

## Calvert Cliffs 1

### 4Q/2005 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Oct 26, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

##### **Failure To Establish Adequate Clearance Order Boundaries**

The inspectors identified a non-cited violation of Technical Specification 5.4.1.a. "..., written procedures shall be established, implemented,..." because plant procedural requirements were not implemented while establishing boundaries to perform maintenance activities. Specifically, on October 26, 2005, while hanging a clearance to support the replacement of 1-SV-3828, 11 shutdown cooling (SDC) outlet control valve (CV) solenoid valve, component cooling water flow to the Unit 1 containment components was reduced which adversely impacted the reactor coolant pumps due to the increased temperatures associated with the upper and lower guide bearings as well as the lower reactor coolant pump (RCP) seal. A misunderstanding as to how this clearance interacted with a previously established clearance lead to this event. The licensee restored component cooling water flow and corrected the sequencing of these clearances and maintenance activities to ensure plant stability was maintained. The licensee documented this occurrence in their corrective action program.

This finding is greater than minor because it was associated with the Initiating Events Cornerstone configuration control attribute and affected the cornerstone's objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. This finding was determined to be of very low safety significance (Green), because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors identified that a contributing cause of this finding was related to the cross-cutting area of human performance. Specifically, the licensed operators did not follow plant procedures and determine if boundaries specified in the clearance order were adequate for the maintenance activity based on the actual plant conditions that existed at the time the clearance was to be implemented. (Section 1R04)

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

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#### Mitigating Systems

**Significance:**  Nov 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

##### **Failure to identify and correct unavailability problems for the turbine drive AFW pump.**

The NRC identified a Green non-cited violation (NCV) of Technical Specification (TS) 5.4.1 due to an inadequate procedure for installation and adjustment of packing for the 22 turbine-driven auxiliary feedwater (TDAFW) pump, which led to premature pump shutdown during a quarterly surveillance test. During the test, operators secured the pump when they noticed a burning smell and observed smoke coming from the pump's inboard packing gland. Investigation found the inboard packing gland had lost adequate leak off flow along its inner diameter. The licensee entered the deficiency with the pump overhaul procedure into their corrective action (CA) program for resolution.

This finding was greater than minor because it adversely affected the availability of a safety-related TDAFW pump which affected the equipment performance attribute of the Mitigating Systems Cornerstone because the pump was unavailable until the degraded packing had been replaced and the pump was satisfactorily retested. The finding was determined to be of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," because an engineering analysis determined that the pump would have remained operable, and was capable of performing its intended safety function. (Section 4OA2.2)

Inspection Report# : [2005007\(pdf\)](#)

**Significance:**  Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

##### **Inadequate Procedures for Offsite Power Availability**

The inspectors identified an NCV of Technical Specification 5.4.1.a. "..., written procedures shall be established, implemented,..." for the failure to provide an adequate procedure for the operation of the electrical system. Specifically, Operating Procedure OI-27-B, 13.8kV System, provides steps for placing voltage regulators under manual control which makes the associated offsite source to the affected 4 kV busses

inoperable. The procedure did not state this, and as a result, when the voltage regulators were placed in manual the associated offsite source was not declared inoperable when it should have been.

This finding is greater than minor because it is associated with the cornerstone attribute Procedure Quality and affects the objective of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was determined to be a finding of very low safety significance because the finding did not represent an actual loss of a safety function and was not potentially risk significant due to an external initiating event. (Section 40A2)

Inspection Report# : [2005004\(pdf\)](#)

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**Significance:** Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Change SRW Operating Procedure During Sequencer Modification**

The inspectors identified a non-cited violation of Technical Specification 5.4.1.a. "..., written procedures shall be established, implemented..." because plant procedural requirements were not included in all appropriate sections of the Unit 1 Operating Instruction, OI-15, "Service Water System." Specifically, certain procedural sections in OI -15 did not adhere to OI-15 precaution L, which prohibited the system to be in a configuration where two service water pumps could have loaded simultaneously onto a single emergency diesel generator (EDG). An engineering evaluation performed by the licensee, associated with the two pumps simultaneously loading onto an EDG, determined that this system alignment could have adversely affected the reliability of the safety-related Fairbanks Morse EDG following a loss of offsite power (LOOP) event concurrent with a loss of coolant accident (LOCA).

This finding is greater than minor because it was associated with the Mitigating System Cornerstone human performance attribute and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. This finding did not involve the actual loss or degradation of equipment specifically designed to mitigate a seismic event or the loss of any safety function. As a result, this finding was determined to be of very low safety significance (Green) in accordance with a Phase 1 risk assessment performed in accordance with Inspection Manual Chapter - 0609, "Significance Determination Process." The inspectors identified that a contributing cause of this finding was related to the cross-cutting area of human performance. The relevant causal factor was personnel because the Unit 1 service water procedures were not appropriately changed by operations procedure writers although a procedure revision was noted in the modification package as being required. (Section 1R15)

Inspection Report# : [2005002\(pdf\)](#)

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **Physical Protection**

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

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## **Miscellaneous**

**Significance:** N/A Nov 18, 2005

Identified By: NRC

Item Type: FIN Finding

**Identification and Resolution of Problems**

The team determined that Constellation's Calvert Cliffs (CC) Units 1 and 2 Nuclear Power Plants were effective at identifying problems and entering them into the corrective action program (CAP). Relatively few deficiencies were identified by external organizations (including NRC) that had not been previously identified by the licensee. Audits and self-assessments were generally thorough. Once entered into the CAP, issues were screened and prioritized in a timely manner using established criteria. Items entered into the CAP were also properly evaluated commensurate with their safety significance. The causal evaluations for equipment and performance issues were complete, and proposed corrective actions that addressed the identified causes. Corrective actions were generally effective and typically implemented in a timely manner. On the basis of interviews conducted during the inspection, workers at the station felt free to raise safety issues and were willing to enter them into the corrective action program. However, an ineffective maintenance procedure adversely impacted the availability of an auxiliary feedwater pump.

Inspection Report# : [2005007\(pdf\)](#)

Last modified : March 03, 2006