

## Wolf Creek 1

### 1Q/2005 Plant Inspection Findings

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#### Initiating Events

**Significance:**  Sep 26, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

##### **Failure to Follow Procedure, Which Resulted in a Reactor Trip**

The inspectors documented a self-revealing noncited violation for failure to follow a surveillance procedure in accordance with 10 CFR Part 50, Appexnic B, Criterion V, which resulted in a reactor trip. On August 22, 2004, the reactor tripped during a restoration from partially completed surveillance Procedure STS IC-211B, "Actuation Logic Test Train B Solid State Protection System." The operators appropriately responded to the event using Procedures EMG E-O, "Reactor Trip or Safety Injection;" and EMG ES-02, "Reactor Trip Response." This finding had human performance cross-cutting aspects in that an operator failed to follow a procedure.

The failure to follow the procedure was a performance deficiency. The finding was greater than minor because it was similar to Example 4.b of Manual Chapter 0612, Appendix E, and caused a reactor trip. The finding is of very low safety significance because, even though it resulted in a reactor trip, it did not: contribute to the likelihood of a primary or secondary system loss of coolant accident initiator, contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, nor increase the likelihood of a fire or internal/external flood.

Inspection Report# : [2004004\(pdf\)](#)

**Significance:**  Apr 07, 2004

Identified By: Self Disclosing

Item Type: FIN Finding

##### **Inadequate Work Instructions and Acceptance Criteria for Maintenance Activities on the Feedwater Regulating Values**

The inspectors documented a self-revealing finding for inadequate work instructions and acceptance criteria for maintenance activities on the feedwater regulating valves which resulted in a reactor trip. This finding is greater than minor because it is associated with the reactor safety strategic performance area Initiating Events cornerstone. Specifically, the failure to provide adequate work instructions and acceptance criteria for feedwater regulating valve maintenance resulted in a plant trip. The finding is of very low safety significance because, although it resulted in a reactor trip, it did not: increase the likelihood of a primary or secondary system loss of coolant accident initiator, contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, or increase the likelihood of a fire or internal/external flood.

Inspection Report# : [2004002\(pdf\)](#)

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#### Mitigating Systems

**Significance:**  Sep 29, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

##### **Failure to Adequately Model Plant Response in the Simulator**

A self-revealing, noncited violation of CFR 55.46 (1) was identified regarding simulator response to a transient condition. While completing immediate actions following a reactor trip that occurred on February 13, 2004, the Balance of Plant Operator (BOP) observed what he understood to be a malfunction of the steam dump valves. Subsequent investigation revealed that the plant systems operated properly but that the Balance of Plant Operator did not expect the Steam Generator Atmospheric Relief Valves (ARV) to be open while the steam dumps were closed shortly following a plant trip. The licensee identified that the simulator had not accurately modeled steam generator atmospheric relief valves post-trip operation since initial licensing.

Based on the results of a Significance Determination Process (SDP) using Manual Chapter (MC) 0609, Appendix I, this finding was determined to have very low safety significance, since it involved a simulator fidelity issue which impacted operator actions. The failure to adequately model plant response in the simulator, discovered on February 19, 2004, is a violation of 10 CFR 55.46(c). This violation is being treated as a noncited violation 05000482/2004006-01 consistent with Section VI.A of the NRC Enforcement Policy.

Inspection Report# : [2004006\(pdf\)](#)

**Significance:**  Sep 29, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Inadequate Design Control for Overcurrent Settings for Emergency Diesel Generator Supply Fan Breakers**

A self-revealing noncited violation of 10 CFR 50, Appendix B, Criterion III, for the failure to assure that design criteria had adequately been translated into specifications and procedures associated with the Emergency Diesel Generators. Specifically, in December 2002, and February 2003, the licensee failed to correctly adjust the overcurrent trip setpoints on the newly installed, different manufacture, Emergency Diesel Generator supply fan breakers. On March 12, 2003, Emergency Diesel Generator "A" supply fan Breaker NG03DBF6 was found tripped, but no problem was identified. On April 12 and April 15, 2003, additional failures of NG03DBF6 were identified. Evaluation determined that new breakers had been installed with overcurrent trips set too low to allow for the starting inrush current. The Emergency Diesel Generators were determined not to be affected because the outside temperature had not exceeded 79 degrees Fahrenheit (F), which is the temperature at which the fans are required to be operable.

The finding is greater than minor because it affected the Mitigating Systems Cornerstone objective of equipment reliability, in that the failure of the Emergency Diesel Generator supply fans could have made the Emergency Diesel Generator inoperable if the outside temperatures had exceeded 79 degrees F. The finding is of very low safety significance because at the time of the breaker failures the outside air temperature had not exceeded 79 degrees F; therefore there was no loss of safety function. This violation is being treated as a noncited violation 05000482/2004006-02 consistent with Section VI.A of the NRC Enforcement Policy.

Inspection Report# : [2004006\(pdf\)](#)

**G**

Significance: Apr 07, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inadequate Fire Barriers at Seismic Gaps**

The inspectors identified a noncited violation of Technical Specification License Condition 2.C(5)(a) because the licensee failed to provide adequate 3-hour rated fire barriers between fire areas containing redundant safe shutdown equipment in accordance with 10 CFR Part 50, Appendix R, Section III.G.2, requirements. The inspectors identified that approximately 20 inches of fire barrier material between the main steam enclosure and the auxiliary feedwater system flow control valve rooms was missing. The fire barrier material was missing from the approximately 4-inch wide seismic gap between the reactor and auxiliary buildings. The licensee immediately placed fire barrier material in the seismic gap and wrote Performance Improvement Request 2003-3704 to document the condition. The licensee determined that an inadequate design for fire barriers at seismic gaps had also resulted in slightly degraded fire barriers at 14 other locations. After identification, the licensee installed the required fire barrier seal material to restore the 3-hour rating of these 14 additional fire barriers.

This finding is greater than minor because it is similar to the example in Inspection Manual

Chapter 0612, Appendix E, Section 2.e. In the as-found condition, the fire penetration seals at the seismic gaps were not rated to perform their function to prevent the spread of fire for 3 hours. However, this finding is of very low safety significance because, overall, the fire barriers would have provided the protection needed. There was not a credible fire scenario that would affect the defense-in-depth design requirements. Fourteen other fire barrier installations were in accordance with an inadequate design, but there were no significant gaps between fire areas and, in some cases, the fire seal material was butted up against each other at a right angle.

Inspection Report# : [2004002\(pdf\)](#)

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## **Barrier Integrity**

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Significance: Sep 26, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Identify and Correct a Significant Condition Adverse to Quality**

The inspectors identified a noncited violation of Criteria XVI of 10 CFR Part 50, Appendix B, Corrective Action, for failure to identify and correct a significant condition adverse to quality. Specifically, the licensee failed to recognize that the containment atmosphere radiation gaseous monitors were inoperable. The monitors were not able to meet the operability requirement of detecting a reactor coolant leakage rate of 1 gallon per minute in less than 1 hour. This finding contains problem identification and resolution cross-cutting aspects.

This finding was greater than minor because the containment gas channel radiation monitors were not capable of performing the design bases function for an extended period of time. The inoperability of the containment radiation monitor resulted in potential impact on reactor safety and adversely affected the reactor coolant leakage performance attribute of the barrier integrity cornerstone. The finding was of very low safety significance because other methods of reactor coolant system leak detection were available to the licensee and no actual leak had occurred. The unavailability of the gaseous channel leak detection function did not contribute to an increase in core damage sequences when evaluated using the significance determination process Phase 2 worksheets.

Inspection Report# : [2004004\(pdf\)](#)

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## **Emergency Preparedness**

## Occupational Radiation Safety

**Significance:**  Jun 26, 2004

Identified By: Self Disclosing  
Item Type: NCV NonCited Violation

### **Failure to obtain a radiological survey prior to moving materials from a contaminated area.**

Green. A self-revealing noncited violation of a Technical Specification 5.4.1(a) required procedure was reviewed because workers failed to obtain a radiological survey before removing materials from a contaminated area. On December 1, 2003, three workers alarmed the personnel contamination monitors upon exiting the radiologically controlled area because they had become contaminated. A followup survey of the work area identified contamination levels up to 100,000 disintegrations per minute per 100 cm<sup>2</sup>. The licensee determined that the personnel became contaminated when they improperly moved a drip catch from a posted contaminated area.

The failure to obtain a radiological survey before removing materials from a contaminated area is a performance deficiency. This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, which is to ensure adequate protection of the worker health and safety from exposure to radiation. Using the occupational radiation safety significance determination process, the inspector determined that the finding was of very low safety significance because it did not involve (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. In addition, this finding had a cross-cutting aspect associated with problem identification and resolution. The immediate corrective actions were narrowly focused.

Inspection Report# : [2004003\(pdf\)](#)

**Significance:**  Jun 26, 2004

Identified By: NRC  
Item Type: NCV NonCited Violation

### **Failure to provide adequate contaminated area controls.**

Green. A self-revealing noncited violation of a Technical Specification 5.4.1(a) required procedure was reviewed because a health physics technician failed to provide adequate contaminated area controls. On October 31, 2003, after working on a refueling water storage tank line flange, three personnel alarmed the personnel contamination monitors as they exited the radiologically controlled area because they had become contaminated. The licensee determined that the health physics technician covering the above work activity did not properly establish contamination controls, area posting and protective clothing instructions in accordance with procedural requirements.

The failure to provide adequate contaminated area controls is a performance deficiency. This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective to ensure adequate protection of the worker health and safety from exposure to radiation. Using the occupational radiation safety significance determination process, the inspector determined that the finding was of very low safety significance because it did not involve (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. In addition, this finding had a cross-cutting aspect associated with problem identification and resolution. The immediate corrective actions were narrowly focused.

Inspection Report# : [2004003\(pdf\)](#)

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## Public Radiation Safety

**Significance:**  Aug 20, 2004

Identified By: Self Disclosing  
Item Type: NCV NonCited Violation

### **Failure to control radioactive material**

The team reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1 that resulted from the licensee's failure to properly control items contaminated with radioactive material. Three snubbers with fixed contamination levels ranging from approximately 1500 to 3000 disintegrations per minute were released from the radiological controlled area, but remained in the protected area. The licensee was alerted to the situation when a personnel radiation monitor in the secondary access area alarmed because of the presence of one of the snubbers. The finding was entered into the licensee's corrective action program as Performance Improvement Request 2003-2438.

The finding was more than minor because it was associated with the cornerstone attribute material release and it affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain. Using the Public Radiation Safety Significance Determination Process, the team determined the finding is of very low safety significance because (1) the finding was a radioactive material control issue (2) it was not a transportation issue, and (3) it did not result in a dose to the public greater than 0.005 rem. This finding also had crosscutting aspects associated with human performance.

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

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## Physical Protection

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

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## Miscellaneous

**Significance:** N/A Sep 29, 2004

Identified By: NRC

Item Type: FIN Finding

### Identification and Resolution of Problems

The team reviewed approximately 200 Performance Improvement Requests program documents, apparent and root cause analyses and plant procedures for the identification and resolution of problems. Based on this review, the team found that the processes to identify, prioritize, evaluate, and correct problems were generally effective; thresholds for identifying issues remained appropriately low and, in most cases, corrective actions were adequate to address conditions adverse to quality.

Cross-cutting aspects, associated with identification, prioritization and evaluation and correction of degraded conditions in the plant were identified. The team found that these cross-cutting aspects were the exception and not the rule and most issues were minor. However, in a few cases, licensee personnel did not initiate corrective action documents for known equipment degradations. In other cases, planned corrective actions were not managed to a satisfactory completion. Either the issue was not corrected by the planned actions, or the planned actions were cancelled.

Based on the interviews, the team concluded that a positive safety-conscious work environment exists at Wolf Creek. The team determined that employees and contractors feel free to raise safety concerns to their supervision or bring concerns to the employees concern program.

Inspection Report# : [2004006\(pdf\)](#)

Last modified : June 17, 2005