

# Farley 1

## 2Q/2008 Plant Inspection Findings

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### Initiating Events

**Significance:**  Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Adequately Assess Risk Resulting in Unit 2 Reactor Trip**

The NRC inspectors identified a Green NCV for inadequate risk assessment which resulted in a Unit 2 reactor trip when performing switchyard relay testing. This event has been entered into the licensee's corrective action program (CAP) as Condition Report (CR) 2007109659.

The inadequate risk assessment for the Unit 1 main generation differential lockout relay testing is a performance deficiency. The inspectors determined this finding was more than minor because it was associated with the procedure quality attribute of the Initiating Events cornerstone and adversely affected cornerstone objective in that loss of power to the 2A startup transformer resulted in a reactor trip. The inspectors determined that a Phase 2 risk analysis was required because the finding contributes to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. A regional Senior Reactor Analyst performed a Phase 3 risk analysis and concluded that the finding was of finding of very low safety significance (Green). This finding involved human performance cross-cutting aspect of complete, accurate and up-to-date design documentation, procedures, and work packages, and correct labeling of components.

Inspection Report# : [2007005](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Apr 04, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Fire Procedure Credits Unreliable Indication**

The team identified a non-cited violation of Technical Specification 5.4.1, Procedures, in that Units 1 and 2 post-fire safe shutdown abnormal operating procedures AOP 28.1, Fire or Inadvertent Fire Protection System Actuation in the Cable Spreading Room, and AOP 28.2, Fire in the Control Room, credited diagnostic instrumentation that would have been potentially unreliable due to fire damage from a postulated fire in the control room or cable spreading room. The finding was entered into the licensee's corrective action program as Condition Report 2005103665.

This issue is a performance deficiency because the safe shutdown procedure relies on an indication which was not protected from fire damage. The finding is more than minor because it is associated with the procedure quality attribute of the Mitigating Systems cornerstone and it affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors assessed the finding using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." The finding was assigned a low degradation rating because it was determined to be a minor procedural deficiency that is compensated by operator experience or familiarity. Because the finding was assigned a low degradation rating, the team determined that this finding was of very low safety significance (Green).

Inspection Report# : [2008006](#) (*pdf*)

**Significance:**  Mar 30, 2008

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure of CCW 4160 Circuit Breaker to Operate When Demanded Due to Ineffective Corrective Actions**  
A self-revealing Green NCV of 10 CFR 50 Appendix B, Criterion XVI was identified for inadequate corrective actions which resulted in the 1C CCW Pump's circuit breaker failing to operate when required. The combination of inadequate tolerances, manipulation of the breaker foot pedal, and the interlock plunger being bound in the interlock bar resulted in the circuit breaker experiencing a trip free operation during its demanded closing operation. During the time the 1C CCW Pump was inoperable, the 1A CCW Pump would not have restarted during LOSP or SI conditions due to a latent failure of its circuit breaker. Thus, a loss of safety function existed for approximately seven hours and fifteen minutes. Because the latent failure of the 1A CCW pump was not a trendable or foreseeable failure, no performance deficiency was identified. The NRC reviewed both breaker failures for a common performance deficiency and none was identified. This finding has been entered into the licensee's CAP as CR 2007108601.

The licensee's failure to ensure the interlock plunger was correctly aligned to allow proper operation of the 4160 volt 1C CCW pump circuit breaker is a performance deficiency. This finding is more than minor because it affected the equipment reliability attribute of the Mitigating Systems cornerstone. The cornerstone objective of ensuring the availability, reliability, and capability of systems responding to initiating events to prevent undesirable consequences was not met. The NRC performed a Phase 3 Significance Determination of the performance deficiency and concluded the finding was of very low safety significance.

Inspection Report# : [2008002](#) (pdf)

**Significance:**  Mar 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Prevent the Installation of a Nonconforming Breaker into the Cubicle for the 1C CCW Pump**

The NRC identified a Green NCV of 10 CFR 50 Appendix B, Criterion XV for failing to properly control nonconforming components resulting in the installation of a 4160 volt breaker for the Unit 1 1C CCW pump with a stop bolt gap dimension not meeting vendor and station maintenance acceptance criteria. This finding has been entered into the licensee's CAP as CRs 2007108654 and 2008101720.

Failure to control components not conforming to requirements in order to prevent their inadvertent use or installation in safety-related applications is a performance deficiency. The NRC determined this finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective. Specifically, installation of a breaker not meeting vendor or station acceptance criteria challenged the reliability of the 1C CCW pump. Because the finding did not result in a loss of operability or safety function and the finding did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event, the NRC concluded the finding was of very low safety significance (Green). A human performance cross-cutting aspect was identified regarding effectively communicating expectations for procedural compliance and personnel following procedures (H4(b)).

Inspection Report# : [2008002](#) (pdf)

**Significance:**  Aug 24, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Promptly Identify the Complete Population of Service Water Valves Affected by the System's Corrosive Environment and Correct the Condition**

The inspectors identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for a failure to promptly identify and correct a condition adverse to quality. In November 2004, the licensee identified that the carbon steel valves in the service water system were susceptible to corrosion which caused the valve disc to separate from the stem. The licensee did not promptly identify the complete population of valves affected by this issue. In May 2007, a service water valve failure occurred in which stem-disc separation occurred as a result of similar corrosion issues.

The finding is of more than minor significance because it affects the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, susceptibility of the valves to corrosion reduced the reliability of safety-related systems. The finding is of

very low safety significance (Green) because it was not a design or qualification deficiency, and did not represent an actual loss of safety function for greater than the allowed technical specification outage time. The inspectors evaluated this finding for a cross-cutting aspect; no primary cross-cutting aspect was identified.

Inspection Report# : [2007006 \(pdf\)](#)

**Significance:** **W** Jul 16, 2007

Identified By: NRC

Item Type: FIN Finding

### **Parallel Performance Indicator White Finding**

The NRC identified significant weakness regarding historical evaluations for safety-related breaker failures and the thoroughness of design modification reviews for the installation of new breakers.

In accordance with NRC Inspection Manual Chapter (MC) 0305, a [parallel] PI finding will be opened. This provides for NRC's continued review of the licensee's actions to address the weaknesses identified in this report. In accordance with MC 0305, this finding takes the color of the original PI.

Inspection Report# : [2007008 \(pdf\)](#)

Inspection Report# : [2008008 \(pdf\)](#)

**Significance:** **G** Jul 16, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inadequate Evaluation of Breaker Failures and Subsequent Corrective Actions.**

The NRC identified a Green non-cited violation with two examples of 10 CFR 50, Appendix B, Criterion XVI, for failing to promptly identify and correct a condition adverse to quality. For the first example, weaknesses with the thoroughness of evaluations for safety-related service water breaker failures resulted in a failure to identify backplate bending as a primary root cause for three failures which contributed to the White PI. For the second example, the licensee failed to identify and correct MOC switch alignment problems which resulted in an inoperable breaker for the 1C EDG.

The first example is more than minor because the finding affected the equipment performance attribute of the Mitigating Systems cornerstone objective involving equipment reliability in that affected service water breakers could open when demanded to close. This finding is of very low safety significance (Green) because the failure to identify and correct backplate bending in the three failures did not result in the actual loss of safety function of a single Train for greater than its Technical Specification allowed outage time. The example was found to be associated with the thoroughness of evaluation aspect of the Problem Identification and Resolution cross-cutting area in that backplate bending was not effectively evaluated as a cause for breaker failures.

The second example is more than minor because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone objective involving equipment reliability in that the 1C EDG sequencer was not functional for 176 days. Because there was an actual loss of safety function of a single train for greater than the TS allowed outage time, a Phase 3 evaluation was performed. This finding was determined to be of very low safety significance (Green) due to mitigation/recovery credit for the failure based on emergency procedures that clearly direct operators to manually load the 1C EDG with the required safety equipment. The example was also found to be associated with the thoroughness of evaluation aspect of the Problem Identification and Resolution cross-cutting area in that earlier MOC switch failures were not thoroughly evaluated resulting in a thorough design evaluation not being accomplished.

This violation was entered into the licensee's corrective action program (CAP) as CR 2007104129. (Section 02.04.2)

Inspection Report# : [2007008 \(pdf\)](#)

# Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## Miscellaneous

**Significance:** N/A Aug 24, 2007

Identified By: NRC

Item Type: FIN Finding

### **Biennial Identification and Resolution of Problems Inspection Results**

One finding of very low safety significance (Green) was identified. The licensee was generally effective in identifying problems at a low threshold and entering them into the corrective action program. The licensee properly prioritized issues entered into the corrective action program (CAP) and routinely performed evaluations that were technically accurate and of sufficient depth to address the issue documented in the condition reports (CRs). Overall, corrective actions were effective; however, minor examples of inadequate condition report broadness reviews and documentation issues related to the closure of action items were identified. In general, operating experience was found to be used both proactively and reactively by personnel involved in the corrective action program; however, an example of industry operating experience was identified in which the licensee did not completely develop interim compensatory measures for a condition to which Farley was vulnerable. The licensee's programmatic self-assessments and audits were generally effective in identifying weaknesses in the corrective action program; however, a missed opportunity in the trending of issues which could result in adverse effects on safety-related plant components was identified. The inspectors also concluded that the workers at Farley felt free to report safety concerns.

Inspection Report# : [2007006](#) (*pdf*)

Last modified : August 29, 2008