

Seabrook 1

4Q/2005 Plant Inspection Findings

Initiating Events

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\(pdf\)](#)

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\(pdf\)](#)

Mitigating Systems

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\(pdf\)](#)

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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\(pdf\)](#)

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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 licensee'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\(pdf\)](#)

Barrier Integrity

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Significance: Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Corrective Actions Result in Repeat Failure of a Solenoid Valve

The inspectors identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." In May 2005, Seabrook experienced a failure of the "A" control room exhaust fan damper solenoid valve. Corrective actions completed in 2002 and 2003 to previous solenoid failures including the "B" control room exhaust fan damper solenoid valve in 2001 were ineffective in preventing the May 2005 failure. Seabrook has since taken corrective action to fully evaluate the extent-of-condition and to replace or evaluate susceptible solenoid valves. This finding was associated with the cross cutting area of problem identification and resolution in that Seabrook did not implement effective corrective actions to previous failures and did not properly identify the cause of the 2005 failure.

The finding is more than minor because it affected the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers are maintained including the radiological barrier function of the control room. The failure of the "A" train control room exhaust fan damper solenoid valve to close during testing impacted one of two dampers which isolates the control room. The finding is determined to be of very low safety significance (Green) since the redundant train provides the same function to isolate the control room and manual actions were also available to mitigate any control room conditions.

Inspection Report# : [2005011\(pdf\)](#)

G**Significance:** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Untimely Identification of Failed Emergency Power Sequencer Card

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

G**Significance:** Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to include Procedural Guidance for Issuing a PAR from the Control Room following Certain Postulated Events

The inspectors identified a non-cited violation associated with 10 CFR 50.54(q). For a general emergency (GE) initiated by certain postulated events, Seabrook developed a procedure that directed that a notification be made to the offsite agencies from the control room without a protective action recommendation (PAR). Seabrook has implemented corrective actions and revised this procedure, as well as, instituted a process to review non-EP procedure changes to assess their impact upon the emergency plan.

The finding is more than minor because it is associated with the EP cornerstone attributes of procedure quality and offsite EP. It impacted the cornerstone objective of ensuring that Seabrook is capable of implementing adequate measures to protect the public in that PARs would not have been readily provided to offsite agencies for an GE initiated by some postulated events. This issue was determined not to impact a planning standard function because Seabrook's emergency plan and implementing procedures adequately addressed PARs for all events. Additionally, this issue had been discussed with the appropriate offsite agencies prior to implementation of the revised procedure. Therefore, this finding is determined to be of very low safety significance (Green).

Inspection Report# : [2005011\(pdf\)](#)

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

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

Miscellaneous

Last modified : March 03, 2006