

July 25, 2006

Mr. Gene St. Pierre
Site Vice President
FPL Energy Seabrook, LLC
Seabrook Station
c/o Mr. James M. Peschel
P.O. Box 300
Seabrook, NH 03874

SUBJECT: SEABROOK STATION - NRC INTEGRATED INSPECTION
REPORT 05000443/2006003

Dear Mr. St. Pierre;

On June 30, 2006, the Nuclear Regulatory Commission (NRC) completed an inspection at the Seabrook Nuclear Power Station. The enclosed report documents the inspection findings which were discussed on July 12, 2006, with you and members of your staff.

This inspection 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.

This report documents two NRC-identified findings and one self-revealing finding of very low safety significance (Green). These findings were determined to involve violations of NRC requirements. However, because of their very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs), in accordance with Section VI.A.1 of the NRC Enforcement Policy.

If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Seabrook.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, 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

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Sincerely,

/RA/

Paul G. Krohn, Chief
Projects Branch 6
Division of Reactor Projects

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

Enclosure: Inspection Report No. 05000443/2006003
w/ Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 05000443

License No.: NPF-86

Report No.: 05000443/2006003

Licensee: Florida Power & Light Energy Seabrook, LLC (FPL)

Facility: Seabrook Station, Unit 1

Location: Post Office Box 300
Seabrook, New Hampshire 03874

Dates: April 1, 2006 through June 30, 2006

Inspectors: Glenn Dentel, Senior Resident Inspector
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SUMMARY OF FINDINGS

IR 05000443/2006003; 4/1/2006 - 6/30/2006; Seabrook Station, Unit 1; Flood Protection Measures, Personnel Performance Related to Non-Routine Plant Evolutions and Events.

The report covered a 13-week period of inspection by resident inspectors, regional personnel assisting the resident staff, and an announced inspection by a regional health physics inspector. Three Green non-cited violations (NCVs) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- C Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action" in that Seabrook did not promptly identify and correct degraded cable spreading room floor hydrostatic barriers. Seabrook identified the degraded barriers following water leakage into the essential switchgear room from an inadvertent cable spreading room deluge system actuation on February 5, 2006. However, following the actuation, Seabrook did not properly evaluate and implement timely compensatory measures for the degraded hydrostatic barrier to protect the essential switchgear rooms. The inspectors concluded that Seabrook had multiple opportunities including internal and external operating experience to identify the degraded barriers.

The finding was more than minor because it affected the Mitigating System cornerstone attribute of Protection Against External Factors such as flood hazards and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Based on a detailed evaluation of the location and condition of the degraded barriers, the finding was determined to be of very low safety significance (Green) since the flooding-related finding would not cause a plant trip or degrade two or more trains of safety systems. This finding was associated with the cross-cutting area of problem identification and resolution in that Seabrook failed to thoroughly evaluate the degraded hydrostatic barriers in the cable spreading room. (Section 1R06.3)

- C Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action" in that Seabrook did not take timely corrective actions for clogged drains that support safety-related systems. In 2006, Seabrook completed an inspection of the Emergency Feedwater Pump House drains and discovered three floor drains and two of five hub drains clogged with debris. Seabrook had multiple opportunities to identify and correct the issue

including: a 2000 Condition Report which identified that Seabrook had no inspection program for their drains; the initial drain inspections, some of which identified partially clogged drains; and in 2005 when the inspectors identified that the inspection program was not risk or safety-related prioritized. The inspectors concluded that Seabrook did not inspect and remediate their drains which support safety-related systems in a timely manner.

The finding was more than minor because it affected the Mitigating Systems cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance (Green) since the flooding-related finding would not cause a plant trip or degrade two or more trains of safety systems. This finding was associated with the cross-cutting area of problem identification and resolution in that Seabrook did not take appropriate corrective actions in a timely manner for the degraded floor drain systems in the plant. (Section 1R06.2)

- C. Green. The inspectors identified a non-cited violation of Technical Specification (TS) 3.8.2.1, "DC (Direct Current) Sources - Operating." On June 21, 2006, the battery charger supply breaker was incorrectly opened due to a maintenance technician error. This removed the required full capacity battery charger from the 125 volt DC "B" Bus. The operators failed to properly evaluate the control room alarms on the evening of June 21, and did not recognize the degraded condition of their 125 volt DC "B" Bus for the next 12 hours. A new operating crew recognized the condition and determined that the plant was in a two hour TS shutdown action statement. Seabrook had been in a condition requiring the plant to enter TS action statement 3.8.2.1 from approximately 7:00 p.m. on June 21, 2006, until 6:20 a.m. the next morning without entering the action statement.

The finding was more than minor because it affected the Initiating Events cornerstone objective to limit the likelihood of events that upset plant stability due to unreliable equipment performance. This finding was determined to be of very low safety significance (Green) since there had been an increase in the probability of an initiating event without an impact on mitigating systems, reactor coolant system leakage, or external event initiators. This finding was associated with the cross-cutting area of human performance and the aspect of using human error prevention techniques since maintenance technicians opened the wrong breaker and the operators on two shifts did not identify and take the appropriate actions following the opening of the supply breaker from the battery charger to the 125 volt DC "B" Bus. (Section 1R14.1)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

The plant began the period at full rated thermal power and operated at or near full power for the entire report period, except for approximately seven separate small power reductions (less than three percent, typically to outputs below 1200 Megawatts-electric) that were based on requests from the Regional Independent System Operator.

2. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment (71111.04)

.1 Full System Walkdown - Service Water System (71111.04S - One Sample)

a. Inspection Scope

The inspectors conducted a detailed review of the alignment and conditions of the service water (SW) system. The inspectors performed a walkdown to verify that the system was maintained in accordance with the system procedures and drawings. Control room indications were verified to be appropriate and consistent with Technical Specification (TS) requirements and the Updated Final Safety Analysis Report (UFSAR). The inspectors reviewed and evaluated the potential impact on system operation from open work orders, temporary modifications, condition reports, and tagged equipment. The system health report was reviewed, verified during the walkdown, and discussed with the system engineer.

The inspectors reviewed the following documents to support the walkdowns and to verify proper system alignment:

- C Service Water Piping and Instrumentation Drawings 1-SW-B20792, Revision 20, 1-SW-B20794, Revision 29, and 1-SW-B20795, Revision 35;
- C Service Water System Health Reports, 4th Quarter 2005 & 1st Quarter 2006;
- C Work Order 0522187 - Detectable Leakage from 1-SW-V-127;
- C Work Order 0615037 - Interim repair to the thinned area downstream of SW-P-41B;
- C Operator Log Sheets;
- C Condition Reports 04-09315, 05-07392, 05-04260, 06-03715, 06-01458, 06-01065, 06-00896, 06-01458, 06-06946; and
- C Temporary Modification 06-002, Temporary Patch on SW Outfall Line to CW, Revision 1.

b. Findings

No findings of significance were identified.

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.2 Partial System Walkdowns. (71111.04 - Five Samples)

a. Inspection Scope

The inspectors performed the following partial system walkdowns:

- C The 'B' containment building spray system while the 'A' containment building spray system was out-of-service for scheduled maintenance on April 10, 2006;
- C The control room emergency ventilation system following scheduled testing of the system on April 26, 2006;
- C Safety-related portions of the main steam system in response to identified deficiencies with the "C" main steam isolation valve (MSIV) on May 9 and 10, 2006;
- C The start-up feed pump which serves as a back-up to the single motor-driven emergency feedwater pump on June 1, 2006; and
- The 'B' safety injection system while the 'A' safety injection system was out-of-service for scheduled maintenance on June 15, 2006.

The inspectors conducted a walkdown of each system to verify that the critical portions of selected systems, such as valve positions, switches, and breakers, were correctly aligned in accordance with Seabrook's procedures and to identify any discrepancies that may have had an effect on operability. The inspectors reviewed applicable piping and instrumentation drawings and operational lineup procedures to support the walkdowns and verify proper system alignment. Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q - Nine Samples)

a. Inspection Scope

The inspectors examined several areas of the plant to assess: 1) the control of transient combustibles and ignition sources; 2) the operational status and material condition of the fire detection, fire suppression, and manual fire fighting equipment; 3) the material condition of the passive fire protection features (fire doors, fire dampers, fire penetration seals, etc.); and 4) the compensatory measures for out-of-service or degraded fire protection equipment. The following areas were inspected:

- C "B" Emergency Diesel Generator Building, 21' 6" elevation;
- C "B" Emergency Diesel Generator Building, 51' 6" elevation;
- C "B" Emergency Diesel Generator Building, -16' 0" elevation;
- C "B" Charging Pump Room - Primary Auxiliary Building, 7' elevation;
- C General Area - Primary Auxiliary Building, 7' elevation;
- C Control Building, 21' 6" elevation; "A" Emergency Switchgear Room;

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- C Control Building, 21' 6" elevation; "A" & "C" 125 VDC Battery Rooms;
- C Control Building, 21' 6" elevation; "B" Emergency Switchgear Room; and
- C Control Building, 21' 6" elevation; "B" & "D" 125 VDC Battery Rooms.

The inspectors verified that the fire areas were in accordance with applicable portions of Fire Protection Pre-Fire Strategies and Fire Hazard Analysis.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - Three Samples)

.1 External Flood Protection - May Heavy Rains

a. Inspection Scope

The inspectors examined Seabrook's response to heavy rains from May 12 to May 15, 2006. The inspectors performed walkdowns of various plant areas to assess the impact of the heavy rains and evaluated the potential impact of closed roads in the area on emergency plan implementation. Seabrook evaluated their severe weather procedures and the ability to staff the emergency facilities. Seabrook actions were evaluated against the following documents:

- C UFSAR Section 2.4.2, "Floods;"
- C NM 11800, "Hazardous Condition Response Plan;" and
- C OS 1200.03, "Severe Weather Conditions."

b. Findings

No findings of significance were identified.

.2 Untimely Corrective Actions for Degraded Floor Drains

a. Inspection Scope

The inspectors reviewed Seabrook's floor drain inspection program including inspection results associated with Emergency Feedwater Pump House (EFWPH) drains. The inspectors reviewed CRs 05-07320, 05-08522, 06-03866, and 06-04377 and the documents listed in the attachment. The inspectors examined Seabrook's evaluation of the impact of degraded drains, compensatory actions, and assessed the extent-of-condition review.

b. Findings

Introduction. The inspectors identified untimely corrective actions for conducting periodic inspections and cleaning of flood protection drains. This resulted in multiple EFWPH drains being discovered clogged with debris. This finding was determined to be of low safety significance (Green) and was characterized as a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action."

Description. In 2000, Seabrook initiated Condition Report (CR) 00-03137 which identified that the plant had not inspected or cleaned any floor drains since construction in 1990. Seabrook developed an action plan to inspect their floor drains on a 15-year cycle. From 2000 to 2005, Seabrook identified debris and partial clogging in some of the inspected drains. The inspected drains did not support safety-related systems. In 2005, the inspectors determined that Seabrook had not inspected the only drain system that is credited in their design basis, the EFWPH drains. In response to the inspectors' questions, Seabrook risk-informed the prioritization of drains to be inspected and modified their inspection procedures and methodologies. In 2006, Seabrook completed an inspection of the EFWPH drains and discovered three floor drains and two of the five hub drains clogged with debris. Additional information on inspections conducted concerning the degraded floor drains and emergency feedwater (EFW) pump operability was documented in Section 1R15. Although the EFWPH drains (the designed internal flood mitigation system) were degraded, Seabrook concluded that operability of the EFW pumps would not be impacted during an internal flooding due to the water relieving capability of a gap under an exterior door.

Seabrook's failure to take timely corrective actions for clogged drains supporting safety-related systems was a performance deficiency. The licensee had multiple opportunities to identify and correct the issue including: a 2000 condition report which identified that Seabrook had no inspection program for their drains, the initial drain inspections some of which identified partially clogged drains, and in 2005 when the inspectors identified that the inspection program was not risk prioritized.

Analysis. The finding was more than minor because it affected the Mitigating Systems cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. The attributes to maintain this function include protection against external factors including floor drains that provide flood protection. The attribute was considered affected since the gap under the exterior door is not normally credited for flood protection and therefore, did not have the design control to ensure availability including measurements to prevent debris buildup at the gap and ice buildup in cold weather. Using Appendix A, Phase 1 of MC 0609, the finding was determined to be of very low safety significance (Green) since the flooding related finding would not cause a plant trip or degrade two or more trains of safety systems. This conclusion was based on Seabrook's determination that the EFW pumps would remain available during an internal flooding event.

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This finding was associated with the cross-cutting area of problem identification and resolution in that Seabrook did not take corrective actions in a timely manner for the degraded floor drain systems in the plant.

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action" requires that conditions adverse to quality are promptly identified and corrected. Contrary to the above from 2000 to 2006, Seabrook did not promptly identify and correct the degraded floor drain systems in the plant, most notably the EFWPH drains that are credited in Seabrook's design basis. Because this finding was of very low safety significance and has been entered into the Seabrook's corrective action program (CR 06-03866), this finding is being treated as an NCV consistent with Section VI.A.1 of the Enforcement Policy (**NCV 05000443/2006003-01, Untimely Corrective Actions for Degraded Floor Drains**).

.3 Untimely Identification and Evaluation of Degraded Hydrostatic Barriers

a. Inspection Scope

In NRC Inspection Report 05000443/2006-002, an unresolved item was opened concerning degraded cable spreading room flood seals. The inspectors reviewed various documents including the root cause (CR 06-02443), conducted extensive walkdowns of the cable spreading room and essential switchgear room, and interviewed various engineers, operators, and maintenance personnel. Documents reviewed during the inspection are listed in the Attachment. The inspectors examined Seabrook's actions to identify and repair the degraded hydrostatic barriers, evaluated the impact of the degraded barriers on the operability of the essential switchgear equipment, and assessed the extent-of-condition review. Additional information on inspections conducted concerning the degraded barriers was documented in Sections 1R06, 1R14, 1R15, and 1R19 of NRC Inspection Report 05000443/2006-002.

b. Findings

Introduction. Seabrook did not promptly identify and correct degraded cable spreading room hydrostatic barriers following water leakage into the essential switchgear room from an inadvertent cable spreading room deluge system actuation. This self-revealing finding will be considered an NRC-identified finding due to inspector value added to the identification and evaluation of the degraded barriers. This finding was determined to be of very low safety significance (Green) and was characterized as an NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions."

Description. On February 5, 2006, the cable spreading room deluge system inadvertently actuated during surveillance activities. Both Seabrook and the NRC inspectors identified degraded floor penetration seals following the deluge. An extent-of-condition inspection identified that 13 of 15 floor penetration seals were degraded. Seabrook did not properly evaluate and implement timely compensatory measures for the degraded hydrostatic barrier to protect the essential switchgear rooms

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until March 15, 2006, when operators isolated the fire deluge system in the cable spreading room. This action was in response to NRC questions and was approximately 38 days following the deluge event and 5 days after identification of the 13 degraded seals. Subsequent inspections and evaluations identified: 1) portions of the cable spreading room were not designed to be water tight; 2) holes in seals from two removed cables; and 3) other design and qualification deficiencies. The fire protection system was restored to operation on May 9, 2006, following re-design and repair of the design deficiencies and degraded hydrostatic barriers.

The cable spreading room is located directly above both trains of essential switchgear. Therefore, an actuation of the deluge system could potentially impact both trains of essential switchgear if the hydrostatic barriers do not perform their intended function. UFSAR Section 9.3.3 states that in the cable spreading area "all pipe and electrical floor penetrations are sealed watertight."

In the root cause evaluation, Seabrook determined the causes were: 1) during initial plant design and construction design basis requirements were not incorporated into original penetration seal specifications or cable spreading floor slab design; and 2) cables were removed from two seals and were not properly resealed. Seabrook also concluded that multiple opportunities existed to identify and correct these deficiencies; however, these opportunities were missed due to lack of engineering rigor and over-reliance on engineering judgement. Seabrook conducted extensive extent-of-condition reviews in other plant areas to address hydrostatic barriers, completed comprehensive corrective actions to seal the cable spreading rooms, and developed detailed design requirements for the cable spreading room.

Seabrook's failure to identify and correct the degraded hydrostatic barriers in the cable spreading room was considered a performance deficiency. Seabrook missed multiple opportunities to identify the degraded barriers including: 1) design reviews in the 1970s and 1980s; 2) Information Notice 88-60 associated with a penetration seal event at Vogtle; 3) 1989 identification of degraded hydrostatic seals on the condensate storage tank and extent-of-condition review; 4) Information Notice 2003-08 associated with leakage through hydrostatic barriers; 5) periodic 18-month inspections of seals; and 6) February 2006, Seabrook's inadvertent deluge of the cable spreading room.

Analysis. The finding was more than minor because it affected the Mitigating System cornerstone attribute of Protection Against External Factors such as flood hazards and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Using Appendix A, Phase 1 of MC 0609, the finding was determined to be of very low safety significance (Green) since the flooding-related finding would not cause a plant trip or degrade two or more trains of safety systems. This conclusion was based on the following: 1) the amount of leakage actually experienced during the February 5, 2006, event due to an inadvertent deluge; 2) a review of the degraded barriers and their location relative to essential switchgear equipment; 3) Seabrook analysis of an actuation of any fire protection deluge zone and estimated leakage rates; 4) likelihood of a fire causing an actuation; and 5) design of the essential switchgear that provides some protection against water intrusion.

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This finding was associated with the cross-cutting area of problem identification and resolution in that Seabrook failed to thoroughly evaluate the degraded hydrostatic barriers in the cable spreading room.

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action" requires that conditions adverse to quality are promptly identified and corrected. Contrary to the above from construction to 2006, Seabrook did not promptly identify that the cable spreading room floor penetration barriers were degraded from a hydrostatic barrier perspective, and did not take prompt actions to evaluate and correct the degraded condition. Because this finding was of very low safety significance and has been entered into the Seabrook's corrective action program (CRs 06-02443), this finding is being treated as an NCV consistent with Section VI.A.1 of the Enforcement Policy **(NCV 05000443/2006003-02, Untimely Identification and Evaluation of Degraded Hydrostatic Barriers)**.

1R07 Heat Sink Performance (71111.07 - One Sample)

a. Inspection Scope

The inspectors examined the "A" and "B" emergency diesel generators jacket water heat exchangers to determine whether the heat exchangers could fulfill their design functions. The inspectors reviewed past thermal performance monitoring (WO 0509597), trending data for heat exchanger temperatures and fouling factors, and ES1850.017, "SW Heat Exchanger Program," Revision 0. 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 also reviewed condition reports to verify that issues were identified and corrected associated with the heat exchangers.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

Quarterly Resident Inspector Review (71111.11Q - One Sample)

a. Inspection Scope

The inspectors observed the conduct of licensed operators during a simulator training session on May 23, 2006. The inspectors reviewed the simulator's physical fidelity in order to verify similarities between the Seabrook control room and the simulator. The inspectors examined the operators' ability 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 the training evaluator's critique

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of the operators' performance and verified that deficiencies were adequately identified and discussed.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope (71111.12Q - Two Samples)

The inspectors evaluated maintenance rule implementation for the main steam and service water systems.

The inspectors reviewed a January 5, 2006, main steam system health report and noted that two failures of the main steam dump controllers were characterized as maintenance rule functional failures. The inspectors interviewed engineers, reviewed specific maintenance rule criteria, and examined condition reports and associated corrective actions.

The inspectors reviewed the 4th Quarter 2005 and 1st Quarter 2006 service water system health reports. The inspectors interviewed the system engineer and reviewed specific maintenance rule criteria, condition reports and their corrective actions. The inspectors also reviewed two work packages for the service water system and observed the field work associated with the work packages.

The inspectors reviewed the effectiveness of maintenance for the service water system through the review of deficiencies identified, historical performance, and overall system performance. The following documents were reviewed:

- C Work Order 0522187 - Detectable Leakage from 1-SW-V-127;
- C Work Order 0615037 - Interim repair to the thinned area downstream of SW-P-41B;
- C Condition reports for the past year, selected items in detail;
- C Service Water Maintenance Rule Performance & Scope Report; and
- C Maintenance Rule performance data including maintenance rule function failures and unavailability data.

Based on issues identified in the review of the above documents, the inspectors assessed: 1) the application for maintenance rule scoping and reliability/availability performance criteria; 2) the corrective actions for deficient conditions; 3) the extent of condition reviews for common cause issues; and 4) the contribution of deficient work controls or work practices to any degraded conditions.

The inspectors also reviewed the Seabrook UFSAR and TS for the two systems. Corrective actions and maintenance rule functional failure evaluations were assessed

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against 10 CFR 50.65 requirements and against the guidance in Nuclear Management and Resources Council (NUMARC) 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Revision 2.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13 - Five Samples)

a. Inspection Scope

The inspectors reviewed the scheduling and control for two planned maintenance activities and three emergent work troubleshooting activities in order 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 other equipment was properly protected. The inspectors evaluated the compensatory measures against Seabrook procedures, Maintenance Manual 4.14, "Troubleshooting," and Work Management Manual 10.1, "On-Line Maintenance." Specific risk assessments were conducted using Seabrook's "Safety Monitor." The inspectors reviewed the following items.

- C On April 11 and 12, 2006, the inspectors reviewed troubleshooting efforts following the control room receiving a Rod Control Non-Urgent Failure alarm. The inspectors interviewed the engineers and the operators involved in the troubleshooting efforts. The inspectors also observed the troubleshooting activities and reviewed the MA 4.14 troubleshooting documentation.
- C During the period of April 17 through April 20, 2006, the inspectors reviewed Seabrook's troubleshooting efforts following the control room receiving a DC Bus 11A ground alarm. The inspectors observed the troubleshooting efforts and interviewed the engineers and managers involved in the troubleshooting efforts. The inspectors also reviewed the Plant Engineering Action Plan Register for the Bus 11A ground.
- C On May 25, 2006, the inspectors reviewed the plant risk configuration during planned maintenance on a switchyard breaker, "B" atmospheric steam dump valve, "B" vital battery, and "B" emergency diesel generator. Seabrook's risk assessment, operators' ability to evaluate risk, and compensatory measures taken to reduce risk were also evaluated.
- C On June 1, 2006, the inspectors reviewed the plant risk configuration during emergent activities associated with the "C" vital battery and a loop three delta temperature instrument. Work orders (WO) 0617387 and 0543214, troubleshooting activities, and Seabrook's risk assessment were also evaluated.

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- C On June 12, 2006, the inspectors reviewed the plant risk configuration during planned maintenance on a safety injection valve starter, several surveillances identified as potential trip initiators, and 6 of 12 condenser steam dump valves. Seabrook's risk assessment and compensatory measures taken to reduce risk were evaluated.

- b. Findings

No findings of significance were identified.

1R14 Personnel Performance Related to Non-Routine Plant Evolutions and Events (71111.14 - Three Samples)

.1 Untimely Operator Identification Results in Failure to Comply with TS 3.8.2.1

- a. Inspection Scope

The inspectors reviewed Seabrook's response to the "B" DC bus not being powered by a full capacity battery charger for approximately 12 hours. The inspectors reviewed the applicable TS, the alarm response procedures, and NAP-402, "Conduct of Operations." The inspectors interviewed licensed operators and operations department management. The inspectors also examined Seabrook's immediate corrective actions for the failure to comply with TS 3.8.2.1.

- b. Findings

Introduction. Seabrook identified that the "B" DC Bus did not have a battery charger aligned to it for approximately 12 hours which is greater than the two-hour allowed outage time as required by TS 3.8.2.1. This finding will be considered self-revealing since two alarms were visible on the plants' video alarm system (VAS) from the time the event occurred. This finding was determined to be of very low safety significance (Green) and was characterized to be an NCV for failure to comply with TS 3.8.2.1.

Description. On June 21, 2006, the battery charger supply breaker was incorrectly opened due to a maintenance technician error. This removed the required full capacity battery charger from the 125 volt DC "B" Bus. The opening of the battery charger supply breaker resulted in two control room VAS alarms. The operators failed to properly evaluate the VAS alarms on the evening of June 21, 2006, and did not recognize the degraded condition of the 125 volt DC "B" Bus for the next 12 hours. A new operating crew recognized the condition and determined that the plant was in a two-hour TS shutdown action statement. Seabrook had been in a condition requiring the plant to enter TS action statement 3.8.2.1 from approximately 7:00 pm on June 21, 2006, until 6:20 a.m. the next morning without entering the action statement. The operators coordinated with work control, engineering, and maintenance and were able to restore a full capacity battery charger to the "B" Bus within approximately 90 minutes of discovering the situation.

Enclosure

Seabrook performed several immediate corrective actions to ensure VAS alarms would be properly addressed in a timely manner, including not treating any incoming alarms as expected regardless of the situation. These corrective actions were verified to have been implemented by the inspectors.

The inspectors reviewed the control room logs and the alarm response for the two VAS alarms received after the breaker was incorrectly opened. The inspectors interviewed operators, engineers, and managers. The inspectors compared the TS requirements to the actions taken by the first two shifts after the alarms were received in the control room and determined that the operator's failure to identify that 125 volt DC "B" Bus was not being supplied by a battery charger was a performance deficiency. This operator failure to identify resulted in exceeding the two-hour allowed outage time. Seabrook entered this issue into their corrective action program in CR 06-07045.

Analysis. The finding was more than minor because it affected the Initiating Events cornerstone objective to limit the likelihood of events that upset plant stability due to unreliable equipment performance. Using Appendix A, Phase 1 of MC 0609, the finding was determined to be of very low safety significance (Green) since there had been an increase in the probability of an initiating event without an impact on mitigating systems, reactor coolant system leakage, or external event initiators. This conclusion was based on the 125 Volt DC Battery remaining operable.

This finding was associated with the cross-cutting area of human performance and the aspect of using human error prevention techniques since maintenance technicians opened the wrong breaker and the operators on two shifts did not identify and take the appropriate actions following the opening of the supply breaker from the battery charger to the 125 volt DC "B" Bus.

Enforcement. Technical Specification 3.8.2.1.b., "DC Sources - Operating," requires in part that the "B" Train include 125-volt Battery Bank 1B and that Bus 11B have a full capacity battery charger aligned to it. The Technical Specification limiting condition for operation action statement 3.8.2.1.b requires restoration of the battery charger to operable status within two hours.

Contrary to this requirement, between 6:58 p.m. on June 21, 2006, until 7:26 a.m. on June 22, 2006, the 125 volt DC "B" Bus did not have an operable battery charger supplying it. This was a period of approximately 12 hours which exceeded the allowed outage time of two hours. Because this violation was of very low safety significance and Seabrook entered this finding into its corrective action program (CR 06-07045), this violation is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy (**NCV 05000443/2006003-03, Untimely Operator Identification Results in Failure to Comply with TS 3.8.2.1**).

Enclosure

.2 Cooling Tower Basin Inspection

a. Inspection Scope

On April 13, 2006, Seabrook sent divers into the cooling tower basin to change out a column bolt in SW-P-110A along with inspecting the basin for any foreign materials that could interfere with the cooling tower system. Seabrook replaced the column bolt of the service water pump to determine whether the bolt had degraded since the last inspection. The inspectors reviewed work orders (WO-0541278 and WO-01C3157) attended the pre-job briefing and observed the cooling tower inspection. The inspectors also interviewed the supervisor during the dive to verify procedural compliance.

b. Findings

No findings of significance were identified.

.3 Operator Response to Loss of Enclosure Air Handling Fan

a. Inspection Scope

On June 3, 2006, the "B" enclosure air handling (EAH) fan, EAH-FN-31B, tripped due to a motor failure. Operators identified the tripped fan on June 4, 2006, approximately ten hours after the fan had tripped. Seabrook issued CR 06-06379 to investigate the cause of the fan failure and operator response. The inspectors examined operator response to the event, reviewed data logger alarms, and conducted a walkdown of the control room indications. The inspectors also reviewed the operator actions against the requirements in Seabrook administrative procedures and NRC requirements.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - Six Samples)

a. Inspection Scope

The inspectors reviewed operability evaluations and/or condition reports in order to verify that the identified conditions did not adversely affect safety system operability or plant safety. The evaluations were reviewed using criteria specified in Generic Letter 91-18, "Resolution of Degraded and Nonconforming Conditions" and Inspection Manual Part 9900, "Operable/Operability - Ensuring the Function Capability of a System or Component." In addition, where a component was determined to be inoperable, the inspectors verified the TS limiting condition for operation implications were properly addressed. The inspectors performed field walkdowns, interviewed personnel, and reviewed the following items:

Enclosure

- C CR 06-00953 and Deficiency Tag 50415 which identified a low air supply condition to the "C" MSIV due to supply air bleeding through an unseated air motor shuttle valve. This condition was temporarily corrected by quickly isolating and unisolating both air supply trains to reseal the shuttle valve. If left uncorrected, this condition may have allowed the MSIV to drift closed. Corrective actions to address the deficiency is planned using Work Order 0602982.
- C CR 06-03866 evaluated the effects of debris found in the floor drain system of the Emergency Feedwater Pump House during floor drain inspections completed using WO 0545821. Seabrook evaluated the impact of an internal flood and the potential consequences. Seabrook determined under the design basis conditions (UFSAR 9.3.3 and TP7, "Seabrook Station Moderate Energy Line Break Study," Revision 5) that a gap under an exterior door would remove sufficient water to prevent impact on safety-related equipment in the pump house. The inspectors reviewed the evaluation, compared the result with the design basis documents, and conducted a walkdown of the pump house to assess vulnerabilities to floods. This issue was also discussed in Section 1R06 of this report.
- C CR 06-03715 evaluated the effects of movement of the stuffing box journal sleeve on SW pumps 41 "C" and "D." Seabrook evaluated the potential impact on operability of the SW system and the extent-of-condition to other pumps with similar stuffing box set-ups. The inspectors reviewed the evaluation and interviewed the operators and engineers involved.
- C CR 06-06234 evaluated the effects of a loop three delta temperature change that resulted in a control room alarm. The inspectors reviewed the initial operability assessment and subsequent engineering evaluation of the impact of the 1.6 percent power change to the loop 3 delta temperature instrument.
- C CR 06-06720 evaluated the effects of a discharge pressure control valve failure on the startup feedwater pump. The inspectors reviewed the degraded condition, conducted field walkdowns of the system, examined a similar previous issue (CR 03-05214), and evaluated compensatory actions.
- C CR 06-06759 evaluated the effects of replacing the fan motor for the 31B fan with a more powerful motor. The inspectors reviewed the design package and interviewed the engineers and mechanics involved in the modification.

b. Findings

No findings of significance were identified.

Enclosure

1R17 Permanent Plant Modification (71111.17A - One Sample)a. Inspection Scope

The inspectors reviewed the design change, MMOD 06-0534, "EAH-FN 31B Motor Replacement." This modification replaced an existing failed motor in a ventilation system with a new motor of different design and specifications. The inspectors examined the design qualifications of the new motor including the environmental and seismic qualifications, electrical and mechanical design differences, and modifications made to the exiting housing. Walkdowns of the new motor and the housing were completed to verify compliance with the design document. The inspectors also conducted interviews with engineers and maintenance technicians. The modification was evaluated against Seabrook procedures and NRC requirements.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 - Eight Samples)a. Inspection Scope

The inspectors reviewed post-maintenance testing (PMT) activities to ensure: 1) the PMT was appropriate for the scope of the maintenance work completed and in accordance with MA 3.5, "Post Maintenance Testing"; 2) the acceptance criteria were clear and demonstrated operability of the component; and 3) the PMT was performed in accordance with procedures. The following PMT activities were reviewed:

- C On April 14, 2006, for WO 0513721 following troubleshooting activities on a possible ground associated with a service water valve (1-SW-V-54). The inspectors interviewed the maintenance technicians and operators, reviewed the previous completed WO 0323103, and verified the testing was completed in accordance with the WO and OX1416.06, "Service Water Discharge Valves Quarterly Test and 18 Month Position Verification," Revision 5;
- C On April 14, 2006, using OX1416.05, "Service Water Cooling Tower Pumps Quarterly and 2 Year Comprehensive Test," Revision 7, following maintenance on the "A" cooling tower pump;
- C On April 18, 2006, for WO 0616426 following troubleshooting activities on a ground on Bus 11A. The inspectors interviewed the operators and engineers, and reviewed the work package associated with WO 0616426;
- C On April 24 and 26, 2006, for WO 0442810 following shaft replacement on the "A" essential switchgear supply fan;

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- C On May 1 through May 6, 2006, following completion of an 18-month overhaul of the "B" EDG. The inspectors reviewed the PMTs for 18 of the work orders. The work orders included preventive maintenance activities, corrective maintenance activities, and design modifications;
- C On May 10 through May 12, 2006, for WO 0443930 following replacement of the batteries for the reactor vessel level indication system. The inspectors interviewed the engineer and the instrument and controls technicians involved in the work;
- C On June 10, 2006, for WO 0617586 following the installation of a new fan motor on EAH-FN-31B. The inspectors interviewed the engineers and maintenance technicians involved in the motor installation and testing; and
- C On June 21 and 22, 2006, for Work Order 0522187 and 0615037, following interim ASME Code repairs on the service water piping.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - Six Samples)

a. Inspection Scope

The inspectors observed portions of surveillance testing activities of 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 Technical Specifications and surveillance procedures.

The inspectors attended selected pre-evolution briefings, performed system and control room walkdowns, 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 technical specification requirements, and to prior tests to identify any adverse trends. The following surveillance procedures were reviewed:

- C On April 10, 2006, OX1406.02, "Containment Spray Pump and Valve Quarterly Operability, 18 Month Position Indication and Comprehensive Pump Testing," Revision 9;
- C On May 11 and May 25, 2006, OX1406.04, "Service Water Quarterly Pump and Discharge Valve and Comprehensive Pump Testing," Revision 9 and OX1416.05, "Service Water Cooling Tower Pumps Quarterly and 2 Year Comprehensive Test," Revision 7;
- C On May 19, 2006, RS0722, "New Fuel and Core Component Inspection," Revision 7;

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- C On June 15, 2006, IX1680.921, "Solid State Protection System (SSPS) Train A - Actuation Logic Test," Revision 9;
- C On June 29, 2006, LX0563.06, "Loss of Voltage Protection Monthly Surveillance," Revision 3, and LX0563.07, "Degraded Voltage Protection Monthly Surveillance," Revision 1.

As a sixth sample, the inspectors reviewed the calibration and testing associated with four instruments used to detect reactor coolant system leakage ("A" and "B" Containment Sump Level Indicators, 1-LD-L-8332 and 1-LD-L-8333 and Radiation Monitors, 1-RM-R-6528 and 1-RM-R-6548. The last three calibrations were reviewed to identify trends and potential reliability issues. The inspectors also interviewed maintenance personnel and the system engineer to assess any deficient conditions and to discuss the radiation monitor improvement plan. The Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23 - Two Samples)

a. Inspection Scope

The inspectors reviewed temporary modifications (TMODs) 06-002, 06-004, and associated implementing documents to verify Seabrook's design basis and system operability were maintained. TMOD 06-002 was associated with a repair of a through-wall leak in a non-safety related section of the service water system that transfers the turbine building heat loads to the circulating water system.

TMOD 06-004 was associated with the rod control cabinet computer alarms. The rod control system non-urgent alarm was locked in due to a known and evaluated power supply failure. The power supply was scheduled to be replaced during the next refueling outage. The modification was associated with the alarm circuitry bypassing the power supply failure and clearing the non-urgent alarm. The modification reduced the burden on the operators and prevented the problem from masking any future failures.

The inspectors interviewed engineers and operators, completed field walkdowns, and reviewed the following documents:

- C Maintenance Manual, MA 4.3A, "Temporary Modifications and Temporary Alterations," Rev. 16;
- C WO 0616449, Implementing document for Temporary Modification 06TMOD004;
- C TMOD 06-002, Temporary Patch on SW Outfall Line to CW, Revision 1; and
- C WO 0602161, Emergency Work Order to Repair Pipe Thru Wall Leak on Service Water Pipe.

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The inspectors verified that temporary modifications were completed in accordance with NRC requirements and plant procedures. The procedural requirements included modifications to plant drawings, tagging of plant equipment affected by modifications, and procedural changes. The inspectors verified 10 CFR 50.59 reviews and 10 CFR 50.65(a)(4) risk evaluations were completed correctly. The inspectors also examined the combined effect of the modification with the other outstanding temporary modifications.

b. Findings

No findings of significance were identified.

Enclosure

Cornerstone: Emergency Preparedness (EP)

1EP4 Emergency Action Level and Emergency Plan (E-Plan) Changesa. Inspection Scope (IP 71114.04 - One Sample)

During the period of September 2005 to March 2006, the NRC received changes made to Seabrook's E-Plan in accordance with 10 CFR 50.54(q). Seabrook determined the changes did not decrease the effectiveness of the E-Plan; and, also that the E-Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. A selected sample of E-Plan changes was reviewed in-office by the inspectors. This review does not constitute approval of the changes and, as such, the changes and the associated 10 CFR 50.54(q) reviews are subject to future NRC inspection. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 4.

d. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2PS2 Radioactive Material Processing and Transportation (71122.02 - Six Samples)a. Inspection Scope

During the period May 15 to 18, 2006, the inspectors conducted the following activities to verify that Seabrook's radioactive material processing and transportation programs complied with the requirements of 10 CFR 20, 61, and 71; and Department of Transportation (DOT) regulations 49 CFR 170-189.

Radioactive Waste Systems Walkdown

The inspectors walked down accessible portions of the radioactive liquid processing systems with the Senior Technical Specialist-RadWaste, on May 16, 2006. During this tour, the inspectors evaluated if the systems and facilities were consistent with the descriptions contained in the UFSAR and the Process Control Program, evaluated the general material conditions of the systems and facilities, and identified any changes to the systems. The inspectors evaluated recent changes made to liquid radwaste processing systems including their potential radiological impact, the current processes for transferring radioactive resin/sludge to shipping containers, and the subsequent de-watering process.

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On May 17, 2006, the inspectors walked down portions of candidate systems that are to be retired in-place, with the system engineer, and discussed the status of administrative and physical controls for these systems including components of the Boron Recovery System, Steam Generator Blowdown System, and Asphalt Solidification System.

On May 16, 2006, the inspectors inspected various radioactive material storage locations, with the Supervisor, Radiological Waste Services, including the Radioactive Materials Storage Building, the Unit 2 Cooling Tower, and seavans stored on site, to confirm that inventories were current, that material was properly labeled, and that containers were in satisfactory material condition.

Waste Characterization and Classification

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

- the radio-chemical sample analysis results for various radioactive waste streams, including spent resins, dry active waste, and mechanical filters;
- the development of scaling factors for hard-to-detect radio-nuclides;
- methods and practices to detect changes in waste streams; and
- characterization and classification of waste relative to 10 CFR 61.55 and determination of a DOT shipment subtype per 49 CFR 173.

Shipment Preparation

The inspection included a review of radioactive waste program records, shipment preparation procedures, and observations of in-progress activities for regulatory compliance, including:

- Attending the pre-job briefing, and observing the transfer of a High Integrity Container, containing spent resin, to a shipping cask, and cask closure on May 15, 2006. The inspectors subsequently observed technicians performing vehicle radiation surveys on this shipment (Shipment No. 06-015), on May 15, 2006. The inspectors confirmed that the shipping package was properly labeled and marked, and that the vehicle was properly placarded. The inspectors attended the driver's briefing and observed that the driver was provided emergency instructions and the proper shipping papers.
- Observing technicians performing a transfer and de-watering of spent resin from the "A" Spent Resin Storage Tank to a High Integrity Container, on May 18, 2006. The inspectors attended the pre-job briefing, and observed the transfer and de-watering process to evaluate procedure compliance.
- Reviewing radioactive material shipping logs for 2004, 2005, and 2006.

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- Verifying compliance with the relevant Certificates of Compliance and related procedures for in-use shipping casks.
- Verifying that Seabrook had the most current amendment NRC (or agreement state) license authorization for shipment recipients for seven shipments listed in the shipping records section of this report.
- Verifying that training was provided to appropriate personnel responsible for classifying, handling, and shipping radioactive materials, in accordance with NRC Bulletin 79-19, and 49 CFR 172 Subpart H.

Shipment Records

The inspectors selected and reviewed records associated with seven non-excepted shipments of radioactive materials made since the last inspection of this area. The shipments were Nos.05-040, 05-044, 05-056, 05-059, 05-063, 06-004, and 06-015. 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, including limits of package contents;
- classification of radioactive materials relative to 10 CFR 61.55 and 49 CFR 173;
- labeling of containers relative to container dose rate;
- radiation and contamination surveys of packages;
- placarding of transport vehicles;
- conduct of vehicle checks;
- providing of emergency instructions to the driver;
- completion of shipping papers; and
- notification by the recipient that the radioactive materials have been received.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 - Six Samples)

a. Inspection Scope

The inspectors sampled Seabrook submittals for the performance indicators (PIs) listed below for the period from January 2004 through March 2006. To evaluate the accuracy of the PI data reported during that period, PI definitions and guidance contained in

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NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 4 were used to verify the basis in reporting for each data element.

Initiating Events Cornerstone

- C Unplanned Scrams per 7,000 Critical Hours
- C Unplanned Scrams with Loss of Normal Heat Removal
- C Unplanned Power Changes per 7,000 Critical Hours

Mitigating Systems Cornerstone

- C Safety System Functional Failures

Barrier Integrity Cornerstone

- C Reactor Coolant System Specific Activity
- C Reactor Coolant System (RCS) Leakage

The inspectors reviewed plant records such as Licensee Event Reports (LERs), operating logs, procedures, and interviewed applicable Seabrook personnel to verify the accuracy and completeness of Seabrook's PI data.

The inspectors reviewed the PI data for reactor coolant system activity by verifying the calculations and observing a reactor coolant system sample and analysis using CS0910.01 and CX0901.02 (See Section 1R22, Surveillance Testing). The inspectors reviewed the following documents in the evaluation of the PI data:

- C JD0999.910, "Reporting Key Performance Indicators Per NEI 99-02," Revision 0;
- C RCS sample results given in iodine 131 to 135 and as dose equivalent iodine; and
- C TS 3.4.8, "Specific Activity."

The inspectors reviewed the RCS leakage PI through a review of computer data from April 2004 through April 2006 and examination of ODI.63, "Operations Department KPI Maintenance Instruction, Revision 6 and OX1401.02, "RCS Steady State Leak Rate Calculation," Revision 6. The inspectors also reviewed the Technical Specification required surveillance completed on leakage detection instrumentation (see 1R22).

b. Findings

No findings of significance were identified.

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

.1 Routine Condition Report Screening

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems,"

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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 Semi-Annual Problem Identification and Resolution Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspectors performed a review of Seabrook's corrective action program and associated documents to identify trends that may indicate existence of more safety significant issues. The inspectors' review was focused on repetitive equipment and corrective maintenance issues but also considered the results of daily inspector corrective action program item screening discussed in Section 4OA2.1. The inspectors compared and contrasted their results with the results contained in Seabrook's Corrective Action Program Quarterly Trend Report. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy.

b. Findings

No findings of significance were identified.

.3 Radioactive Material Processing and Transportation

a. Inspection Scope

The inspectors reviewed the 2005 Annual Radioactive Effluent Release Report, eleven Condition Reports, a Quality Assurance Audit Report, and recent Seabrook Daily Quality Summary Reports relating to radioactive material control and shipping. Through this review, the inspectors assessed Seabrook's ability to identify problems, and the promptness and effectiveness of the resulting corrective actions. This review was conducted against the criteria contained in 10 CFR 20.11(c), Technical Specifications, and licensee's procedures.

b. Findings

No findings of significance were identified.

.4 Annual Sample: Operator Workaround Review

a. Inspection Scope

The inspectors reviewed Seabrook's current listing of operator workarounds and operator burdens to determine whether the cumulative impact of the workarounds adversely impacted the ability of the operators to implement emergency procedures or respond to plant transients. The inspectors examined NAP-402, "Conduct of Operations," Attachment K and "Operator Workarounds and Burdens," Revision 0, to verify that this procedure provided the necessary guidance to adequately address the cumulative effects the workarounds had on the operation, reliability, and availability of affected systems. The inspectors also reviewed selected CRs and quarterly assessments completed under WOs 0521967 and 0532642. The items were verified to be properly tracked and scheduled for completion based on the priority and impact on the plant.

The inspectors also examined one workaround in further detail to verify that corrective actions were planned and compensatory actions were adequate. This workaround was associated with the ability of main feedwater isolation valves to reopen following closure due to a feedwater isolation signal. The valves' safety function is to close in response to a feedwater isolation signal. Although not a credited safety-related function, the feedwater isolation valves are described in the emergency operating procedure to re-establish flow to the steam generators in certain scenarios.

b. Findings and Observations

No findings of significance were identified. The inspectors determined that Seabrook appropriately identified, tracked, and corrected workaround and operator burdens. The periodic reviews for cumulative effects were completed and discreet acceptance criteria were met. During the detailed review of the feedwater isolation valve workaround, the inspectors identified a potential knowledge deficiency of the mitigating actions for a feedwater isolation valve's inability to reopen. The inspectors concluded that this issue was of minor significance since two of the four feedwater isolation valves had already been upgraded and were no longer susceptible to the issue, the multiple licensed operators on each crew and in the technical support center would compensate for any knowledge deficiency, and the scenarios where the valves would be needed are beyond design basis with a very low likelihood of occurrence.

.5 Cross-Reference of Problem Identification and Resolution Findings

The finding in Section 1R06.2, "Untimely Corrective Actions for Degraded Floor Drains," was associated with the cross-cutting area of problem identification and resolution in that Seabrook failed to take appropriate corrective actions in a timely manner for the degraded floor drain systems in the plant after identifying the issue in 2000.

The finding in Section 1R06.3, "Untimely Identification and Evaluation of Degraded Hydrostatic Barriers," was associated with the cross-cutting area of problem identification and resolution in that Seabrook failed to thoroughly evaluate and implement timely compensatory measures for the degraded hydrostatic barriers in the cable spreading room.

4OA3 Event FollowUp (71153 - One Sample)

.1 (Closed) LER 50-443/06-002, Noncompliance with the Requirement of Technical Specification 6.8.1.2.a.

a. Inspection Scope

On March 8, 2006, Seabrook discovered that the annual report on workers that received greater than 100 mrem/year was not submitted by March 1, 2006, as required by TS 6.8.1.2.a. The inspectors reviewed the licensee event report, CR 05-02672, and corrective actions to evaluate the accuracy of the licensee event report and to verify compliance with the reportability requirements in 10 CFR 50.73, NUREG 1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," Revision 2, and Facility Operating License Condition 2.G. The corrective actions addressed the issue and provided measures to preclude repetition of the error. The error was an administrative issue and did not impact equipment at the plant. The failure to comply with TS 6.8.1.2.a constitutes a violation of minor significance that is not subject to enforcement action in accordance with the NRC's enforcement policy.

b. Findings

No findings of significance were identified.

.2 (Closed) URI 50-443/2006002-04, Degraded Cable Spreading Room Flood Seals and LER 50-443/2006-003, Voluntary LER for Deficient Hydrostatic Barriers

This issue was addressed in Section 1R06.3 and was documented as a non-cited violation. The URI and the voluntary LER are closed.

4OA5 Other

.1 Implementation of Temporary Instruction (TI) 2515/165 - Operational Readiness of Offsite Power and Impact on Plant Risk

a. Inspection Scope

The objective of TI 2515/165, "Operational Readiness of Offsite Power and Impact on Plant Risk," was to gather information to support the assessment of nuclear power plant operational readiness of offsite power systems and impact on plant risk. The inspectors evaluated Seabrook procedures against the specific offsite power, risk assessment and

system grid reliability requirements of TI 2515/165. The inspectors also discussed the attributes with licensee personnel.

The information gathered while completing this TI was forwarded to the Office of Nuclear Reactor Regulation for further review and evaluation on April 3, 2006.

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. G. St. Pierre on July 12, 2006, following the conclusion of the inspection period. The licensee acknowledged the findings presented. The licensee did not indicate that any of the information presented at the exit meeting was proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION**KEY POINTS OF CONTACT**Licensee personnel

M. Bianco, Radiological Waste Services Supervisor
 R. White, Security Manager
 R. Campione, Nuclear Oversight Supervisor
 W. Cox, Radiological Waste Services, Senior Technical Analyst
 P. Freeman, Engineering Director
 F. Hannify, Radiological Waste Services, Senior Technical Analyst
 P. Harvey, Chemistry Manager
 M. Kiley, Station Director
 M. Makowicz, Plant Engineering Manager
 D. Masters, Senior Component & Test Engineer
 M. O'Keefe, Regulatory Compliance Supervisor
 M. Ossing, Engineering Support Manager
 D. Ritter, Operations Manager
 V. Robertson, Regulatory Compliance Engineer
 D. Robinson, Chemistry Supervisor
 V. Sanchez, Senior Nuclear Analyst
 G. Shampy, Materials Manager
 D. Sherwin, Maintenance Manager
 T. Smith, Rad Technical Specialist (Training)
 G. St. Pierre, Site Vice President
 R. Thurlow, Radiation Protection Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSEDClosed:

05000443/2006002	LER	Noncompliance with the Requirement of Technical Specification 6.8.1.2.a. (Section 4OA3.1)
05000443/2006002-04	URI	Degraded Cable Spreading Room Flood Seals (Section 4OA3.2)
05000443/2006003	LER	Voluntary LER for Deficient Hydrostatic Barriers (Section 4OA3.2)

Opened and Closed:

05000443/2006003-01	NCV	Untimely Corrective Actions for Degraded Floor Drains (Section 1R06.2)
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05000443/2006003-02	NCV	Untimely Identification and Evaluation of Degraded Hydrostatic Barriers (Section 1R06.3)
05000443/2006003-03	NCV	Untimely Operator Identification Results in Failure to Comply with TS 3.8.2.1 (Section 1R14.1)

LIST OF DOCUMENTS REVIEWED

Section 1R06: Flood Protection Measures

Design Documents

Maintenance Support Evaluation (MSE) 06-054, "Penetration Seal Modifications for Hydrostatic Barrier," Revision 0

MSE 06-063, "Modification to Penetration Seals in Control Building," Revision 0

MSE 06-071, "Sealant Materials for Construction Joints and Floor Sleeves in Control Building," Revision 3

MSE 06-072, "Control Building Elevation 50 Hydrostatic Seal Enhancements," Revision 0

Section 1R22: Surveillance Testing

Procedures

IX1648.210, "LD-L-8332, Containment Building Sump A Level Calibration," Revision 5

IX1648.211, "LD-L-8333, Containment Building Sump B Level Calibration," Revision 5

IX1660.768, "RM-R-6526, Containment Atmosphere Radiation Monitor Operational Test," Revision 5

IX1660.718, "RM-R-6526, Containment Atmosphere Radiation Monitor Calibration," Revision 6

IX1660.769, "RM-R-6548, Containment Atmosphere Radiation Backup Monitor Operational Test," Revision 3

IX1660.719, "Rm-R-6548, Containment Atmosphere Radiation Backup Monitor Calibration," Revision 4

Work Orders

0506035	0533367	0524507	0509005	0541093	0530954
0335409	0521053	0400800	0319147	02A4754	0400795
0222823	0319142	02A4692	01A6050	0504597	0333564
0305809					

Section 2PS2: Radioactive Material Processing and Transportation

Procedures:

ES0825.001, "Abandoned and Infrequently Used Equipment," Revision 0

RP 13.1, "Radiological Controls for Material," Revision 19

WN0598.04, "Spent Resin Recirc Transfer and Flush," Revision 7

WN02-01-01, "Handling Procedure for Transport Cask Model CNS 10-160B Certificate of

Compliance 9204," Revision 5

WN0598.071, "Instructions for Spent Resin Sampling," Revision 1

WN0598.072, "Shipment of Radioactive Material," Revision 6

WN0598.077, "Resin Transfer and De-watering," Revision 2

WN98-01-08, "Bead Resin/Activated Carbon De-watering Procedure for Duratek 14-215 or Smaller Liners," Revision 3

WN98-01-02, "Operating Guidelines for Use of Polyethylene High Integrity Containers," Revision 4

HD0958.38, "Evaluation of Isotopic Mix," Revision 23

HD0958.32, "Release of Material From Radiological Controls," Revision 15

HD0963.41, "Calibration of Nuclear Enterprises SAM-9," Revision 8

HN0960.09, "Radiological Controls for Resin Sluice and Transfer," Revision 7

CP 5.1, "Isotopic Characterization of Radwaste," Revision 15

CS0918.02, "Radwaste Analysis Methods," Revision 5

WD0598.064, "Radioactive Material Shipment Vehicle Inspection," Revision 1

WD0598.078, "Packaging of Radioactive Materials and Wastes," Revision 2

Quality Assurance Surveillance Reports/Audits

SBK -06-02 Functional Area Audit of Radiation Protection/Process Control/Radwaste Program

Quality Assurance Surveillance Report No. 05-0114

Daily Quality Summary Reports (Related to Radwaste Processing): 5/1/2005 to 5/1/2006 Self-Assessment 05-0118, Radioactive Shipping Procedure Review

Condition Reports:

06-05668, 06-05733, 05-10583, 05-10584, 04-0848, 04-08524, 04-11790, 04-12337, 01-09889, 01-12516, 01-12623

Shipping Manifests:

Ship No. 05-040, Dewatered Filters Cartridges, LSA II

Ship No. 05-044, Reactor Vessel Speciman, LSA II

Ship No. 05-056, Contaminated Insulation, LSA II

Ship No. 05-059, Sludge, LSA II

Ship No. 05-063, Dewatered Filter Cartridges, LSA II,

Ship No. 06-004, Spent Resin LSA II

Ship No. 06-015, Spent Resin, LSA II

Health Physics Technical Documents

Documentation of Health Physics Review of Isotopic Mixture # 06-01

2005 -10 CFR61 Analysis Results

2005 Waste Stream Report - Dry Active Waste

2005 Waste Stream Report - Spent Fuel Pool Filter

2005 Waste Stream Report - Spent Resin Sluice Tank "A" Sample Results

2005 Waste Stream Report - RCS Filter Sample Results

2005 Waste Stream Report - Liquid Waste Filter

HPSTID 99-012, Natural Drying Time Evaluation for Saturated CNSI Filters

Section 4OA5: Other

Procedures

Process Control Program, Revision 41

Radwaste Training Qualification Matrix

Miscellaneous

Updated Final Safety Analysis Report, Revision 9

CR 05-09027

ODI.61, "Redeclaration/Joint Owner and NDDO Notification Guidelines", Revision 25

OS1246.02, "Degraded Vital AC Power", Revision 04

Standing Operating Order 05-010

WM 8.0, "Work Control Practices," Revision 05

WM 8.4, "Work Order Process," Revision 03

WM 10.1, "On-line Maintenance," Revision 03

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CR	Condition Report
DC	Direct Current
DOT	Department of Transportation
EAH	Enclosure Air Handling
EFW	Emergency Feedwater
EFWPH	Emergency Feedwater Pump House
EP	Emergency Preparedness
E-Plan	Emergency Plan
LER	Licensee Event Report
MC	Manual Chapter
MSE	Maintenance Support Evaluation
MSIV	Main Steam Isolation Valve
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NUMARC	Nuclear Management and Resources Council
PI	Performance Indicator
PMT	Post Maintenance Testing
RCS	Reactor Coolant System
SDP	Significance Determination Process
SSPS	Solid State Protection System
SW	Service Water
TI	Temporary Instruction
TMOD	Temporary Modification
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
VAS	Video Alarm System
WO	Work Order