



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

November 12, 2008

Mr. Gene St. Pierre
Site Vice President
FPL Energy Seabrook, LLC
Seabrook Station
c/o Mr. Michael O'Keefe
P.O. Box 300
Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT NO. 1 - NRC INTEGRATED INSPECTION
REPORT 05000443/2008004

Dear Mr. St. Pierre,

On September 30, 2008, 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 1, 2008, with Mr. P. Freeman 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.

On the basis of the results of these inspections, no findings of significance 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 NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA by Leonard Cline Acting for/

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

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

Enclosure: Inspection Report No. 05000443/2008004
w/ Attachment: Supplemental Information

cc w/encl:

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/RA by Leonard Cline Acting for/
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Projects Branch 3
Division of Reactor Projects

/

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-443

License No.: NPF-86

Report No.: 05000443/2008004

Licensee: FPL Energy Seabrook, LLC (FPLE)

Facility: Seabrook Station, Unit No.1

Location: Seabrook, New Hampshire 03874

Dates: July 1, 2008 through September 30, 2008

Inspectors: W. Raymond, Senior Resident Inspector
J. Johnson, Resident Inspector
P. Alter, Senior Training Program Specialist
P. Cataldo, Senior Resident Inspector (Indian Point)
D. Schroeder, Senior Resident Inspector (Salem)
H. Balian, Resident Inspector (Salem)

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

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SUMMARY OF FINDINGS

IR 05000443/2008004; 07/01/2008 – 09/30/2008; Seabrook Station, Unit No. 1; Routine Integrated Report.

The report covered a three-month period of inspection by resident 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.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Seabrook, Unit 1 (Seabrook) operated at or near full power for the entire 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 Conditionsa. Inspection Scope

The inspectors completed one impending adverse weather condition inspection sample. The inspectors reviewed the FPLE readiness to protect risk significant systems from the effects of adverse weather on September 5 to 7 (Storm Hanna,) and September 26 to 28, 2008 (Hurricane Kyle), when adverse weather impacted the site with high winds, rain and potential flooding. The inspectors verified that FPLE prepared and responded to the severe weather conditions in accordance with procedure OS1200.03, "Severe Weather Conditions." The inspectors also reviewed corrective actions for identified problems and examined FPLE's extent of condition reviews. The inspection included walkdowns of plant areas including the AC distribution system and the screen wash, emergency feedwater and service water 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 of significance were identified.

.2 Readiness to Cope with External Floodinga. Inspection Scope

The inspectors completed one external flooding inspection sample. The inspectors reviewed FPLE's readiness for providing protection for risk significant systems from external flooding. 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

Attachment

site to observe 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 primary auxiliary building (PAB), the equipment building, and the fuel storage 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 of significance were identified.

1R04 Equipment Alignment (71111.04 - 3 samples)

.1 Partial System Walkdown

a. Inspection Scope

The inspectors completed three partial system walkdown inspection samples for the three 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. Documents reviewed for this inspection are listed in the Attachment.

- 1A emergency diesel generator (EDG) and associated support systems during planned and emergent work on the 1B EDG on July 18, 2008.
- Emergency feedwater pump P37A during emergency feedwater pump 37B testing and post-test alignment on September 2 and 3, 2008.
- Emergency feedwater system and the AC distribution system during the 24-hour endurance run for 1B EDG on September 10 and 11, 2008.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q - 6 samples)

.1 Quarterly Review of Fire Areas

a. Inspection Scope

The inspectors completed six quarterly fire protection inspection samples. The inspectors examined several areas of the plant 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 following areas were inspected:

- Main Steam/Feed Enclosure West Area, 3 ft and 12 ft elevation (Zone MS-F-1B-Z)
- Main Steam/Feed Enclosure West Area, 21 ft and 27 ft elevation (Zone MS-F-2B-Z)
- Main Steam/Feed Enclosure West Area, 12 ft elevation (Zone MS-F-3B-Z)
- B Train Oil Tank Room, -16 ft elevation (Zone DG-F-1B-A)
- B Train Day Tank Room, 51 ft elevation (Zone DG-F-3D-A)
- Fuel Storage Building, 25 ft elevation (FSB-F-1-A)

The inspectors verified that the fire areas were maintained in accordance with applicable portions of the Fire Protection Pre-Fire Strategies and the Fire Hazard Analysis. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - 2 samples)

a. Inspection Scope

The inspectors performed two flood protection inspection samples. The inspectors reviewed the flood protection measures designed to protect the B equipment vault and the PAB 25 ft elevation and adjoining areas from a postulated line break. This review was performed to evaluate protection for safety-related systems from internal flooding conditions with a focus on the flood barriers and seals. The inspectors compared the as-found equipment and conditions with design basis documents to verify that they were consistent. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified

1R07 Heat Sink Performance (71111.07A - 1 sample)

.1 Annual Inspection

a. Inspection Scope

The inspectors completed one annual heat sink performance inspection sample. The inspectors reviewed Seabrook's program for monitoring the 1B EDG jacket water heat exchanger to verify that the heat exchanger was capable of performing its design function.

Attachment

The inspectors reviewed Seabrook procedure ES1850.017, "SW Heat Exchanger Program," Revision 0, and past thermal performance monitoring results including trending data for heat exchanger temperatures and fouling factors. The inspectors reviewed data monitored by the system engineer and the process used to monitor heat exchanger performance in accordance with Seabrook commitments in response to Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment." The inspectors also reviewed condition reports that identified heat exchanger thermal performance issues to verify that problems were identified and corrected. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q - 3 samples)

a. Inspection Scope

The inspectors completed three maintenance effectiveness inspection samples. The inspectors reviewed performance-based problems or performance and condition history reviews involving selected in-scope structures, systems or components (SSCs) to assess the effectiveness of the maintenance program. 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). The inspectors reviewed system health reports, maintenance backlogs, and MR basis documents. Other documents reviewed for the inspection are listed in the Attachment. The following samples were reviewed:

- B emergency diesel test failure, as described in CR 08-10421;
- closed cooling water pump 11D failure, as described in CR 08-10772; and,
- emergency lighting system performance.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13 – 6 samples)

a. Inspection Scope

The inspectors completed six maintenance assessment and emergent risk evaluation inspection samples. The inspectors reviewed the scheduling and control of the six planned and emergent work activities listed below to evaluate the 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 appropriate risk management actions were implemented. The actions taken were evaluated using the following Seabrook procedures: Maintenance Manual 4.14, "Troubleshooting," Revision 0 and Work Management Manual 10.1, "On-Line Maintenance," Revision 3. The review also included verification by inspectors that, to minimize the impact on plant risk, heavy loads were controlled in accordance with NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants." Specific risk assessments were conducted using Seabrook's "Safety Monitor." The inspectors reviewed the following work activities:

- Emergent maintenance to adjust a misaligned pilot valve retaining clip in the bailey controller for feed regulating valve 1-FW-FCV-510 (work order (WO) 0801836)
- Emergent maintenance on the 1B EDG after a trip on high lube oil temperature during the 24-hour load test (WO's 0821665, 0821666, and 0821668)
- Emergent maintenance conducted to address the failure of the 11D PCCW pump (WO 0821772)
- Calibration of the B atmospheric steam dump valve 1-MS-PV-3002 (WO 0733962)
- Loading of spent fuel into dry storage canister (DSC) no. 6 from the spent fuel pool and the control of heavy loads within the spent fuel building (WO 0800215)
- Emergent maintenance conducted on the B emergency feedwater pump to address a failed diaphragm on valve MS-V394 (WOs 0833986 and 0831919)

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 7 samples)

a. Inspection Scope

The inspectors completed seven operability evaluation inspection samples. The inspectors reviewed operability evaluations and condition reports 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 inspectors also performed field walk downs and interviewed personnel involved in identifying, evaluating or correcting the identified conditions. The following seven items were reviewed:

- CR 08-10108, turbine casing water leak on the A emergency feedwater pump turbine FW-TD-2
- CR 08-10421, operability and extent of condition for 1B EDG trip on high lube oil temperature
- CR 08-09067, charging system valve 1-CS-V-250 non-code bolting materials
- CR 08-11609, steam leakage past the seat of the B steam generator main steam safety valve
- CR 07-03117, operability of handling systems operated by limit switches that were impacted by cold temperatures
- CR 08-12093, operability of the PCCW radiation monitor after removal of the background subtract function
- CR 08-12984, operability of an emergency core cooling system pipe containing air voids that were identified through Generic Letter 2008-001 evaluations

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18 - 1 sample)

.1 Temporary Modification - Leak Repair on 1-MS-298

a. Inspection Scope

The inspectors completed one plant modifications inspection sample. The inspectors reviewed temporary modification 08TMOD007 that was completed on the D steam generator vent valve 1-MS-V298 in May 2008 under WO 0817619. The modification was prepared to contain valve packing gland leakage by injecting leak-seal material into the valve during plant operations. The inspectors evaluated the adequacy of the modification based on a review of engineering and design bases information included in the temporary modification package. This information included the associated 10 CFR 50.59 safety evaluation screening document and implementation procedure MS0526.09, "On Stream Leak Repairs," Revision 4. The inspectors also reviewed the post-modification test plan to ensure that it appropriately verified the modified system's operability and was consistent with the scope of the work performed by the modification.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors completed six post-maintenance testing (PMT) inspection samples. The inspectors reviewed PMT activities to ensure: that the specified PMT was appropriate

for the scope of the work completed and was in accordance with the guidance provided in procedure MA 3.5, "Post Maintenance Testing;" that the acceptance criteria were clear and demonstrated operability of the component; and that operators and technicians performed the testing in accordance with plant procedures. The inspectors reviewed the PMT for the following maintenance activities:

- WO 0821665 that included troubleshooting and repair activities for the 1B EDG after it tripped on high lube oil temperature during its 24-hour load test;
- WO 0801434 that tested the 1A EDG following replacement of the lube oil temperature control valve;
- WO 0621727 that completed post-modification testing for the new cooling tower makeup pump 1-SW-P32 in accordance with ES07-01-04;
- WO 0809918 that completed post-maintenance testing for the PAB ventilation system using procedure OS1423.34 after replacement of system limit switches;
- WO 0830302 that completed post-maintenance testing using procedure OX1456.81 after repairs to PCCW valve CC-V975; and
- WO 0832204 that completed post maintenance testing for the air supply to the B emergency feedwater pump and the B atmospheric steam dump valve.

b. Findings

No findings of significance 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 the TS and surveillance procedures. The inspectors attended selected pre-evolution briefings, performed system and control room walkdowns, observed operators and technicians perform the test evolutions, reviewed system parameters, and interviewed the applicable system engineers and field operators. The test data recorded was compared to procedure and TS requirements, and to prior test results to identify potential adverse trends. The following surveillance procedures were reviewed.

- OX 1433.02, "Turbine Driven Emergency Feedwater Pump Quarterly and Monthly Valve Alignment," Rev. 09, Chg. 01, performed on July 9, 2008.
- OX1456.19, "Post Accident monitoring Monthly Channel Checks," Revision 6, Change 11, performed on July 19, 2008.
- OX 1413.01, "A Train RHR Quarterly Flow and Valve Stroke Test and 18 Month Valve Stroke Test Observation," Rev. 10, Chg. 15, performed on July 29, 2008.
- OX 1436.08, "Startup Feed Pump Quarterly Surveillance," Rev. 10, performed on August 6, 2008.

- RS0720, "SNM Inventory and Control," for the selection and loading of spent fuel into dry storage canisters (DSC) in August and September 2008. The inspectors reviewed the control of critical parameters per calculation SBK-1FJF-08-072, which assure that the DSC barrier integrity would be maintained for the safe storage of spent fuel.
- Reactor coolant system radiochemistry sampling per CS0910.01, "Primary System Sampling at SS-CP-166," performed on September 5, 2008.

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

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151 - 6 Samples)

a. Inspection Scope

The inspectors sampled FPLE submittals for the performance indicators (PIs) listed below for the period from April 2007 through July 2008. 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.

Barrier Integrity Cornerstone

- Reactor coolant system (RCS) Activity

The inspectors observed sample collection and reviewed the results of an RCS sample for iodine analysis performed on September 5, 2008, per chemistry procedure CS0910.01. The inspectors compared the analysis results of the sample performed by the chemistry department to the limits in TS 3.4.8, "Specific Activity," and previously reported RCS activity performance indicator data.

Mitigating System Cornerstone

The inspectors reviewed FPLE submittals from the second quarter of 2007 to the second quarter of 2008 for the Seabrook mitigating systems performance index (MSPI) PIs listed below.

- High Pressure Injection System MSPI
- Heat Removal Systems MSPI
- Emergency AC Power System MSPI

- Residual Heat Removal System MSPI
- Support Cooling Water Systems MSPI

The inspectors reviewed the consolidated data entry MSPI derivation reports for the unavailability and unreliability indexes (UAI and URI) for the monitored systems; the monitored component demands and demand failure data for the monitored systems; and the train and system unavailability data for the monitored systems. The inspectors verified the accuracy of the data by comparing it to corrective action program records, control room operators' logs, maintenance rule performance and scope reports, system performance/health reports, the reactor trips database, the equipment/operability issues database, the site operating history database, key performance indicator summary records, operating data reports and the MSPI basis document.

b. Findings

No findings of significance were identified.

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

.1 Routine Condition Report Screening

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's corrective action program. This review was accomplished by accessing Seabrook's computerized database.

b. Findings

No findings of significance were identified.

.2 Annual Review of Operator Workarounds

a. Inspection Scope

The inspectors completed one problem identification and resolution annual inspection sample by completing an in-depth review of operator workarounds at Seabrook. The inspectors reviewed Seabrook's open operator workarounds and burdens to assess the cumulative impact of these issues on an operator's ability to implement emergency procedures or respond to plant transients. The inspectors verified that identified workarounds were properly tracked and that corrective maintenance for each issue was appropriately scheduled based on safety significance and the potential impact on plant operation. The inspectors examined Seabrook procedure NAP-402, "Conduct of Operations," Attachment K, "Operator Workarounds and Burdens," Revision 3, to verify that the procedure provided the guidance necessary to adequately assess and address

the cumulative impact of identified workarounds on the safe operation of the plant. The inspectors reviewed "turnover" information and toured the plant to verify that degraded conditions were appropriately identified and assessed as an operator workaround or burden. The inspectors also reviewed a selection of condition reports that involved closed operator workarounds and burdens, including the issues described in CRs 08-08760 and 08-2848.

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Paul Freeman on October 1, 2008, following the conclusion of the period. FPLE acknowledged the findings presented and indicated that none of the information presented at the exit meeting was proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

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R. Belanger, Design Engineer
B. Brown, Plant Engineer
K. Browne, Assistant Operations Manager
B. Buerger, Nuclear Projects
W. Cash, Chemistry Manager
D. Chang, Tagging Support
R. Couture, Reactor Engineer
J. Crowley, I&C Superintendent
D. Feeney, Mechanical Maintenance
P. Freeman, Plant General Manager
D. Hickey, Radiation Protection Supervisor
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G. St. Pierre, Site Vice President
M. Taylor, Unit Supervisor
J. Tucker, Security Manager
J. Varga, Reactor Operator
J. Walsh, CVCS System Engineer
N. Walts, Unit Supervisor

S. Wellhofer, Site Nurse
R. White, Security Supervisor
K. Wright, Training Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened
None

Opened and Closed
None

Discussed
None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

OS1200.03, "Severe Weather Conditions," Revision 14
OS1200.03, Attachment D, Severe Weather Actions, Revision 14
OS1216.01, "Degraded Ultimate Heat Sink," Revision 11
ER1.1, Classification of Emergencies, Revision 46
UFSAR Section 2.4, 3.4, and 9.3.3, Revision 12
Station Operating Logs
Condition Report 2008-12345
Work Order 0822021

Section 1R04: Equipment Alignment

Main control Board and Main Computer Status Displays
Operations Logs – Various
OX1436.03, Electric EFW Pump Quarterly Surveillance, Revision 9
OX1426.18, Aligning DG 1A Controls for Auto Start, Revision 3
OS1026.01, Operation of Diesel Generator 1A, Revision 10
OS1026.02, Operating the DG 1A Lube Oil System, Revision 10
OS1026.03, Operating the DG 1A Jacket Water Cooling System, Revision 8
OS1026.04, Operating the DB 1A Starting Air System, Revision 8
OS1026.05, Operating the DG 1A Fuel Oil System, Revision 11
OS1026.06, Operating the DG 1A Air Intake, Exhaust, and Vacuum System, Revision 8
Drawing B20688, Revision 12
WO0808737

Section 1R05: Fire Protection

UFSAR Section 9.5.1, Fire Protection Systems
Fire Hazards Analysis
IM-PX09-38, Fire Protection Prefire Strategies

IX1624.924, FP-CH-452 and FP-CP-512 West MS and Feedwater Pipe Chase Fire
Detection Testing, Rev. 4, Chg 6

IX1642.924, FP-CP-452 and FP-CP-512 West MS and FW Pipe Chase Fire Detection Testing,
Revision 04, Change 06

Section 1R06: Flood Protection Measures

UFSAR Section 3.6(B), Postulated Piping Failures in Fluid Systems, Revision 12

UFSAR Section 9.3.3, Equipment and Floor Drainage System, Revision 12

Seabrook Station Probabilistic Safety Study, Section 9

Seabrook Station Moderate Energy Line Break Study, Section 12.1.3.4, Revision 8

MA 5.7, Station Barriers, Penetration Seals, and Fire Barrier Wrap, Revision 5

Alarm Response Procedures for PAB Sump A Level and PAB sump Overflow, Revision 2

DBD-PB-01, Plant Barriers, Revision 1

OS1212.01, PCCW System Malfunction, Revision 11

Drawings B20210, B20223 and 1-NHY-BD-2042

Condition Reports for 2006-2008

Section 1R07: Heat Sink Performance

ES 1850.017, Service Water Heat Exchanger Program, Revision 0

EE-06-038, Evaluation of 1-CC-E-17-A Train A PCCW Heat Exchanger Fouling Event

PEG-208, Service Water System Performance Monitoring, Revision 3

Work Order 0815735

SW-E-42B Temperature and Thermal Performance Monitoring Data

CP4.2, Chlorine Management Program, Revision 13

SW-E-42B Performance Monitoring Trend Data for pressure difference, condenser fouling,
temperature, service water flow, temperature ratio, and SW strainer differential pressure

Section 1R12: Maintenance Rule Implementation

System Health Reports – Primary Closed Cooling Water System

System Health Report – Diesel Generator System

Seabrook System and Performance Reports

Plant Engineering Guidelines, Maintenance Rule Program Monitoring Activities

Plant Engineering Action Plan Register

Maintenance Rule Failures Evaluated in the Condition Report System

Maintenance Preventable Functional Failures Evaluated the Condition Report System

SM 7.10, Maintenance Rule Program, Revision 1

Work Orders for 2007-2008

Condition Reports for 2007-2008

Condition Reports 200404540, 200715319, 200712061, 200810421, 200810469, 200812823,
200806340, 200803799

Work Orders 0801434, 0822074, 0210753, 0418763, 0821665, 0622664, 0423322, 0420473,
0210754, 0728729

Section 1R13: Maintenance Risk and Emergent Work

CR 08-10654 CC Pump Motor Failure and Ground Alarm on Bus 6

CR 08-10116 Feedwater Regulating Valve Positioner Linkage

CR 08-10421 DG B tripped on high lube oil temperature signal approximately 87 minutes after breaker closure
CR 08-10480 DG B crank case exhaust fan had high vibration following the high lube oil temperature engine trip
Work Orders (WO) 0822133, 0834080, 0834093, 0831919, 0832057, 0832204, 0822133
WO 0801836 Inspect Feed Regulating Valve A, dated July 9, 2008
WO 0821665 DG "B" Lube Oil HX Temperature Control Valve Rebuild
WO 0821666 #3 and #6 cylinder fuel injection pump dirty fuel oil return line
WO 0821668 T-OTHA [over temperature high alarm] diesel generator B lube oil heat exchanger inlet and outlet temperature calibration
WO 0821242, Unable to operate valve needed to take differential reading on lube oil filter (1-DG-PI-7-B-6)
WO 0821704, 1DG-DG-1B crank case exhaust fan, 1-DG-FN-29B
WO 0821772, Ground relay was actuated on CC-P-11D causing fire alarm to actuate
WO 0821773, Component Cooling PP 4.16 KV Motor Inspection Motor Megger
WO 0821774, Component Cooling PP Motor Type IAC Relay and Ground Relay Inspection
OS1090.01, Manual Operation of Remove Operated Valves, Rev. 6, Section 4.1
OX1456.81, Operability Testing of IST Valves, Revision 6
OX1436.02, Form B, Independent Verification of EFW Valves, Revision 9 (WO 0834080)
IS1632.412, DGB-T-OTHA, DGB Lube Oil Temperature Switch Calibration, Rev. 06, Chg. 07
MS0539.52, DG 1B Engine Lube oil System Draining, Filling, and Venting, Rev. 00, Chg. 15
MS0519.42, Robertshaw 3-way Temperature Control Valve Maintenance, Rev. 04, Chg. 04
Plant Engineering Action Register for CCW system-CR 08-10654

Section 1R15: Operability Evaluations

CRs 08-10108, 08-09067, 08-12093, 07-03117
Plant Engineering Action Plan Register Loop A PCCW Rad Monitor Step Plan Changes, 09/03/2008
WO# 0829685 Form A: Instrument Calibration Data Form, Monitor RM - 6516
RMDS Data Base Item Change Request 08-009
WO 0714723
UFSAR Chapter 6.8, Emergency Feedwater System
UFSAR Section 3.9
Drawings B20725, B20726
Engineering Evaluation 07-04995

Section 1R19: Post Maintenance Testing

CR 08-12580, 07-08581
WO 0621727, 0739018, 0734168, 0802745, 0801365, 0821665, 0821666, 0821668, 0832204, 0831919, 0832057, 0809918
OX1456.81, Operability Testing of IST Valves, Revision 6
IS0603.057, NAMCE Limit switch Replacement, Revision 2
IS1652.9, Recharging ASDV/EFW Backup Air supply, Revision 0
LS0568.21, Wiring Verification and Functional Checks, Revision 2
ES07-01-04, Performance Testing of SW-P-329, Revision 0
05MSE218, Replacement Portable Cooling tower Makeup Pump, Revision 1
WO 0821613, AC Power Source Weekly Operability Surveillance (1-EDE-OT003-000)

WO 0802745, ESFAS Slave Relay Test (K608B) Train B
WO 0801365, Aligning DG 1B Controls for Auto Start
OX1446.01, AC Power Source Weekly Operability Surveillance (Mode 1 – 4)
OX1426.23, Emergency Diesel Generator 1B 24 Hour Load Test and Hot Restart Surveillance, Rev. 01, Chg. 06
OX1426.05, Diesel Generator 1B Monthly Operability Surveillance, Rev. 09, Chg 35
OX1456.46, Train B ESFAS Slave Relay K608 Quarterly Go Test, Rev. 7, Chg. 05
OX1426.19, Aligning Diesel Generator 1B Controls for Auto Start, Rev. 03, Chg. 12
OS1026.13, Operating the DG 1B Fuel Oil System,
OS1026.10, Operating the DG 1B Lube Oil System
OS1026.14, Operating the DG 1B Air Intake, Exhaust, and Vacuum System
OS1026.12, Operating the DB 1B Starting Air System
OS1026.11, Operating the DG 1B Jacket Cooling Water System
OS1016.04, Train B Service Water Operation
OS1023.54, Diesel Generator Building Ventilation System Operation
ADMIN – 08 – 0165
TS 3.8.1.1.a, c, and d (Bus 6 RAT DG Breakers)
TS 3.8.1.7.b.2, TS 4.8.1.1.2a.1-7, TS 4.8.1.2e, TS 3.7.4

Section 1R22: Surveillance Testing

CR 08-08979, 08-12213,
WO 0804577, 0804355, 0804496, 0804573, 0804495, 0801504, 0732952, 0737840, 0800212
WO 0801780 1-EFW-OT008-00, EFW Pump A Quarterly Operability Test, Dated July 08, 2008
WO 0805359 Startup Feed Pump Quarterly Operability Surveillance
WO 0805397 Startup Feed Pump Lube Oil Sample
RS0720, SNM Inventory and Control, Revision 7
Calculation SBK-1FJF-08-072, Seabrook Station – Irradiated Fuel Assembly Selection for Initial Dry cask Loading Campaign, Revision 0
RS0720, Form J: DSC/HSM Map for DSC 1 through 6
Transnuclear UFSAR NUHOMS HD Horizontal Modular Storage system For Irradiated Nuclear Fuel, Revision 1, September 2007
Certificate of Compliance No 1030 For Spent Fuel Storage Casks, 1/10/07
Engineering Evaluation 08-009, Dry Fuel Storage Rigging Plan, Revision 4
Foreign Print Drawings 35974, 35800, 35808, 78445
IMPULSE VG Series 3 Instruction Manual (FSB Main Hoist), 7/1/04
FX3000.08, TC/DSC Handling Operations for Fuel Loading, Revision 2
FX3000.14, DSC Transport from FSB to HSM, Revision 1
FX3000.14, Form D, HSM Temperature Monitoring, Revision 0
Seabrook VSDS Survey Map – Dry Fuel Storage Area and HSMs, 9/11/08
CS0910.01, Primary System Sampling at SS-CP-166, Revision 10
COC No 1030 Appendix A Technical Specifications
OX 1436.08, Startup Feed Pump Quarterly Surveillance, Rev. 10
OX 1433.02, Turbine Driven Emergency Feedwater Pump Quarterly and Monthly Valve Alignment, Rev., 09, Chg. 01
OX 1456.21, Train A ESFAS Slave Relay K601 Quarterly Go Test, Rev., 09, Chg. 15
OX 1413.01, A Train RHR Quarterly Flow and Valve Stroke Test and 18 Month Valve Stroke Observation, Rev. 10, Chg. 15

OX 1456.85, Train A ESFAS Slave Relay K624 Quarterly Go Test, Rev., 00, Chg. 08
OX 1456.81, Operability Testing of IST Valves, Rev. 6, Chg. 3
OX 1456.86, Operability Testing of IST Pumps, Rev. 0, Chg. 18
ODI.05, Residual Heat Removal Pump RH-P-8A (prestart check list)
08-108 Chemistry recommendation for RHR "A" Surveillance, dated July 29, 2008
P&ID 1-RH-B20662, 1-CO-B20426

Section 40A2: Identification and Resolution of Problems

CAP Quarterly Trend Reports for fourth quarter 2007 and first and second quarter 2008
Condition Reports 00-07191, 01-05311, 01-11973, 06-12432, 07-08561, 03-04733, 07-12618,
08-02848, 03-04132, 06-04343, 03-04564
Alarm Response Procedure for MPCS points D6749, D6750
Standing Operating Order 08-007
P&ID 1-NHY-310897 Sh B1Da, B1Db and 310951 Sh EH9/3c, EH9/3Bc

Miscellaneous:

Operations Logs – Various
P&ID 1-DG-B20463, Diesel Generator Lube Oil System Train B Detail
P&ID 1-NHY-506402, DB – Diesel Generator 1B Lube Oil System Control Loop
Diagram
P&ID 1-NHY-504120, DG – Diesel Generator Temperature Scanner Logic Diagram
P&ID 1-NHY-310008, 4160 Bus E6 One Line Diagram
P&ID Schematic Diagrams 31102 Sh 87a and 310895 Sh A79a, A79b, A79c, A79d,
A79e, A79f, A79g, A79h
MMOD 98-0554, Replacement of DG Temperature Indicators
MA 4.14A, Troubleshooting Control Form dated July 16, 2008
MA 4.14A, Troubleshooting Control Form dated July 18, 2008
Drawing DG-V-29 A / B

LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access and Management System
ALARA	As Low As Is Reasonable Achievable
AR	ALARA Reviews
ASME	American Society of Mechanical Engineers
DSC	Dry storage canister
DCR	Design Change Request
ED	Electronic Dosimeter
EDG	Emergency Diesel Generator
ESFAS	Engineered Safety Feature Actuation System
FME	Foreign Material Exclusion
FPLE	Florida Power & Light Energy
FW	Feedwater
HRA	High Radiation Areas
IMC	Inspection Manual Chapter
ISI	In-service Inspection
LERs	Licensee Event Reports
MPCS	Main Plant Computer System
MRP	Materials Reliability Program
MS	Main Steam
NCV	Non-Cited Violation
NDE	Non-Destructive Examination
NRC	U.S. Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
PAB	Primary Auxiliary Building
PARS	Publicly Available Records
PMT	Post-Maintenance Testing
PWR	Pressurized Water Reactor
RCA	Radiological Controlled Area
RCS	Reactor Coolant System
RV	Reactor Vessel
RWP	Radiation Work Permit
SDP	Significance Determination Process
SFP	Spent Fuel Pool
SG	Steam Generator
SRA	Senior Reactor Analyst
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
UT	Ultrasonic Testing
VHRA	Very High Radiation Areas
WO	Work Order