October 27, 2005

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 05000443/2005006

Dear Mr. St. Pierre:

On September 30, 2005, the NRC completed an inspection at the Seabrook Nuclear Power Station. The enclosed report documents the inspection findings which were discussed on October 19, 2005, with Mr. Gene St. Pierre and other 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.

Based on the results of this inspection, 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 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.

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. 05000443/2005006
w/ Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	05000443
License No.:	NPF-86
Report No.:	05000443/2005006
Licensee:	Florida Power & Light Energy Seabrook, LLC (FPL)
Facility:	Seabrook Station, Unit 1
Location:	Post Office Box 300 Seabrook, New Hampshire 03874
Dates:	July 1, 2005 to September 30, 2005
Inspectors:	Glenn Dentel, Senior Resident Inspector Steve Shaffer, Resident Inspector Nicole Sieller, Reactor Engineer Tony Cerne, Contractor Max Schneider, Senior Resident Inspector - Millstone Larry Scholl, Senior Reactor Engineer Ram Bhatia, Reactor Engineer Dave Silk, Senior Reactor Engineer
Approved by:	Paul G. Krohn, Chief Projects Branch 6 Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000443/2005006; 7/01/2005-9/30/2005; Seabrook Station, Unit 1; Routine Integrated Report.

The report covered a 13-week period of inspection by resident inspectors, regional inspectors supporting the residents and an announced inspection by a regional senior emergency preparedness inspector. 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

No findings of significance were identified.

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

The plant began the inspection period at full rated thermal power and operated at or near full power for the entire report period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 - Two Samples)

a. Inspection Scope

The inspectors performed walkdowns of several systems prior to predicted heavy rain and wind conditions in August 2005 from the remnants of Hurricane Katrina, and in September prior to a severe wind storm to ensure equipment was adequately protected against possible external flooding and high winds. The inspectors reviewed whether compensatory measures taken by Seabrook, prior to the adverse weather, were sufficient to maintain equipment operability. The inspectors also verified that storm drains were not blocked and that flow paths to the drains were not obstructed.

b. Findings

No findings of significance were identified.

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

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

- Piping and instrumentation drawings (P&IDs) for the Service Water system;
- A sample of historical condition reports (CRs) related to Service Water and its support systems (CRs 05-00154, 05-01061, and 05-04260);

- EX1804.031, Portable Tower Makeup Pump Operability 18 Month Surveillance Test, Revision 4; and
- OX1416.01, Monthly Service Water Valve Verification, Revision 7.

b. Findings

No findings of significance were identified.

.2 Partial System Walkdowns (71111.04Q - Three Samples)

a. Inspection Scope

The inspectors performed the following partial system walkdowns:

- On July 6, 2005, the inspectors performed a walkdown of the temporary air receiver fill system for the "A" Emergency Diesel Generator (EDG) while the air start compressor was out-of-service for maintenance.

- On August 16, 2005, the inspectors performed a walkdown of the "A" EDG while the "B" EDG was out-of-service for maintenance.

- On September 27, 2005, the inspectors performed a walkdown of the "B" EDG Fuel Oil System and an electrical line up while the "A" EDG was out-of-service for an 18-month overhaul.

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 operability effect.

The inspectors reviewed applicable P&IDs and operational lineup procedures to support the walkdowns and verify proper system alignment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Walkdowns (71111.05Q - Seven 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 passive fire protection features such as fire doors, fire dampers, and fire penetration seals; and 4) the compensatory measures for out-of-service or degraded fire protection equipment. The following areas were inspected:

- Control Building - Cable Spreading Room, 50' elevation;
- Control Building Switchgear Room Train "A", 21'-6" elevation;
- Main Steam Feedwater Pipe Chase - East, all elevations;
- Emergency Feedwater Pump House, 27' elevation;
- Train “B” Residual Heat Removal Equipment Vault, all elevations;
- Primary Auxiliary Building, 7' elevation; and
- Primary Auxiliary Building, 25' elevation.

The inspectors verified that the fire areas were in accordance with applicable portions of the following documents:

- Fire Protection Pre-Fire Strategies and Fire Hazard Analysis;
- FP2.1, Control of Ignition Sources, Revision 5; and
- Compensatory List of Fire Protection Equipment out-of-service dated September 2005.

b. Findings

No findings of significance were identified.

.2 Fire Drill Evaluation (71111.05A - One Sample)

a. Inspection Scope

On August 19, 2005, the inspectors observed an announced fire drill involving a simulated fire in a welding rod oven in the administrative building, located adjacent to the turbine building. The inspectors evaluated the fire brigade’s performance against the critical criteria listed in the drill objectives and verified the following: 1) the communication between the fire brigade leader, brigade members, and the control room operators was clear and effective; 2) the equipment (radios, protective clothing, self-contained breather apparatus, fire extinguishers, etc.) was in good condition and properly used; and 3) the fire fighting strategies and proper fire fighting practices were

used. In addition, the inspectors observed the fire brigade drill critique and reviewed the fire drill evaluation report to ensure any deficiencies were identified and evaluated.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11Q - One Sample)

a. Inspection Scope

The inspectors observed the conduct of licensed operators during a simulator training session on August 16, 2005. The inspectors reviewed the physical fidelity of the simulator in order to verify its likeness to the Seabrook control room. The inspectors examined the operators' ability to perform actions associated with high-risk activities, the Emergency Plan, and the correct use and implementation of procedures. The inspectors observed the training evaluator's critique of the operators' performance and verified that any deficiencies were adequately identified and corrected.

b. Findings

No findings of significance were identified

1R12 Maintenance Effectiveness (71111.12Q - Two Samples)

a. Inspection Scope

The inspectors completed two maintenance rule samples including two system reviews.

The inspectors evaluated the Maintenance Rule (MR) implementation for the charging (CS) and safety injection (SI) systems. Additional inspection focus was placed upon the emergency core cooling system (ECCS) functions of these two systems with inspector review of the key performance indicator summary and licensee tracking methodology for high pressure safety injection. ECCS monitoring at Seabrook Station involves both the high head and intermediate head pumps and supporting flow path equipment. The inspectors assessed the effectiveness of maintenance and MR tracking for these systems by interviewing the system engineer and MR management personnel, evaluating the handling or pertinent condition reports, and reviewing system health reports. Trended performance data and the procedural controls for specific operational evolutions such as tracking ECCS unavailability when a SI pump was used to fill an accumulator tank were reviewed.

The inspectors also reviewed the Seabrook UFSAR, the Seabrook Maintenance Rule Program, relevant P&IDs, recent maintenance rule functional failure determinations applicable to the CS and SI systems, and licensee corrective actions, including modifications conducted in response to identified system problems. The MR program

controls and issues identified in the system health reports and recent CRs were evaluated in accordance with 10 CFR 50.65 requirements, relevant design details, and the need for timely and effective corrective action implementation. Documents reviewed during the inspection are listed in the Attachment.

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 verify that Seabrook had properly evaluated the effect of the activity 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 assessments were conducted using Seabrook's "Safety Monitor Risk Program." The inspectors reviewed the following items:

- During the period of July 27 through August 10, 2005, the inspectors reviewed the troubleshooting efforts and maintenance activities following the failure of a Bus 1 undervoltage potential transformer. The inspectors reviewed work order (WO) 0528126 and the MA 4.14 troubleshooting form. The inspectors interviewed the engineers and observed the troubleshooting activities.

- On July 29, 2005, the inspectors reviewed the plant risk configuration during emergent maintenance activities including crane movement in the switchyard, “B” emergency diesel generator ventilation maintenance and bus 1 electrical repairs. The inspectors reviewed the sequence of the activities and operators’ ability to evaluate plant risk.

- During the period of August 30 through September 2, 2005, the inspectors reviewed Seabrook’s troubleshooting efforts following the discovery that software intended to allow remote monitoring of the Supplemental Emergency Power System (SEPS) diesel engines had the capability to remotely control the engines. The inspectors reviewed CRs 05-10533, 05-10535, 05-10588, 05-10592, 05-10643, and WO 053278. The inspectors observed troubleshooting team meetings, interviewed members of the troubleshooting team, and assessed the adequacy of Seabrook’s compensatory actions.

- On September 6, 2005, the inspectors reviewed the plant risk configuration for the performance of an electric driven emergency feedwater pump operability test and associated slave relay tests, low risk switchyard activities, and a switchyard outage for one of the three offsite power lines. The inspectors reviewed the sequence of activities and controls established to reduce risk.

- On September 21, 2005, the inspectors observed the repairs associated with a small steam leak associated with feedwater valve 116. The inspectors reviewed WO 0527434 and interviewed the contractors and engineers involved in the repairs to ensure that the work was completed in compliance with Seabrook's procedures and the work did not affect any other parts of the feedwater system.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

On July 26, 2005, the inspectors observed the sealant injection of feedwater valve 116 after the valve developing an external leak. Due to the construction and configuration of the valve, the only on-line repair methodology available was sealant injection. This maintenance activity was evaluated using the criteria specified in Inspection Manual Part 9900, "On-Line Leak Sealing Guidelines for ASME Code Class 1 and 2 Components." The inspectors observed the injection, reviewed the Seabrook procedure MS0526.09, “On Steam Leak Repairs,” Revision 4, and interviewed engineers and maintenance personnel involved.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - Four Samples)

a. Inspection Scope

The inspectors reviewed operability evaluations and condition reports 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 Technical Specification limiting condition for operation

implications were properly addressed. The inspectors performed field walkdowns, interviewed personnel, and reviewed the following items:

- CR 05-09006, which evaluated a change in the stroke time of service water valve 18 when the valve stroked in less than the 20 seconds prescribed in Seabrook procedure OX1456.81, “Operability Testing of IST Valves,” Revision 13. The inspectors reviewed the CR, Maintenance Support Evaluation 05-128, and interviewed the system engineer to determine the impact of the change on the valve operability.

- CRs 05-03412, 05-03690, 05-07019, and 05-08101, which evaluated the problems identified during initial acceptance testing of the SEPS diesels. The problems included failed push rods, a leaking fuel injector, and cracking of the rocker housing. The inspectors reviewed the CRs and interviewed the system engineer and the project manager to determine the impact on long term operability of the engines.

- CR 05-07730, which evaluated the increase in fuel oil dilution in the "B" EDG rocker arm lube oil system. The CR also evaluated any potential past operability concerns that could have occurred because of this condition. The inspectors reviewed the CR and interviewed the system engineer to verify system operability.

- CRs 05-10533, 05-10588, and 05-10941 which evaluated SEPs diesel operability concerns following a remote start of the engines. The inspectors reviewed the CRs and interviewed the system engineer, project manager, design engineer, and root cause team members to determine system availability.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16 - Two Samples)

a. Inspection Scope

The inspectors completed one inspection of the cumulative impact of operator workarounds and reviewed in detail one specific operator workaround.

The inspectors reviewed in detail one operator workaround involving a plant design configuration problem in the CS system. This problem, discussed in CR 03-01252, involved the unplanned lifting of a relief valve in the CS letdown line upon initiation of a safety injection or containment isolation (Phase A) actuation. The operator workaround compensated for this CS system design problem by adding a step (i.e., Step 9, E-0, “Reactor Trip or Safety Injection,” Revision 39) to the emergency operating procedures

(EOP) to manually isolate the letdown line upstream of the relief valve by closing valve CS-V145.

The inspectors reviewed the Seabrook UFSAR for design information relevant to the CS letdown isolation valves, specifically evaluating the valve control and interlock details and design functions. Piping and instrumentation drawings (P&IDs) 1-CS-B20722 was also examined and the "Containment Isolation System Design Information" (UFSAR Table 6.2-83) for CS-V145 was reviewed. The inspectors also interviewed the CS system engineer regarding a pending design change (Change Authorization Request 04CAR027) that would implement a plant modification for automatic closure of CS-V145, eliminating the need for the extra EOP step that constituted the operator workaround. The inspectors confirmed that the current configuration and EOP controls satisfied the CS design requirements and do not adversely impact system functionality or the ability of the operators to respond to events.

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, "Operator Workarounds and Burdens," Revision 0 and verified that this procedure provided the necessary guidance to adequately address the cumulative effects of the workarounds on the operation, reliability, and availability of affected systems. The inspectors also reviewed selected CRs and quarterly assessments completed under WOs 0434042 and 0444175. The items were verified to be properly tracked and scheduled for completion based on the priority and impact on the plant.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 - Three 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 PMTs were reviewed:

- On August 4, 2005, the inspectors observed and reviewed post-maintenance activities for WO 0504836 following replacement of the outboard thrust bearing temperature element on the "A" containment building spray pump. The inspectors interviewed the instrument and controls technicians (I&C) and the I&C manager.

- On August 25, 2005, the inspectors observed maintenance evolutions and reviewed the post-maintenance activities under WOs 0506090 and 0506108 following a lubricating oil change and flush on the "B" safety injection pump.

- On September 29, 2005, the inspectors observed and reviewed the post-maintenance activities for WO 0536137 following the replacement of the high temperature regulator on the "D" atmospheric steam dump valve.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - Three 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 some of the pre-evolution briefings, performed system and control room walkdowns, observed operators and technicians perform test evolutions, reviewed system parameters, and interviewed 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:

- On July 13, 2005, OX1456.61, “ESFAS Slave Relay K640 Quarterly Go Test,” Revision 7;
- On August 1 and 2, 2005, LX0556.04, “Station Battery Service Test,” Revision 2; and
- On September 3, 2005, OX1461.04, “SEPS Monthly Availability Surveillance,” Revision 0.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23 - One Sample)

a. Inspection Scope

The inspectors reviewed temporary modification 05-017 and associated implementing documents to verify Seabrook's design basis and system operability were maintained. The temporary modification was associated with the sealant injection of feedwater valve 116 which had developed an external leak. The use of sealant injection facilitated the sealing of the valve during power operations. The inspectors interviewed engineers and maintenance personnel involved in the injection. The inspectors also observed the valve injection and reviewed the following documents:

- Maintenance Manual, MA 4.3A, "Temporary Modifications and Temporary Alterations," Revision 16;
- Temporary Modification Request 05-017;
- WO 0527434; and
- Design Package Injection Nut 35938C.

The inspectors verified that temporary modification 05-017 was completed in accordance with NRC requirements and plant procedures. The procedural requirements included modifications to plant drawings, tagging of plant equipment affected by the temporary modification, and procedural changes. The inspectors verified 10 CFR 50.59 reviews and 10 CFR 50.65(a)(4) risk evaluations were complete and accurate. The inspectors also examined the combined effect of the modification with other outstanding temporary modifications.

b. Findings

No findings of significance were identified.

2. EMERGENCY PREPAREDNESS

1EP2 Alert and Notification System (ANS) Testing (71114.02 - One Sample)

a. Inspection Scope

An onsite review of Seabrook's ANS was conducted to ensure prompt notification of the public for taking protective actions. During the inspection at Seabrook, the inspectors reviewed the test and maintenance documentation for the siren system. Condition Reports (CRs) generated as a result of siren testing were reviewed for causes, trends and corrective actions. The inspectors interviewed personnel responsible for the siren program. The inspection was conducted in accordance with NRC Inspection Procedure

71114, Attachment 02, and the applicable planning standard, 10 CFR 50.47(b)(5), using the related 10 CFR 50, Appendix E requirements as reference criteria.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation Testing (71114.03 - One Sample)

a. Inspection Scope

A review of Seabrook's ERO augmentation staffing requirements and the process for notifying the ERO was conducted to ensure the readiness of key staff for responding to an event and timely facility activation. The inspectors reviewed procedures and CRs associated with the ERO notification system and process. The inspectors interviewed personnel responsible for the ERO augmentation process. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 03, and the applicable planning standard, 10 CFR 50.47(b)(2), using the related 10 CFR 50, Appendix E requirements as reference criteria.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes (71114.04 - One Sample)

a. Inspection Scope

Prior to this inspection, the NRC had received and acknowledged the changes made to the Seabrook Emergency Plan and implementing procedures. These changes were made in accordance with 10 CFR 50.54(q), which Seabrook had determined did not decrease the effectiveness of the Plan and concluded that the changes continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR 50. During this inspection, the inspector conducted a sampling review of the changes which could potentially result in a decrease in effectiveness. This review does not constitute an approval of the changes and, as such, the changes are subject to future NRC inspection. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 4, and the applicable requirements in 10 CFR 50.54(q) were used as reference criteria.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05 - One Sample)

a. Inspection Scope

The inspectors reviewed CRs initiated by Seabrook from drills, self-assessments, and audits and the associated corrective actions to determine the significance of the issues and to determine if repeat problems were occurring. A list of the CRs reviewed are contained in the attachment to this report. Also, the 2003 and 2004 audit reports were reviewed to assess Seabrook's ability to identify issues, assess repetitive issues and the effectiveness of corrective actions through their independent audit process. This inspection was conducted according to NRC Inspection Procedure 71114, Attachment 05, and the applicable planning standard, 10 CFR 50.47(b)(14), using the related 10 CFR 50, Appendix E requirements as reference criteria.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification (71151 - Three Samples)

Cornerstone: Emergency Preparedness

a. Inspection Scope

The inspectors reviewed Seabrook's procedure for developing the data for the emergency preparedness (EP) PIs which are: (1) Drill and Exercise Performance; (2) ERO Drill Participation; and (3) ANS Reliability. The inspectors also reviewed Seabrook's drill/exercise reports, training records and ANS testing data to verify the accuracy of the reported data. Data generated since the November 2004 EP PI verification was reviewed during this inspection. Therefore, data submitted from the fourth quarter of 2004 and the first two quarters of 2005 were reviewed. The review was conducted in accordance with NRC Inspection Procedure 71151. The acceptance criteria used for the review were 10 CFR 50.9 and NEI 99-02, "Regulation Assessment Performance Indicator Guideline," Revision 3.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Review of Items Entered into the Corrective Action Program:

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 screening of all items entered into the licensee's corrective action program. This was accomplished by reviewing the description of each new CR and attending selected daily management review committee meetings.

.2 Annual Sample: Agastat Time Delay Relay Failure (71152 - One Sample)

a. Inspection Scope

In April 2003, an Agastat time delay relay that trips inverter 1-ED-I-2A within 15 minutes of a direct current (DC) undervoltage condition was found to be outside the allowable tolerance of the surveillance test. Although the as-found value exceeded the procedure limit at which readjustment was directed, the Technical Specification limit was not exceeded. In accordance with the surveillance procedure a work order was generated to correct the out-of-tolerance condition. The work was not completed for approximately 15 months. As a result of additional setpoint drift, in July 2004 the measured time for the delay relay actuation was found to be outside of Technical Specification limits. Condition Report (CR) 04-08807 was initiated to document and investigate the cause of the excessive period of time between the work order initiation and performance of the work. This issue was documented as a non-cited violation (NCV) in NRC inspection report 05000443/2004003.

The inspectors reviewed the apparent cause evaluation and corrective actions for CR 04-08807 and interviewed system and design engineers. The inspectors also reviewed design calculations, surveillance test procedures, maintenance program and test procedures, and vendor information associated with Agastat time delay relays. Additionally, CRs associated with Agastat relays, that were initiated within the past two years were reviewed to assess the potential operational impact of identified issues.

b. Findings and Observations

No findings of significance were identified. The apparent cause evaluation and corrective actions for CR 04-08807 were appropriate to address the failure to promptly perform the work order to readjust the 1-ED-I-2A inverter Agastat. Overall, Agastat relay issues were being identified, trended, and corrective actions to address specific problems and adverse trends were appropriate.

Calculation SBC-128, "Technical Specifications - Setpoints and Allowable Values," Revision 12, established the Agastat time delay relay setpoints for a number of the relays. In a review of this document, the inspectors noted that the calculation did not

discuss the potential effects of input voltage variations on the relay setpoints. Previous testing by the licensee, as documented in engineering work request 00-0043, indicated an apparent voltage effect on one relay with a relatively long (approximately 120 second) setpoint. The inspectors also noted that temperature effects on the relays were discussed in Attachment D to the calculation. However, it was not apparent to the inspectors that the temperature variations had been properly included in the overall relay setpoint uncertainty calculation. Neither the apparent voltage effect on one relay with a long setpoint or the temperature effects were considered to impact safety. Seabrook initiated CR 05-10448 to document and assess the questions associated with the adequacy and completeness of the calculation.

.3 Annual Sample: Supplementary Emergency Power System (SEPS) Reliability and Performance Issues (71152 - One Sample)

a. Inspection Scope

This inspection was focused on the review of the root cause analysis and the applicable corrective actions to address SEPS issues identified in selected CRs after the system was declared partially operable in July 2005. The inspectors reviewed the apparent cause evaluation and corrective actions for CRs 05-10588, 10533, 10755 and interviewed system and design engineers involved with the system. The inspectors also reviewed design documentation, modification test procedures, surveillance test procedures and vendor applicable documentation associated with the system to ensure adequate requirements were included in this design package (non-1E). Additionally, CRs associated with SEPS modifications were reviewed to assess the potential operational impact during design, installation, and operational phases of the system.

b. Findings and Observations

No findings of significance were identified.

By letter dated August 25, 2003, Seabrook proposed Technical Specification changes related to the Class 1E EDG limiting condition for operation (LCO) action statements. The amendment revised TS 3/4.8.1.1, “Electrical Power Systems - A.C. Sources - Operating,” to extend the allowed outage time for TS3/4.8.1.1 actions b., c., and f. from 72 hours to 14 days. In addition, Seabrook revised TS 3/4.1.1 ACTION d. changing the current 2 hour time requirement for verification of redundant component operability to 4 hours.

As part of the above TS change, Seabrook developed DCR 03-002 to install a reliable electrical power supply to increase the defense-in-depth of the alternating current (AC) power system. The SEPS diesels supply AC power to an emergency bus if both Class 1E EDGs fail to start and load for a loss of offsite power event. In addition, the SEPS diesels provide an alternate back up of AC power to allow longer Class 1E bus maintenance outage times during power operations. The SEPS system consists of two diesel generators that can supply one safety-related Class 1E bus. Following

declaration of system partial operabilty on July 7, 2005, DCN 21 to SEPS DCR 03-002 was issued. At that time, the system was declared partially operable with 8 minor items, considered as enhancements to this system, remaining open. None of the incomplete items were considered to affect the functionality of SEPS in performing its intended design function. During subsequent TS surveillance testing and open items completion duration, however, SEPS revealed system design and test issues during closeout of these items.

The inspectors determined that these issues were clearly system enhancements (non-operational system features). The inspectors concluded that the project team did not verify that the design was consistent with the vendor documentation during the installation and post-modification testing process. In addition, the test engineer did not initiate design change requests prior to changing Main Digital Controller setpoints. To address the design reviews and the post-modification testing concerns, Seabrook provided training on the issues to applicable staff members.

Seabrook appropriately investigated and took corrective actions to address the reliability of SEPS. The inspectors noted the apparent cause of the deficiencies was attributed to the SEPS design package not clearly specifying all the requirements and the DCR open items list. Also, the test team and design engineering did not properly verify the design parameters during installation and testing such as Digital Master Controller (DMC) setpoints, power panel breaker settings, and the LAN-connection and software design requirements, which resulted in SEPS auxiliary system failures after declaring the system partially operable.

None withstanding these issues, the corrective actions taken to address the specific problems were adequate. The setpoint errors found on the DMC set-up screen and related concerns were corrected, the SEPS Power Panel PP-2 feeder breaker trip setting was adjusted, and the ability to remotely control SEPS from a LAN connection was terminated. The inspectors concluded that SEPS remained capable of performing its design function.

The inspectors concluded that Seabrook took adequate corrective actions to address the issues. Because the issues did not affect the SEPS intended function and had no affect on other safety-related system operations or functions, the inspectors concluded there was no violation of NRC requirements.

4OA3 Event Followup (71153 - Three Samples)

.1 (Closed) Licensee Event Report (LER) 50-443/05-002: Momentary Loss of Power to Emergency Bus While Transferring Power Supplies

On February 22, 2005, Seabrook experienced a loss of power to an emergency bus due to a reserve auxiliary transformer breaker failure during an attempted transfer of offsite power supplies. The "A" EDG started and supplied power to the emergency bus. The breaker failure was previously reviewed and documented in NRC Inspection Report 50-443/2005-004 as a Non-Cited Violation (NCV) of very low safety significance (Green). The inspectors reviewed the accuracy of the licensee event report and verified compliance with the reportability requirements in 10 CFR 50.73 and NUREG 1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," Revision 2. The licensee documented the issue in CR 05-02108. This LER is closed.

.2 (Closed) LER 50-443/05-003: Plant Shutdown due to Inoperable Reactor Trip Breaker

On March 22, 2005, operators conducted a plant shutdown as required by Technical Specification 3.3.3, "Reactor Trip System Instrumentation," for an inoperable reactor trip breaker. The shutdown activities were previously reviewed and documented in NRC Inspection Report 50-443/2005-004. The shutdown was counted as an NRC performance indicator for unplanned power changes. The inoperable trip breaker was due to a failure of a switch associated with the auto shunt trip test pushbutton.

In 2002, Seabrook identified that the switch had age-related reliability issues and planned to replace the component during the next refueling outage. However, since the vendor had not completed a switch redesign, the replacement was delayed one refueling outage. On March 22, 2005, prior to planned replacement in April 2005, the component failed. Seabrook replaced the switch in April 2005. Not replacing the switch prior to April 2005 was not considered a violation of regulatory requirements since; 1) the switch was used for testing activities only, and 2) failure of the switch did not affect the ability of the reactor trip breakers to perform the intended safety function of opening when receiving a signal from the reactor protection system. The inspectors reviewed the accuracy of the licensee event report and verified compliance with the reportability requirements in 10 CFR 50.73 and NUREG 1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," Revision 2. The licensee documented the issue in CR 05-03228. No new findings were identified in the inspectors' review. This LER is closed.

.3 (Closed) LER 50-443/05-004: Noncompliance with the Technical Specification for Offsite AC Sources

In March 2005, the inspectors identified that Seabrook failed to comply with a Technical Specification allowed outage time requirement when one of two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system was inoperable. Seabrook identified in their historical review that violations of

Technical Specification occurred in February 2005 and August 2003. The inspectors addressed this failure to properly implement the Technical Specification in NRC Inspection Report 50-443/2005-004 as an NCV of very low safety significance (Green). The inspectors reviewed the accuracy of the licensee event report and verified compliance with the reportability requirements in 10 CFR 50.73 and NUREG 1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," Revision 2. The licensee documented the issue in CR 05-03265. No new findings were identified in the inspectors' review. This LER is closed.

4OA6 Meetings, including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. G. St. Pierre on October 19, 2005, following the conclusion of the period. The licensee acknowledged the findings presented. The licensee did not indicate that any of the information presented at the exit meeting was proprietary.

Site Management Visit

On September 12, 2005, Mr. Sam Collins, Region I Regional Administrator, toured the site and met with Mr. Gene St. Pierre and other members of Seabrook management.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

G. St. Pierre, Site Vice President
P. Freeman, Engineering Director
M. Kiley, Station Director
J. Dent, Assistant Station Director
M. Makowicz, Plant Engineering Manager
D. Sherwin, Maintenance Manager
W. Bladow, Security Manager
M. O'Keefe, Regulatory Compliance Supervisor
L. Hansen, Plant Engineering
R. Jamison, Design Engineering
S. Perkins-Grew, Emergency Preparedness Manager
D. Young, Senior Analyst
P. Casey, Senior Analyst
J. Baer, Senior Analyst
N. O'Neil, Analyst

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed:

05000443/2005002	LER	Momentary Loss of Power to Emergency Bus While Transferring Power Supplies (Section 4OA3.1)
05000443/2005003	LER	Plant Shutdown due to Inoperable Reactor Trip Breaker (Section 4OA3.2)
05000443/2005004	LER	Noncompliance with the Technical Specification for Offsite AC Sources (Section 4OA3.3)

LIST OF DOCUMENTS REVIEWED

Section 1R12: Maintenance Effectiveness

SM 7.10, Maintenance Rule Program, Revision 01
OX1456.02, ECCS Monthly System Verification, Revision 07
P&ID 1-SI-B20446 (Revision 15) and 1-SI-B20447 (Revision 14)
Condition reports for the past year, selected items were reviewed in greater detail;
MR scoping document and MR performance criteria;
System Health and System Walkdown Reports;

MR performance data including maintenance rule function failures (MRFFs) and unavailability data;
Vibration, Oil Analysis and Inservice Testing Data.

Section 1EP2: Alert and Notification System (ANS) Testing

PM 0-EMSI-UA-HA10-52-1-00
SIR.10, WS-3000 and WPS-4000 Siren Biweekly Functional Test, Revision 4
SIR.12, WS-3000 Siren Annual Calibration, Revision 1
SIR.18, WPS -4000 Siren Annual Calibration, Revision 01
SIR.25, PANS Whelen WS-3000 and WPS-4000 Siren Maintenance & Testing Program, Revision 1
SIR.45, Siren Actuation Control Repeater System Maintenance and Testing Program, Revision 0
OGDEN Seabrook Station Site Specific Offsite Radiological Emergency Preparedness PANS Quality Assurance Verification Final Report, August 11, 1998
Seabrook Station Public Alert and Notification System Description, Revision 1
CR 04-08096
CR 04-08982
CR 04-11888
CR 05-05368
CR 05-05934
CR 05-06208
CR 05-06412
CR 05-06577
CR 05-09166
CR 05-09445
CR 05-09565
CR 05-10074
CR 05-10075

Section 1EP3: Emergency Response Organization (ERO) Augmentation Testing

Emergency Plan Figure 8.15
NRC Inspection Report 50-443/96-03
Emergency Plan Revision Review for Revision 18 (3/27/95)
SDI0020.00, Security Related Emergency Preparedness Equipment & Systems Testing, Revision 2
CR 04-05135
CR 04-05136
CR 04-12239

Section 1EP4: Emergency Action Level (EAL) Revision Review

EALs 18 a, b, and c; Revision 39
Design Bases for the Seabrook Station Emergency Classification System, Revision 17
Seabrook UFSAR Section 3.7, Location and Description of Instrumentation (Seismic)

ES1802.001, Earthquake Response, Revision 1
CR 04-09288
10 CFR 50.54(q) review for Emergency Plan Revision 48

Section 1EP5: Correction of Emergency Preparedness Weaknesses and Deficiencies

Audit Report No. SBK-03-08
Audit Report No. SBK-04-09
Self-Assessment 04-0060
Self-Assessment 04-0061
Self-Assessment 04-0063
Self-Assessment 04-0065
Self-Assessment 04-0066
Self-Assessment 04-0067
Self-Assessment 04-0123
Self-Assessment 04-0125
Self-Assessment 04-0145
Self-Assessment 04-0192
Self-Assessment 04-0206
Self-Assessment 04-0212
Self-Assessment 05-0028
CR 03-06840
CR 03-06845
CR 03-09364
CR 03-09363
CR 03-10149
CR 04-05137
CR 04-07969
CR 04-07735
CR 04-11335
CR 04-11337
CR 04-11398
CR 04-11420
CR 04-11453
CR 04-11709

Section 4OA1Performance Indicator (PI) Verification

EPDP-03, Emergency Preparedness Performance Indicators, Revision 14
CR 03-08090

Section 4OA2: Identification and Resolution of Problems

Procedures

LS0550.09, Agastat Timing Relay Acceptance Testing and Maintenance Program, Revision 02
LS0563.12, Testing of Agastat 125 VDC (7000 Series) TDDO Timing Relays, Revision 01
LS0563.22, Testing of Agastat 125 VAC (7000 Series) TDPU Timing Relays, Revision 01
LX0563.02, Reactor Coolant Pump Undervoltage Channel Calibration and Relay PM, Revision 03
LX0563.04, RCP UF Channel Calibration and Relay PM, Revision 03
OX1447.01, Inverter ED-I-2A 18 Month Trip Circuit Test, Revision 06

Engineering Work Requests/Requests for Engineering Services

EWR 98-0416, RC Pump UV & UF Agastat Time Delay Relays, Revision 0
EWR 00-0043, Timing of 120 VAC Agastat Relays, Revision 0
RES 91-036, Replacement of Agastat Relays, Revision 0
RES 91-196, Agastat Accuracy Requirements and Setpoints, Revision 01

Miscellaneous

Report No. 60486-95N, Agastat 7022PJ Test Report, Revision 1, dated 6/19/1994
Tyco Electronics Product Data Sheets for Series 7000 and E7000 Agastat Relays
QRNO 04-0145, Nuclear Assurance Quality Report - Acceptance and Adjustment Criteria for Reactor Coolant Pump UV and UF Agastat Timing Relay, dated 12/16/2004

Calculations

SBC-128, Technical Specifications - Setpoints and Allowable Values, Revision 12
1-NHY-508605 - Setpoints List

Condition Reports

00-07534	04-07368
03-00291	04-08800
03-06900	04-08807
03-09612	04-12045
04-01082	04-12364
04-05517	04-12375
04-06060	04-12367
04-06590	05-01987
04-06688	05-05762
04-07141	05-05838
05-10533	05-10588
05-10705	

LIST OF ACRONYMS

AC	Alternating Current
ADAMS	Agencywide Documents Access and Management System
ANS	Alert and Notification System
CR	Condition Report
CS	Charging System
DMC	Digital Master Controller
EAL	Emergency Action Level
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EOP	Emergency Operating Procedure
EP	Emergency Preparedness
ERO	Emergency Response Organization
I&C	Instrument & Controls
LCO	Limiting Condition for Operation
MR	Maintenance Rule
MRFF	Maintenance Rule Functional Failure
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
P&ID	Piping & Instrumentation Drawing
PI	Performance Indicator
PMT	Post Maintenance Testing
SEPS	Supplemental Emergency Power System
SI	Safety Injection
UFSAR	Updated Final Safety Analysis Report
WO	Work Order