

# Nine Mile Point 2

## 4Q/2007 Plant Inspection Findings

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### Initiating Events

**Significance:**  Sep 28, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate CCP system venting procedure resulted in loss of main CCP pumps**

A self-revealing Green NCV of Unit 2 Technical Specification (TS) 5.4, "Procedures," occurred when an inadequate procedure was used to vent the reactor building closed loop cooling water (CCP) system which resulted in tripping both CCP pumps on low suction pressure. NMPNS determined that the main CCP pumps tripped due to introduction of air into the CCP system when restoring the 1A spent fuel pool cooling (SFC) heat exchanger to its normal alignment. The procedure was not maintained to ensure proper CCP system venting when the 1A SFC heat exchanger supply water was shifted to CCP from service water. Operators restored one main CCP pump to service to stabilize conditions while the procedure was modified to recover normal CCP system configuration. The issue was entered into the corrective action program (CAP) as condition report (CR) NM 2007-4299. Corrective actions were to develop a procedure change to vent the SFC heat exchangers when shifting to CCP from service water, and to further evaluate the fill and vent requirements for the closed loop cooling systems.

The finding is greater than minor because it is associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affects the cornerstone's objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. The inspectors determined the finding to be of very low safety significance based on an SDP Phase 2 analysis using the pre solved table for the NMPNS Unit 2 Site Specific Risk-Informed Inspection Notebook. This finding has a cross-cutting aspect in the area of human performance because NMPNS failed to maintain procedure accuracy when revising the CCP operating procedure (H.2.c per IMC 0305.) (Section 4OA3)

Inspection Report# : [2007004](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Sep 28, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Procedure for Installation of a Design Change Resulted in Inadvertent Discharge of the CO2 Suppression System**

A self-revealing Green NCV of Unit 2 TS 5.4, "Procedures," occurred when an inadequate procedure was used for installation of a fire protection modification. Specifically, the installation procedure enabled plant technicians to establish an electrical circuit that initiated an unanticipated CO2 suppression system discharge into the Division 3 switchgear room. An Alert was declared in accordance with NMPNS' emergency plan based on the presence of a toxic gas in an area required for safe shutdown. Operators took immediate corrective actions and isolated the CO2 supply to the suppression system using manually operated valves, and implemented compensatory measures for the suppression system isolation. NMPNS planned to develop additional corrective actions after completion of the root cause analysis of this event under CR NM-2007-5538.

The finding is greater than minor because it is associated with the external factors attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the finding to be of very low safety significance in accordance with IMC 0609, Appendix F, "Fire Protection Significance

Determination Process," because the performance and reliability of the suppression system would be minimally impacted by the inspection finding; specifically, action to manually unisolate the system would be required before the system could be used. This finding has a cross-cutting aspect in the area of human performance because NMPNS failed to develop an accurate work package for implementation of the fire protection system design change (H.2.c per IMC 0305.) (Section 4OA3)

Inspection Report# : [2007004](#) (*pdf*)

**Significance:**  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Follow Procedure Caused Inadvertent Isolation of RCIC Steam Supply**

A self-revealing, non-cited violation (NCV) of technical specification (TS) 5.4, "Procedures," was identified on January 11, 2007, when the Unit 2 reactor core isolation cooling (RCIC) system automatically isolated as a result of an improperly performed surveillance procedure. When performing a test of the temperature instrument that provides residual heat removal (RHR) and RCIC system high area temperature isolations, technicians failed to ensure that the affected channel was bypassed prior to disconnecting the input thermocouple. This resulted in an automatic isolation of the RCIC system steam supply and the unavailability of RCIC for approximately four hours. Operators immediately recognized the error and halted the surveillance procedure. Technicians reconnected the thermocouple, and operators restored RCIC to a normal standby lineup. NMPNS entered the issue into the CAP as condition report (CR) 2007-0186.

The finding is greater than minor because it is associated with the human performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance in accordance with IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," based on a Phase 3 analysis. The Region I senior reactor analyst (SRA) used the Nine Mile Point Unit 2 Standardized Plant Analysis Risk (SPAR) model and the actual four-hour exposure time to determine that the increase in core damage frequency was in the range of one core damage accident in 125,000,000 years of reactor operation, high E-9 per year. This finding has a cross-cutting aspect in the area of human performance because the technicians failed to use appropriate human error prevention techniques, such as self-checking and prominent visual identification of critical procedure steps (H.4.a.) (Section 1R22)

Inspection Report# : [2007002](#) (*pdf*)

**Significance:**  Jan 18, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Ensure Integrity of Unit 2 Examinations and Tests**

A Green NRC-identified non-cited violation (NCV) of 10CFR55.49 was identified, concerning an apparent compromise of the 2006 annual operating requalification examinations at Unit 2. NRC inspectors identified practices that collectively had the impact of compromising, albeit unintentionally; the examinations, these practices included: 1) a lack of simulator exam scenario diversity (i.e., The scenarios were substantially the same including: critical tasks; major transients; Emergency Operating Procedure flow paths; and emergency classifications); 2) an overuse of a single emergency operating procedure strategy (i.e., full core Anticipated Transient Without Scram); and 3) a pattern of crews validating scenarios substantially similar to their exam scenario sets. The licensee initiated CR-NM-2006-4808 that documented this concern and later initiated a Category I Root Cause Analysis.

This finding was more than minor because it was associated with the Human Performance attribute of the Initiating Events, Mitigation Systems, and Barrier Integrity cornerstones and affected the combined objective of: limiting the likelihood of; ensuring the availability and reliability of mitigating systems to respond to; and providing reasonable assurance that physical barriers protect the public from radio nuclide releases caused by, initiating events. The finding was assessed as having very low safety significance because immediate and substantive corrective actions were taken by Constellation prior to the end of the current exam cycle.

The finding has a cross-cutting aspect in the area of problem identification and resolution because Constellation did not effectively collect, evaluate, and communicate applicable external operating experience to affected internal

stakeholders nor did they conduct self-assessments that were comprehensive, appropriately objective, and self-critical such that the 2006 Unit 2 exam compromise issues were either avoided altogether or at least identified and corrected by Constellation prior to the start of this inspection

Inspection Report# : [2006011](#) (*pdf*)

**G**

**Significance:** Jan 18, 2007

Identified By: NRC

Item Type: FIN Finding

### **Unit 2 Crew Failure Rate on the Dynamic Simulator Portion of the Annual Operating Examinations**

A finding of very low safety significance (Green) was identified at Unit 2. The finding was associated with crew performance on the simulator during the 2006 facility-administered requalification examinations. Of the six crews evaluated, two failed to pass their simulator examinations when the newly developed more comprehensive exams were re-administered in response to the above noted preliminary White finding. The failures are documented in licensee-initiated Condition Report CR 2006-5797, which resulted in Constellation conducting a Category I Root Cause Analysis.

This finding was more than minor because it was associated with the Human Performance attribute of the Initiating Events, Mitigation Systems, and Barrier Integrity cornerstones and affected the combined objective of: limiting the likelihood of; ensuring the availability and reliability of mitigating systems to respond to; and providing reasonable assurance that physical barriers protect the public from radio nuclide releases caused by, initiating events. The finding was assessed as having very low safety significance because: 1) the failures occurred during annual testing of the operators on the simulator; 2) there were no actual consequences to the failures; 3) the crews were removed from watch standing duties, retrained and re-evaluated before they were authorized to return to control room watches; and, 4) because the crew failure rate for the 2005 Unit 2 Annual Operating Exams was less than 20%.

Inspection Report# : [2006011](#) (*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**

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 Jun 28, 2007

Identified By: NRC

Item Type: FIN Finding

### **Problem Identification & Resolution**

Overall, the inspection team determined that the Corrective Action Program (CAP) at Constellation's NMPNS was generally effective in the identification, evaluation, and resolution of problems. The inspection team determined that NMPNS typically identified problems and placed them in the CAP. The inspection team identified that operating experience was utilized and considered at NMPNS, although certain issues at Unit 1 were not fully assessed in all aspects. The inspection team noted that NMPNS was effective in conducting root cause and apparent cause evaluations and effectively resolved most problems categorized as more significant. Based on interviews, observations of plant activities, reviews of the CAP and the Employees Concerns Program, the inspection team determined that site personnel were willing to raise safety issues.

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

Last modified : February 04, 2008