handling, and shipping radioactive materials, in accordance with Bulletin 79-19 and 49 CFR 172 Subpart H
- Verifying that appropriate NRC (or agreement state) license authorization was current for shipment recipients for recent shipments
- Verifying compliance with the relevant certificates-of-compliance and related procedures for shipping casks and high integrity containers.

Shipment Records

The inspector selected and reviewed records associated with five (5) shipments of radioactive material made since the last inspection of this area. The shipments were Nos.09-066, 10-014, 10-015, 10-002, and 10-004. The following aspects of the radioactive waste packaging and shipping activities were reviewed:

- Implementation of applicable shipping requirements including proper completion of manifests
- Implementation of specifications in applicable certificates-of-compliance, for the approved shipping casks/high integrity containers, including limits on package contents
- Verification that dewatering criteria was met
- Classification of radioactive materials relative to 10 CFR 61.55 and 49 CFR 173
- Labeling of containers relative to package dose rates
- Radiation and contamination surveys of the packages
- Placarding of transport vehicles
- Conduct of vehicle checks
- Providing of emergency instructions to the driver
- Completion of shipping papers
- Notification by the recipient that the radioactive materials have been received

Identification and Resolution of Problems

The inspector reviewed the 2009 Annual Radioactive Effluent Release Report, relevant condition reports, Nuclear Oversight field observations/daily quality summary reports, radwaste system health reports, and recent radiation material container inspection reports. Through this review, the inspector assessed Next Era's threshold for identifying problems, and the promptness and effectiveness of the resulting corrective actions. This review was conducted against the criteria contained in 10 CFR 20.1101(c) and NextEra's procedures.

b. Findings

No findings were identified.

Enclosure

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151- 6 samples)

.1 Barrier Integrity Cornerstone

a. Inspection Scope

The inspectors reviewed NextEra information for the Seabrook performance indicator (PI) listed below to verify the accuracy of the PI data reported during that period. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 5, was used to verify the basis in reporting each data element. The inspectors sampled NextEra submittals for the Barrier Integrity cornerstone PI's listed below for the period from the fourth quarter of 2009 through the third quarter 2010.

- RCS Leakage
- RCS Activity

The inspectors reviewed licensee event reports (LERs), operating logs, procedures, and interviewed applicable personnel to verify the accuracy and completeness of the reported data. The inspectors also reviewed the accuracy of the number of critical hours reported.

b. Findings

No findings were identified.

.2 Mitigating Systems Cornerstone

a. Inspection Scope

The inspectors reviewed NextEra information for the Seabrook performance indicator (PI) listed below to verify the accuracy of the PI data reported during that period. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 5, was used to verify the basis in reporting each data element. The inspectors sampled NextEra submittals for the Mitigating Systems cornerstone PI's listed below for the period from the fourth quarter of 2009 through the third quarter 2010.

- High Pressure Injection System MSPI
- Heat Removal System MSPI
- Residual Heat Removal System MSPI
- Cooling Water System MSPI

The inspectors reviewed licensee event reports (LERs), operating logs, procedures, and interviewed applicable personnel to verify the accuracy and completeness of the reported data.

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b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152 - 1 sample)

.1 Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the Seabrook corrective action program (CAP). This review was accomplished by accessing NextEra's computerized database. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2 Annual Sample: Actions to Address Service Water System Issues Inspection Scope

a. Inspection Scope

This inspection was conducted to assess whether NextEra's corrective actions associated with issues concerning the service water (SW) system were reasonable to correct the identified causes and prevent recurrence of the problems. Specifically, the inspectors reviewed actions taken to address a non-cited violation (NCV 05000443/2009004-01) regarding the failure to verify that boundary valve leakage was within design assumptions (CR 201099). The inspectors also reviewed the actions taken regarding corrosion of the bolting on the "A" diesel generator (DG) jacket water heat exchanger drain valve, 1-SW-V-515 (CR 197963).

The inspectors reviewed calculations, work orders, condition reports (CRs) and an apparent cause evaluation to assess the effectiveness of NextEra's corrective actions. The inspectors discussed with station personnel the short and long term corrective action plans and the extent-of-condition reviews. Additionally, the inspectors conducted a walkdown of accessible portions of the SW system to evaluate the material condition of the system. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings were identified.

The inspectors determined that NextEra's actions associated with the two service water issues were reasonable to correct the identified causes and repair the degraded conditions. For the CRs reviewed, the associated evaluations were appropriately detailed to identify apparent causes and to develop suitable corrective actions. During the course of the review, the inspectors noted that the SW system had some material degradation challenges (e.g., surface corrosion), most of which appeared to be

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attributed to environmental conditions of the system (e.g., humidity). NextEra had submitted CRs for the noted deficiencies, and was developing actions to improve the material condition.

4OA3 Event Follow Up (71153 – 1 sample)

.1 (Closed) LER 05000443/2010-002, Containment Penetration Protection Devices

Licensee Event Report 2010-02 dated 6/8/2010 reported NextEra's determination per 10CFR50.73(a)(2)(i)(B) that the plant had operated in a condition prohibited by Technical Specifications (TSs). Surveillance testing in April 2010 identified that the instantaneous trip set points for containment penetration over current protection devices were not set correctly. Both the primary and secondary device trip set points for the train-B hydrogen re-combiner were set at 1094 amps versus the design value of 781 amps. Past plant operations with the incorrect trip settings was contrary to the requirements of TS 3.8.4.2. The correct set points were re-established after they were identified. An engineering evaluation (CR220912) determined that, even with the incorrect settings, the protection devices would have protected the containment penetration. Thus, the containment protection circuit remained functional with large margins to the equipment limits.

The condition was discovered by NextEra during a planned surveillance activity whose purpose was to verify trip setting met TS requirements. The NextEra investigations of the issue (apparent cause for CR220912) identified that the issue was caused by previous performance deficiencies. The incorrect set points were established when the devices were installed in 2002 (90MMOD663); further, there were missed opportunities to identify the error in 2004 due to an inadequate procedure, and in 2008 due to the failure to follow procedures. The A-train hydrogen recombiner protection devices were verified to be set correctly. An extent of condition review determined there were no other protection devices with incorrect trip setpoints.

The inspectors reviewed the accuracy of the LER and verified compliance with the reportability requirements in 10 CFR 50.73. The LER concerned a condition that was a minor violation of NRC requirements established in TS 3.8.4.2, and caused by the failure to meet requirements stated in Technical Specification 6.7.1 related to procedures and procedure use. The failure to comply with the aforementioned TS requirements constitutes violations of minor significance that are not subject to enforcement action in accordance with the NRC Enforcement Policy. This LER is closed.

4OA5 Other Activities

.1 (Closed) TI 2515/179, Verification of licensee responses to NRC requirement for inventories of materials tracked in the National Source Tracking System

a. Inspection Scope

During the period August 16 - 19, 2010, the inspector conducted the following activities to confirm that inventories of materials possessed at Seabrook were appropriately reported and documented in the National Source Tracking System (NSTS) in accordance with 10 CFR 20.2207

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Inspection Planning

- The inspectors retrieved a copy of the Seabrook NSTS inventory from Seabrook's NSTS account via Regional staff with NSTS access.

Inventory Verification

- The inspector performed a physical inventory of the sources listed on Seabrook's inventory and visually identified each source listed on the inventory.
- The inspectors verified the presence of the nationally tracked sources by having a radiation protection technician perform a survey with a radiation survey instrument.
- The inspector examined the physical condition of the source containers, evaluated the effectiveness of the procedures for secure storage and handling, discussed Seabrook's maintenance of the device including source leak tests, and verified that the posting and labeling of the source was appropriate.
- The inspectors reviewed Seabrook's records for the source and compared the records with the data from the NSTS inventory. The inspectors evaluated the effectiveness of Seabrook's procedures for updating the inventory records.

Determine the Location of Unaccounted-for Nationally tracked sources

- The inspector verified that Seabrook has no unaccounted-for sources.

Review of Other Administrative Information

- The inspectors reviewed the administrative information contained in the NSTS inventory printout with Seabrook personnel. All administrative information, mailing address, docket number, and license number, was verified to be correct.

b. Findings

No findings were identified.

2. Operation of an Independent Spent Fuel Storage Installation (ISFSI) (60855)

a. Inspection Scope

The inspector reviewed routine operations and monitoring of the ISFSI. The inspector walked down the ISFSI with a Senior Radiation Protection Technician. The inspector performed independent dose rate measurements of the storage modules, confirmed module temperatures were within the required limits, and confirmed the location of environmental dosimetry. The inspector also reviewed plant equipment operator logs for ISFSI surveillances and environmental (ISFSI) dosimetry records. Radiological control activities for the ISFSI were evaluated against 10 CFR 20, ISFSI technical specifications, and NextEra's procedures.

b. Findings

No findings were identified.

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4OA6 Meetings, Including Exit

On October 7, 2010, the resident inspectors presented the results of the first quarter routine integrated inspections to Mr. Paul Freeman and Seabrook Station staff. The inspectors also confirmed with NextEra that the inspectors reviewed no proprietary information during the course of the inspection.

ATTACHMENTS: SUPPLEMENTAL INFORMATION

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SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

R. Arn, Engineering
M. Arsenault, Assistant Operations Supervisor
J. Ball, Maintenance Rule Coordinator
R. Belanger, Principal Engineer
M. Bianco, Radwaste Supervisor
K. Boehl, ALARA Specialist
D. Boss, Senior Radiation Protection Technician
V. Brown, Senior Licensing Analyst
K. Browne, Operations Manager
R. Campo, BOP Supervisor
M. Collins, Design Engineering Manager
W. Cox, Radiological Waste Services, Senior Technical Analyst
D. Flahardy, Radiation Protection Supervisor
P. Freeman, Site Vice President
F. Haniffy, Source Custodian
D. Hickey, Radiation Protection Supervisor
J. Hill, Training Instructor
G. Kilby, Principal Engineer-Licensing
G. Kim, Risk Analyst
J. Kennish, Training Instructor
W. Kramer, Plant Engineer
M. Leone, Training Instructor
R. Logue, Senior Radiation Protection Technician - Instruments
T. Manning, Engineering
J. Mayer, Vibration Program Owner
B. McAllister, SW System Engineer
N. McCafferty, Plant Engineering Manager
E. Metcalf, Plant General Manager
W. Meyer, Radiation Protection Manager
R. Noble, Engineering Manager
M. O'Keefe, Licensing Manager
M. Ossing, Engineering Support Manager
V. Pascucci, Nuclear Oversight Manager
E. Piggot, Shift Manager
D. Robinson, Chemistry Supervisor
M. Scannell, Health Physics Shift Supervisor – Nuclear
J. Sobotka, Mechanical Design Supervisor
E. Spader, Lead Simulator Instructor
R. Sterritt, ALARA Coordinator
R. Thurlow, Maintenance Manager
J. Tucker, Security Manager
P. Willoughby, Licensing Engineer

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened and Closed:

05000443/2010002

LER Containment Penetration Protection Device
Inoperable (Section 4OA3.1)

Closed:

None

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

OS1200.03, Severe Weather Conditions, Revision 18
OS1246.02, Degraded Vital AC Power, Revision 10
ON1238.01, Circulating Water Screens Fouled, Revision 12
ON1490.09 Summer Readiness Surveillance, Revision 4
Seasonal Readiness Review – System Engineering
NM11800, Hazardous Condition Response & Recovery Plan, Revision 22
OP-AA-102-1002, Seasonal Readiness, Revision 0
ER1.1, Classification of Emergencies, Revision 48
MGDI0041, Severe Weather Response
SDI0073, Adverse Weather Response, Revision 1
UFSAR Section 2.4, 3.4, and 9.3.3, Revision 13
Operations Department Turnover Report
Condition Report 566517, 566567, 567850, 577817, 578189, 576936
Daily Status Report
Station Operating Logs

Section 1R04: Equipment Alignment

Work Orders 01205378
OS1048.14, Vital Bus 11B Operation, Revision 2
OX1446.03, Electrical Bus Weekly Operability, Revision 7
UFSAR Section 6.2.5, Combustible Gas Control in Containment
Technical Requirements Manual TR32-3.6.4.1, Hydrogen Monitors
OS1023.40, Hydrogen Recombiner Operation, Revision 7
OS1023.71, Operation of the Hydrogen Analyzers, Revision 10
OS1023.72, Air Purge of Containment, Revision 7
Plant Engineering Action Plan Register
Operations Logs - various
PID: 1-CBS-B20233, D20233, 1-RH-B20662, 20663, 1-SI-B20446, 20447, 1-CS-B20725
OX1456.02, ECCS Monthly System Verification, Revision 11

Section 1R05: Fire Protection

UFSAR Section 9.5.1 Fire Protection Systems
 Technical Requirement 11, Fire Rated Assemblies
 Fire Protection Pre-fire Strategies
 Operations Logs - various
 DBD-FP-06r2, Fire Rated Doors, Dampers, Conduit Wrap, & Heat Shields
 OS1200.00Ar12, Fire Hazards Analysis for Affected Area / Zone – Appendix A
 OS1200.00r12 Response to Fire or Fire Alarm Actuation
 OS1014.07r4 Dewatering the Fuel Transfer Canal and Cask Pool Area
 EC 156597, New Non Metallic Liner for Spent Fuel Pool

Section 1R11: Licensed Operator Regualification Program

Procedure OS 1000.02, "Plant Startup from Hot Standby to Minimum Load", Rev 17
 Procedure OS 1000.06, Figure 12, "Turbine Unloading Instructions" Revision 10
 Design Change 07DCR005, "Turbine Control System Replacement (EHC)"
 LORT Phase 09-05 Self Study/Reading Package*
 Phase 09-06 Self Study/Reading Package*
 SBK CRD L1775C, "Digital Turbine Control System" (classroom lesson plan*)
 L3559C "Plant Manipulations with DEHC" (simulator lesson plan*)
 AR 00213393 "Entry into DNB Tech Spec" (including associated Apparent Cause Report)
 Simulator Demonstration Examination July 15, 2010
 Emergency Operating Procedure E-0, ES-0.1, E-3, ER1.1A
 Procedures OS1210.05, OS1231.04, OS1227.02, OS1216.01, OS1000.06
 NT-5701-5, Crew simulator Evaluation
 NT-5701-2, Crew Critical Task Validation
 *Including attendance/completion records

Section 1R12: Maintenance Rule Implementation

Plant Engineering Guidelines, Maintenance Rule Program Monitoring Activities
 Engineering Standard 36180, Structural Monitoring Program, Revision 0
 Maintenance Rule Improvement Plan for SW-01 Exceeding Unavailability Hours
 Plant Health Committee Meetings
 Plant Engineering Action Plan Register
 Maintenance Rule Failures Evaluated in the Condition Report System
 System Health Reports –
 Work Requests for 2009 - 2010
 Action Requests

Section 1R13: Maintence Risk and Emergent Work

Work Orders 0120050, 01194986, 01196811, 01210175, 01206145, 01211182, 1207386, 1196498
 OX1436.02, Turbine Driven Emergency Feedwater Pump Quarterly And Monthly Valve Alignment, Revision 14
 M-Rule a(4) Risk Assessment Reports 1039-04, 1040-05
 LX0557.03, Thermal Overload Protection Relay Replacement for Motor Operated Valves, Revision 2
 OX 1416.04, Service Water Quarterly Pump And Discharge Valve Test And Comprehensive Pump Test, Revision 11
 OX1456.81, Operability Testing of IST Valves, Revision 12

Drawings 1-SW-B20794 Service Water System Nuclear Detail, Revision 20, 4/6/08
Operations Logs - various
SM 7.10, Revision 01, Maintenance Rule Program
WM 10.1, Revision 3, On-Line Maintenance
WM-AA-1000, Work Activity Risk Management Process
NP-702, Use of Probabilistic Assessment
OP-AA-104-1007r0, Online Aggregate Risk
M-Rule a(4), Risk Assessment Reports – various
Seabrook 2009 PRA – Understanding the Risk from Operation of the Seabrook NPP
Action Request 57881, 149600

Section 1R15: Operability Evaluations

Operator Logs
Condition Reports (CR) 391249, 396420, 579532, 597871
Operability Determinations for CRs 396420
Apparent Cause Evaluation for CR391249
Work Orders 622252, 1196428, 1382198
Procedure ES1.3, Transfer to Cold Leg Recirculation, Revision 26
Standing Order 2010-011

Section 1R18: Modifications

EC249139, Spent Fuel Pool Gate Latch Modification
EC156597, New Non-Metallic Liner for Spent Fuel Pool
Drawing FSB-F-1A
Drawings 9763-F-102217, 101570, 101578, and 9763-D-805534
Operator Aid# 91-009
Condition Reports 568506, 396307

Section 1R19: Post Maintenance Testing

MA3.5, Post Maintenance Testing, Revision 10
WO 610869, 1172808, 1207302, 40044140, 1196498, 11202905, 1173095, 1205255,
1205256, 1205248, 629022, 1191134, 1191135, 1191137, 1384098
OX1456.81, Operability Testing of IST Valves, Revision 12
LS0569.16, Diagnostic Testing of Rising Stem MOVs, Revision 7
LS0569.05, Corrective Maintenance of Limitorque Actuator Type SMB-00, Revision 5
LX0557.03, Thermal Overload Protection Relay Replacement for Motor Operated
Valves, Revision 2
OX 1416.04, Service Water Quarterly Pump And Discharge Valve Test And
Comprehensive Pump Test, Revision 11
OX1456.81, Operability Testing of IST Valves, Revision 12
Drawings 1-SW-B20794 Service Water System Nuclear Detail, Revision 20, 4/6/08
IS0603.005 Equipment Qualification for ASCO Solenoid Valves, Revision 7
OX1456.81, Operability Testing of IST Valves, Revision 12
Action Request 222667, 571777, 197779, 395693, 573685, 573712
Plant Engineering Action Plan Register – safety injection system
Operations logs - various
Technical Specification - various
ES 1809.001, Revision 5, Master Integrity Test Procedure
OX 1456.81, Revision 12, Operability Testing of IST Valves

LX0557.03, Revision 2, Thermal Overload Protection Relay Replacement for Motor Operated Valves

Section 1R22: Surveillance Testing

IS1672.901, Service Water Train A Tower Actuation Logic Test, Revision 0
 Service Water Loop, Logic and Schematic Diagrams 301107, 503100, 503969, 503962, 503967, 503966, 503970, 503968
 LX0556.04, Station Battery Service Test, 3
 Condition Reports 97-0415, 07-1791
 OX1401.02, RCS steady State Leak Rate Calculation, Revision 7
 Root Cause Analysis for AR220912
 LX0557.07, 480 Volt Molded Case Circuit Breaker 18 Month Technical Specification Surveillance, Revisions 02 and 03
 Drawing 310231, Motor Load List
 Work Orders 01186954, 01198961, 10210508, 01172941, 01196428, 01W001511, 0403101, 0627035
 Drawings 20795, 301107 Sheets E87/4a and EH9/10a, 1-NHY-503962, 1-NHY-503970
 OX1456.86R3 Operability Testing of IST Pumps
 Operations logs - various

Section 1EP6: Drill Evaluation

Simulator Demonstrative Exam for July 2010
 Condition Reports 220584, 222722
 ER 1.1, Classification of Emergencies, Revision 48
 ER 2.0B, Seabrook Station State Notification Fact Sheet
 EPDP-03A, EP Cornerstone Reporting and Information Form
 ER 1.2E, Emergency Action Checklist, Revision 53
 E-0, Reactor Trip or Safety Injection, Revision 49
 E-3, Steam Generator Tube Rupture, Revision 40
 ES-1.1, SI Termination, Revision 35
 ES-0.1, Reactor Trip Response, Revision 35
 OS1227.02, Steam Generator Tube Leak, Revision 15
 SSEP Seabrook Station Emergency Plan

Section 2RS01: Radiological Hazard Assessment/ALARA Planning & Controls and

Section 2RS02: Occupational ALARA Planning and Controls

Procedures:

Radiological Hazard Assessment/ALARA Planning & Controls (71124.01/02)
 HD0958.03, Rev 24, Personnel Survey and Decontamination Techniques
 HN0958.13, Rev 28, Generation and Control of Radiation Work Permits
 HD0958.17, Rev 12, Performance of Routine Radiological Surveys
 HD0958.19, Rev 30, Evaluation of Dosimetry Abnormalities
 HN0958.25, Rev 28, High Radiation Area Controls
 HD0958.30, Rev 23, Inventory and Control of Locked or Very High Radiation Area Keys and Locksets
 HD0958.48, Rev 02, Health Physics Job Coverage Using Remote Monitoring
 HD0992.02, Rev 33, Issuance and Control of Personnel Monitoring Devices
 HN0958.30, Rev 23, Inventory and Control of Locked or Very High Radiation Area Keys and Locksets
 HN0958.39, Rev 33, Multi-Badge Control & Exposure Tracking
 HX0958.23, Rev 14, Radioactive Source Control

HD0965.12, Rev 29, Respiratory Protection Issue and Use
RP 2.1, Rev 22, General Radiation Worker Instruction and Responsibilities
RP 3.1, Rev 23, Radiological Qualification Requirements
RP 4.1, Rev 20, Requirements for Issuing Personnel Dosimetry
RP 9.1, Rev 25, RCA Access/Egress Requirements
RP 13.1, Rev 24, Radiological Controls for Materials
RP-AA-104-1000, Rev1, ALARA Implementing Procedure
HN0960.09, Rev 09, Radiological Controls for Resin Sluice and Transfer
WN0598.071, Rev 02, Instructions for Resin Sampling
WN0598.040, Rev 10, Spent Resin Recirc Transfer and Flush
CS0918.02, Rev 06, 10 CFR Part 50 and Part 61 Sample Analysis Methods
RP 18.4, Rev 01, Isotopic Characterization of Radwaste
WD0598.078, Rev 04, Packaging of Radioactive Materials and Wastes
WD0598.079, Rev 02, Screening and Validation of Part 61 Data
WN0598.072, Rev 09, Shipment of Radioactive Material
WN98-01-06, Rev 08, Operating Procedure for RADMAN software

Radiation Work Permit/ALARA Plans

RWP 10-0033, FSB Wash Pit/Transfer Canal Liner Coating Removal/Installation
ALARA Package No. 10-01

Condition Reports (Access Control/ALARA related (71124.01/02)

210189, 210574, 392156, 394397, 396283, 394397, 209681, 208973, 209917, 574092,
00581487, 00581483, 00581129, 00001589, 00006587, 00199498, 00215301,
00220037, 00005331, 00394421, 0021657, 00220707, 00213517, 00211743,

Nuclear Oversight Audit and Field Observations:

SBK-10-015, Radioactive Waste Control Audit
SBK-10-012, Radiation Protection Program
Daily Quality Summary 10/01/2009 through 07/13/2010

Nuclear Oversight Department Daily Quality Summary Reports /Surveillances:

QRNOs 08-0054, 08-0056, 08-0065, 09-0038, 10-012, 10-015
Daily Quality Summary Reports from 8/01/2008 to 8/19/2010

Shipping Manifests:

Shipment No. 09-066, LSA II, Shipment No. 10-015, LSA II, Shipment No. 10-014, LSA,
II, Shipment No. 10-004, LSA II, Shipment No. 10-002, LSA II

Miscellaneous Reports:

Dose and Dose Rate Alarm Report for period 11/02/2009 through 03/01/2010
OR-13 Outage Dose Summary report
2010 Routine Operating Dose Report to August 15, 2010
Electronic Dose and Dose Rate Alarm report for 10/18/2009 through 7/26/2010
Radiation Protection Program Excellence Plan 2010
Seabrook 5-Year ALARA Plan (2009-2013)
Radiation Safety Committee Meeting Minutes for 10/28/2009, 02/09/2010, 06/17/2010

Miscellaneous Documents:

Process Control Program
Radwaste and Radioactive Material Shipping Logs for 2009 and 2010

2009 Seabrook Annual Radioactive Effluent Release Report Radwaste/Transportation
 Training Records for selected personnel
 10 CFR 61 Reports for 2009, and 2010
 HPSTID 08-010, Spent Filter Drying and Waste Form
 HPSTID 10-002, Screening and Validation of 2009 10 CFR 61 Data
 HPSTID 08-007, Site Dose Evaluation for Dry Fuel Storage
 HPSTID 10-005, Environmental TLD Results for the Dry Fuel Storage Facility
 Waste Container Inventory and Inspection Forms
 Unit-2 Cooling Tower Waste Storage Inventory
 2nd Quarter 2010 Dry Fuel Area Monitoring TLD Report
 Equipment to be Abandoned List
 Configuration Control Boundary Sheets for Waste Solidification System, Waste Liquid
 System, Waste Liquid Drain, System, Boron Recovery System

Section 40A1: Performance Indicator Verification

Operator Logs
 System Health Reports
 Work Order Reports
 MSPI Derivation Reports
 MSPI Margin Reports
 Condition Reports 220584, 222722, 566530, 220915
 OS1001.16, RCP Seal Leakoff Mitigation Strategies, Revision 16
 OS1201.04, RCS Valve Stem Leak, Revision 15
 Plant Engineering Action Plan Register – Identified Leak Rate Increase
 Periodic Assessment of Maintenance Rule Program April 2008 through October 2009

Section 40A2: Identification and Resolution of Problems

Condition Reports for the first and second quarter of 2010
 Root Cause Analysis for AR208571
 Condition Reports 568621, 568628, 568521, 567052, 566555, 566591, 576208, 576323,
 576329, 576295, 576351, 576353, 576365, 577669, 577671, 577679, 577682, 571305,
 571309, 578207, 578134, 571959
 Work Order 40035976
 Clearance 1-SFD-I-7
 OS1047.01, Non-vital Inverter Operation, Revision 7
 Drawing 1-SW-B20795, Service Water System, Rev. 37
 Calculation C-S-1-83619, Allowable Boundary Valve Leakage for Cooling Tower
 Operation, Rev. 0
 Apparent Cause Evaluation for AR # 00197963, 1-SW-V-515 Bolting Degradation
 DBD-SW-01, Service Water System, Rev. 6
 EC-145239, BNL Ball Valve Nut Material Change and Torque Revision, Rev. 0
 Memo SSP #950266, Review of NRC Information Notice 94-59, Accelerated Dealloying
 of Cast Aluminum-Bronze Valves Caused by Microbiologically Induced
 Corrosion, dated 08/30/1995
 NCV 2009004-01, Failure to Verify that Ultimate Heat Sink Isolation Valves do not Leak
 in Excess of Design Assumptions
 ER-AA-102, Buried Piping Program, Rev. 2
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LIST OF ACRONYMS

| | |
|-------|--|
| AC | Alternate current |
| ADAMS | Agency-wide Documents Access and Management System |
| AP | ALARA Plan |
| ASME | American Society of Mechanical Engineers |
| BOP | Balance of Plant |
| CAP | Corrective action program |
| CR | Condition Report |
| DBD | Design Basis Document |
| DG | Diesel Generator |
| ECCS | Emergency Core Cooling System |
| EDG | Emergency diesel generator |
| GL | Generic letter |
| GSi | Generic Safety Issue |
| HPCI | High pressure coolant injection |
| I & C | Instrumentation and Control |
| IESG | Independent safety engineering group |
| IMC | Inspection Manual Chapter |
| IP | Inspection Procedure |
| ISFSI | Independent Spent Fuel Storage Installation |
| LER | Licensee Event Report |
| LHRA | Locked High Radiation Area |
| LSA | Low Specific Activity |
| MR | Maintenance rule |
| MSPI | Mitigating systems performance index |
| NCV | Non-cited Violation |
| NEI | Nuclear Energy Institute |
| NRC | U.S. Nuclear Regulatory Commission |
| NRR | Nuclear Reactor Regulation |
| PARS | Publicly Available Records |
| PCCW | Primary component cooling water |
| PMT | Post-maintenance testing |
| RCA | Radiological Controlled Area |
| RHR | Residual heat removal |
| RWP | Radiation Work Permit |
| SSC | Structures, systems or components |
| SW | Service Water |
| TI | Temporary instruction |
| TS | Technical Specifications |
| UFSAR | Updated Final Safety Analysis Report |
| UT | Ultrasonic testing |
| VHRA | Very High Radiation Area |
| WO | Work order |