

Seabrook 1

3Q/2005 Plant Inspection Findings

Initiating Events

G**Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Properly Maintain 4.16 KV Breaker Maintenance Procedure

A non-cited violation of Technical Specification (TS) 6.7.1.a, "Procedures and Programs," was self-revealed when the reserve auxiliary transformer supply breaker to the 'A' emergency bus failed to remain closed on demand. The licensee failed to properly address grease hardening in Seabrook's 4.16 kilovolt breaker maintenance program which resulted in the failure. The breaker was inoperable from February 14 to February 22, 2005.

This 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. The finding was determined to be of very low safety significance since, while there was an increase in the probability of an initiating event, it did not impact mitigating systems resulting in a total loss of safety function, reactor coolant system leakage, or external event initiators.

Inspection Report# : [2005004\(pdf\)](#)**G****Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Comply with Technical Specification LCO Action Statement 3.8.1.1.a Electrical Distribution During On-Line Maintenance

The inspectors identified a non-cited violation of TS 3.8.1.1, "AC [Alternating Current] Sources - Operating." In March 2005, Seabrook failed to properly implement TS Limiting Condition for Operation (LCO) action statement 3.8.1.1.a during a period when one of two AC power sources was removed from safety-related electrical bus six to support on-line maintenance of a Unit Auxiliary Transformer. Based on a historical review, the inspectors identified that on August 21, 2003, Seabrook had also failed to properly apply TS LCO action statement 3.8.1.1.a and had exceeded the allowed outage time of 72 hours by approximately 12 hours.

This issue was more than minor because it affected the equipment performance attribute of the Initiating Events Cornerstone and the objective to limit the likelihood of those events that upset plant stability. Reducing the availability of offsite power to the Class 1E electrical distribution system resulted in a greater likelihood that the components powered by the Class 1E electrical distribution system would not be able to perform the intended safety function during an event. This finding was determined to be of very low safety significance since, while there was an increase in the likelihood of the loss of an emergency bus, it did not impact mitigating systems resulting in a total loss of safety function, reactor coolant system leakage, or external event initiators.

Inspection Report# : [2005004\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: FIN Finding

Untimely Corrective Maintenance Resulting in a Frozen Main Steam Transmitter Sensing Line

The inspectors identified a finding for failure to properly classify and correct a failed heat trace circuit in a timely manner which resulted in a main steam header pressure transmitter failure and a potential challenge to the plant. This finding was associated with the cross-cutting area of problem identification and resolution in that the degraded condition was not appropriately identified, classified or corrected.

This 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. The finding is of very low safety significance since there was an increase in the probability of an initiating event but it did not impact mitigating systems, reactor coolant system leakage, or external event initiators.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: FIN Finding

Inadequate Procedure Resulting in Unplanned Opening of a Switchyard Breaker

The combination of an inadequate procedure and the failure of Seabrook's technicians to take appropriate actions during preventative

maintenance activities was a self-revealing finding. This performance deficiency resulted in an inadvertent switchyard breaker opening, creating a potential challenge to plant stability. This finding was associated with the cross-cutting area of human performance in that once both heaters were removed from service, the technicians became distracted with unrelated administrative tasks such that gas pressure decreased and the breaker tripped open. The issue was entered into the licensee's corrective action program (CAP) as CR 04-11141, Switchyard Breaker 163.

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 factors such as switchyard activities. This finding was determined to be of very low safety significance since there was an increase in the probability of an initiating event but no impact on mitigating systems, reactor coolant system leakage, or external event initiators.

Inspection Report# : [2005003\(pdf\)](#)

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Significance: Dec 17, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Take Effective Corrective Action for Underground Utility and Equipment Damage During Excavation

The team identified a non-cited violation of 10CFR 50, Appendix B, Criterion XVI, "Corrective Action," because Seabrook failed to take adequate corrective actions to prevent damage to underground utilities and equipment during site excavations. Following a series of issues where contract personnel hit buried cables and pipes while excavating, Seabrook failed to take effective corrective actions and later hit a safety-related control building ventilation line. This finding was associated with the cross-cutting area of problem identification and resolution.

This finding was more than minor because it affected the Initiating Events Cornerstone objective of limiting events that upset plant stability and challenge critical safety functions. Specifically, an underground utility or buried equipment could be damaged and result in an initiating event. The finding was determined to be of very low safety significance since it did not contribute to both an increased likelihood of a reactor trip and an increased likelihood that mitigating equipment would be unavailable.

Inspection Report# : [2004008\(pdf\)](#)

Significance: N/A Dec 17, 2004

Identified By: NRC

Item Type: FIN Finding

Identification and Resolution of Problems

The team determined that Seabrook was generally effective at identifying problems and placing them in the corrective action program. Once entered into the system, these items were screened and prioritized in a timely manner using established criteria, and they were properly evaluated commensurate with their safety significance. Overall, the evaluations reasonably identified the causes of the problem, assessed the extent of condition, and developed appropriate corrective actions. However, the team did identify some minor instances where problem evaluation could have been strengthened. Corrective actions were typically implemented in a timely manner, but the team found that in some cases, corrective actions were not effectively used to resolve and prevent recurrent problems. The inspectors found that Seabrook's self-assessments and audits were self-critical and consistent with the team's observations.

Inspection Report# : [2004008\(pdf\)](#)

Mitigating Systems

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Significance: Jul 29, 2005

Identified By: NRC

Item Type: FIN Finding

Time Critical Operator Actions Not Included in the Safe Shutdown Analysis

The team identified a finding regarding the adequacy of the licensee's post-fire safe shutdown analysis. Specifically, the analysis was found to be incomplete in that it did not specify the time available for the implementation of safe shutdown procedure actions necessary to restore mitigating systems to operation following their loss due to a fire. These actions include timely restoration of reactor coolant system makeup, reactor coolant pump seal cooling and feedwater flow to the steam generators to ensure safe shutdown performance goals would be met during a post-fire safe shutdown. Additionally, time lines or validations had not been performed to establish the time necessary to perform time critical portions of the safe shutdown procedures.

The finding is more than minor because it is associated with the Mitigating Systems Cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events. Specifically, the safe shutdown analysis did not ensure the availability and capability of credited safe shutdown systems was sufficient to ensure post-fire performance goals would be met. The finding was found to represent a low degradation, and as such was of very low safety significance in accordance with the Fire Protection Significance Determination Process (NRC Inspection Manual Chapter 609, Appendix F). Specifically, timed walkdowns of procedures performed during the inspection indicated that, while plant parameters may not always be maintained within the safe shutdown goals, they would not deviate by an amount that would place the plant in an unrecoverable condition. The walkdown results were evaluated against estimated times available from related accident analyses, probabilistic risk assessment (PRA) studies and information

from plants of similar designs.
Inspection Report# : [2005008\(pdf\)](#)

G**Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Properly Implement Equipment Tagging and Isolation Procedure

A non-cited violation of TS 6.7.1.a, "Procedures and Programs," was self-revealed when Seabrook failed to properly implement an equipment tagging and isolation procedure resulting in the unplanned and rapid loading of the 'A' emergency diesel generator, an event which could have damaged the engine. This finding was associated with the cross-cutting area of organizational human performance since not only was the tagging procedure improperly implemented and licensed operators continued to load the EDG despite not having received the expected response; but other licensee programs, including the work control process, failed to prevent the emergency diesel generator transient.

The finding was more than minor because failure to properly implement the tagging program, if left uncorrected, would result in a more safety significant safety concern. The finding was determined to be of very low safety significance since there was no loss of function of safety-related equipment.

Inspection Report# : [2005004\(pdf\)](#)**G****Significance:** Jan 27, 2005

Identified By: NRC

Item Type: FIN Finding

Inadequate Operability Determination of the TDEFW Pump Relative to SBO

The team identified a finding regarding the license's failure to perform an adequate operability determination for a degraded outboard thrust bearing on the turbine-driven emergency feedwater (TDEFW) pump. Specifically, the licensee did not identify how this bearing would have affected the TDEFW pump's ability to provide core cooling during a Station Blackout (SBO). As a result, the TDEFW pump operability and the need for corrective action were based upon a non-conservative technical basis.

The finding is more than minor because it is associated with the Mitigating Systems Cornerstone attribute of Equipment Performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Specifically, the licensee did not ensure the reliability of the TDEFW pump to perform its design function during a station blackout. This finding is of very low safety significance since it was a design or qualification deficiency that was confirmed not to result in a loss of function per Generic Letter (GL) 91-18.

Inspection Report# : [2005002\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Design Inadequacy Resulting in Potential Loss of Both Charging Pumps During a Fire

The inspectors identified a non-cited violation of Seabrook's Facility Operating Licensee, Section 2.F, "Fire Protection." The violation involved a design deficiency in which a single fire could result in a loss of both charging pumps.

This finding is more than minor because it affected the Mitigating System cornerstone and could impact the availability of equipment needed to ensure a safe shutdown of the plant during a fire. The finding was determined to be of very low safety significance based on a detailed review of the fire areas against Appendix F, "Fire Protection Significance Determination Process" of Manual Chapter 0609.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Controls on Oil Storage

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XIII, "Handling, Storage, and Shipping" when Seabrook personnel may have used contaminated oil in a safety-related pump due to inadequate oil storage controls. This finding was associated with the cross-cutting areas of human performance and problem identification and resolution in that contaminated oil was potentially added to safety-related equipment, operability assessments were delayed, and extent-of-condition reviews were not documented.

This finding was more than minor because it affected the Mitigating System cornerstone and could impact the availability and reliability of safety-related equipment. The finding was determined to be of very low safety significance since there was no actual loss of equipment due to the contaminated oil.

Inspection Report# : [2005003\(pdf\)](#)

Barrier Integrity

Significance:  Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Untimely Identification of Failed Emergency Power Sequencer Card

Green. A non-cited violation of 10 CFR 50, Appendix B, "Corrective Action" revealed itself when the "B" containment building spray pump failed to start during surveillance testing. From April 24 to June 20, 2005, Seabrook did not identify that the emergency power sequencer card for the "B" containment building spray pump was in an inoperable condition such that the spray pump would not have automatically started during a high containment pressure actuation signal. This finding was associated with the cross-cutting area of problem identification and resolution in that the failed card was not identified for approximately 60 days despite opportunities both inside and outside the control room to have identified the deficiencies.

The finding was more than minor because it affected the Barrier Integrity cornerstone objective to provide reasonable assurance that the containment design barrier would remain intact to protect the public and was associated with the attribute of equipment performance. The failure of the "B" containment spray pump to start impacted one of two containment pressure suppression components. The finding was determined to be of very low safety significance since the containment building spray system failure did not impact core damage probability or large early release frequency.

Inspection Report# : [2005005\(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : November 30, 2005