

# Comanche Peak 1

## 3Q/2009 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 21, 2009

Identified By: NRC

Item Type: FIN Finding

#### **Failure to Remove Debris from Rooftop Causes Potential Missile Hazard**

The inspectors identified a finding for the failure to follow housekeeping guidance in Procedure STA 607, "Housekeeping Control," Revision 19. Specifically, the licensee failed to remove several pieces of thin scrap sheet steel approximately five feet long and one foot wide from the Unit 1 diesel generator building roof following maintenance. As a result, the material could have affected the offsite power supply to safety-related electrical busses if high winds carried it on to nearby transmission lines. The inspectors determined that the material was on the rooftop during periods of severe weather. The licensee entered the finding into their corrective action program for resolution as Smart Form SMF 2008 004000.

The finding was more than minor because it was associated with the initiating events cornerstone attribute of protection against external factors and affected the cornerstone objective, in that, it increased the likelihood of an event that would upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Phase 1- Initial Characterization and Screening of Findings," the finding screened as very low safety significance (Green) because the condition did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. The cause of this finding was related to the Human Performance crosscutting component of work control, in that, the licensee failed to appropriately coordinate work activities.

Inspection Report# : [2009002](#) (*pdf*)

**Significance:**  Mar 21, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Follow Procedure Causes Unplanned Load Change**

A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the failure of operators to follow procedural requirements when reducing turbine load. As a result, operators transposed two digits and inadvertently reduced turbine load from 1273.7 megawatts to 1237.5 megawatts instead of 1273.5 megawatts. In response to the transient, the control rods automatically inserted approximately 17 steps to maintain programmed reactor coolant system temperature. The licensee entered the finding into their corrective action program as Smart Form SMF 2009 000028.

The finding was more than minor because it was associated with the human performance attribute of the initiating events cornerstone, and directly affected the cornerstone objective to limit the likelihood of those events that upset plant stability during power operations. Using Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance (Green) because it did not contribute to the likelihood of mitigating equipment being unavailable. The cause of the finding was related to the Human Performance crosscutting component of work practices for the failure to use self and peer checking techniques.

Inspection Report# : [2009002](#) (*pdf*)

**Significance:**  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Adequately Evaluate Material Condition Following a Boric Acid Leak**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, for the licensee's failure to follow procedures that required an evaluation and corrective actions in response to the effects of a borated water leak on primary coolant pressure boundary components. Corrective actions described as "Fix Now" were identified as boric acid deposits or anticipated accumulation of boric acid deposits which directly impact a carbon steel pressure boundary components or subcomponents and could result in increased corrosion rates. The inspectors identified that the inadequate evaluation and corrective actions resulted in the increased corrosion rate. The licensee entered the finding into their corrective action program as Smart Form SMF-2008-003194.

The finding was more than minor using NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," Example 4.a, because the inadequate evaluation led to the reactor vessel nozzle being adversely affected, in that the corrosion degraded the material condition of the carbon steel portions. The finding was determined to have very low safety significance because assuming worst case degradation, the finding would not result in exceeding the Technical Specification limit for reactor coolant system leakage or affect other mitigation systems resulting in a total loss of their safety function. The cause of the finding was related to the Human Performance crosscutting component of Decision Making in that the licensee failed to use conservative assumptions for decision making when evaluating degraded and nonconforming conditions [H1.b]

Inspection Report# : [2008005](#) (pdf)

**Significance:**  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Assess and Manage Risk Associated with Maintenance Activities**

The inspectors identified three examples of a noncited violation of 10 CFR 50.65(a)(4) (Maintenance Rule) for the failure to adequately assess and manage the risk of maintenance activities during the outage. In two instances the licensee performed maintenance activities that initiated plant transients and increased the time at midloop without managing the risk. First, workers created a breach of the reactor coolant system boundary and loss of nitrogen cover gas pressure in the system. This caused the pressurizer level to rapidly increase approximately two feet. Second, the licensee removed high pressure seals for the flux thimble tubes creating a cold leg vent path during nozzle dam installation. This also caused spikes in level instrumentation and operators were required to stay in a midloop condition for an additional two hours. The third example involved emergency diesel generator synchronization to the 6.9 kV bus that was supporting the only running residual heat removal pump in a midloop condition with time to boil less than 10 minutes. The testing was originally schedule outside the midloop window. The licensee had started the activity but, after the inspectors raised concerns, the shift manager took actions to back out of the testing. After being properly assessed, the risk for this activity was classified as a red condition (the highest risk threshold), but the licensee was only in an orange condition. The licensee entered the finding into their corrective action program as Smart Forms SMF-2008-003143, SMF-2008-003172, SMF-2008-003196, and SMF-2008-003209.

The finding was more than minor because it was similar to non-minor Example 7.e from Manual Chapter 0612, Appendix E, "Examples of Minor Issues," in that, for the first two examples the activities required additional risk management actions and for the third example, the plant changed from a risk level of Orange to Red. Using Inspection Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," the finding had very low safety significance because the incremental conditional core damage probability deficit was less than  $1 \times 10^{-6}$ . The cause of the finding was related to the Human Performance crosscutting component of work control for the failure of the licensee to appropriately coordinate work activities [H3.b].

Inspection Report# : [2008005](#) (pdf)

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## **Mitigating Systems**

**Significance:**  Sep 19, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Control Transient Equipment**

The inspectors identified a Green noncited violation of Technical Specification 5.4.1.a for failure to comply with the work control procedure which requires that all transient equipment be tracked. Specifically, the licensee placed a floating dock in the service water intake structure for maintenance activities and did not track the dock in Maximo, the licensee's computer program for tracking work. As a result, the dock remained in place significantly longer than allowed without doing an engineering evaluation for the effects, potentially reducing the reliability of the service water pumps in case of a fire or flood. The licensee entered the finding into their corrective action program as Smart Form SMF 2009 001548-00.

The finding was more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone, and adversely affected the objective, in that, the reliability of the service water system was reduced in the cases of a fire or the probable maximum flood. The inspectors determined that because the fire scenario did not reflect the dominant risk of the finding, the flooding scenario would be used for the significance determination process. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because the performance deficiency did not cause the loss of any safety function. This finding has a human performance crosscutting aspect associated with resources, in that the licensee failed to provide adequate training for personnel.

Inspection Report# : [2009004](#) (*pdf*)

**Significance:**  Sep 19, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inadequate Postfire Safe Shutdown Procedure**

The inspectors identified a noncited violation of Technical Specification 5.4.1.d for the failure to maintain adequate written procedures covering fire protection program implementation. Specifically, Procedure ABN 803A, "Response to a Fire in the Control Room or Cable Spreading Room," Revision 8, which is used to perform an alternative shutdown from outside of the control room, failed to assure that the train A charging pump, relied on for achieving postfire safe shutdown, would not be damaged because of a loss of suction. During an alternative shutdown, operators must use the train A charging pump for the reactivity control and reactor coolant makeup functions by providing borated water from the refueling water storage tank. The licensee entered the finding into their corrective action program as Smart Form SMF 2009-004453-00.

Failure to ensure that Procedure ABN 803 contained sufficient instructions to ensure that the credited train A centrifugal charging pump would be available following a postulated control room abandonment was a performance deficiency. This finding was more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (such as fire) to prevent undesirable consequences. Based on the senior reactor analyst's significance determination process Phase 3 analysis, this finding was determined to have very low safety significance. The finding did not have a crosscutting aspect because it was not representative of current licensee performance.

Inspection Report# : [2009004](#) (*pdf*)

**Significance:**  Sep 19, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Assure That One Train of Equipment is Free From Fire Damage**

The inspectors identified a noncited violation of Unit 1 License Condition 2.G and Unit 2 License Condition 2.G. Specifically, the licensee failed to ensure that one train of the equipment required to achieve and maintain safe hot shutdown conditions remained free from fire damage as specified in the approved fire protection program. The inspectors identified that the licensee relied upon local manual actions to mitigate the effects of potential fire damage rather than provide the physical separation or protection required in the approved fire protection program. The licensee entered the finding into their corrective action program as Smart Form SMF 2009-004454-00.

Failure to ensure that one train of the systems required for hot shutdown is free from fire damage was a performance deficiency. This finding was more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (such as fire) to prevent undesirable consequences. Based on the senior reactor analyst's significance determination process Phase 3 analysis, this finding was determined to have very low safety significance. The finding did not have a crosscutting aspect because it was not representative of current licensee performance.

Inspection Report# : [2009004](#) (pdf)

**Significance:**  Sep 19, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Alternative Shutdown Procedure**

The inspectors identified a noncited violation of Technical Specification 5.4.1.d for the failure to maintain adequate written procedures covering fire protection program implementation. Specifically, during operator walkthroughs, the inspectors identified that Procedure ABN 803A, "Response to a Fire in the Control Room or Cable Spreading Room," Revision 8, used to perform an alternative shutdown from outside of the control room, had two examples of critical actions that could not be completed in the time required by the postfire safe shutdown analysis. The steps to respond to a potential spurious opening of the train A power operated relief valve and a potential loss of station service water cooling to the emergency diesel generator were not completed within the maximum allowable times specified in the procedure. As a compensatory measure, the licensee issued night orders to alert operators of these procedural concerns. The licensee entered the finding into their corrective action program as Smart Form SMF 2009 004455-00.

Failure to provide adequate procedural guidance to implement the requirements of the approved fire protection program was a performance deficiency. This finding was more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (such as fire) to prevent undesirable consequences. Based on the senior reactor analyst's significance determination process Phase 3 analysis, this finding was determined to have very low safety significance. The finding did not have a crosscutting aspect because it was not representative of current licensee performance.

Inspection Report# : [2009004](#) (pdf)

**Significance:**  Mar 21, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Initiate a Smart Form for Damage to Safety-Related Breakers**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, for failure to follow procedures that require initiating a Smart Form for damage to safety-related equipment. The licensee discovered a bent shutter pin in the internal racking mechanism of a safety-related circuit breaker during maintenance. However, because the condition was not entered into the Smart Form database, the licensee failed to correct the cause of the condition and formally evaluate the impact of the condition on all of the associated 480 volt breakers. The licensee entered the finding into their corrective action program as Smart Form SMF-2009-000095.

The finding was more than minor because if the licensee continues to fail to document damage to safety-related equipment in a Smart Form, there is potential that it could lead to a more significant safety concern in that the damage will not be evaluated and corrected. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Phase 1- Initial Characterization and Screening of Findings," the finding screened as very low safety significance (Green) because the condition did not result in the inoperability of safety-related breakers when they were required to be operable. The cause of this finding was related to the Problem Identification and Resolution crosscutting component of the corrective action program, in that, the licensee failed to enter the issue into the Smart Form database.

Inspection Report# : [2009002](#) (pdf)

**Significance:**  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

**Non-Seismic Scaffolding Installed Over Service Water Equipment**

The inspectors identified a noncited violation of Technical Specification 5.4.1.a (Procedures), for the licensee's failure to erect scaffolding over safety-related equipment with adequate seismic supports. As a result, the scaffolding would likely fail during a seismic event and impact the service water system. Contract personnel assembled the scaffolding and were under perceived time pressure to finish the work, which was their last task before departing the site. A licensee supervisor inspected the scaffolding and failed to identify the deficiency. The licensee entered the finding into their corrective action program as Smart Form SMF-2008-003683.

The finding was more than minor because it was similar to non-minor Example 4.a from Manual Chapter 0612, Appendix E, "Examples of Minor Issues," in that the scaffolding could adversely affect safety related equipment during a seismic event. Using the NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was a qualification deficiency confirmed not to result in loss of operability or functionality. This finding had a Human Performance crosscutting aspect (work practices component) because the licensee failed to ensure adequate supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported [H4.c].

Inspection Report# : [2008005](#) (*pdf*)

**Significance:**  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate Instructions Leads to Failure to Identify Fibrous Material in Containment**

The inspectors identified a noncited violation of Technical Specification 5.4.1a (Procedures) for the failure to have adequate instructions in place for containment walkdowns looking for fibrous material. As a result, the licensee entered a mode where the containment sumps were required to be operable with unidentified fibrous material in the containment. The licensee had not identified the material during several walkdowns in response to NRC Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized-Water Reactors," and failed to identify several additional instances of fibrous material after inspectors initially identified some of the material. The licensee entered the finding into their corrective action program for resolution as Smart Form SMF-2008-003587.

The finding was more than minor because it was associated with the procedure quality attribute of the mitigating systems cornerstone, and it affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding had very low safety significance because it did not represent a loss of system safety function or cause inoperability of a system or train. The finding had a Human Performance crosscutting aspect (work control component) in that the work instructions and pre job brief failed to effectively incorporate job site conditions into the work instructions and consider that both sides of the seals required inspection [H3.a].

Inspection Report# : [2008005](#) (*pdf*)

**Significance:**  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Initiate Corrective Actions for the Malfunction of a Reactor Trip Bypass Breaker**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, for the failure to follow procedures to enter a malfunction of a reactor trip bypass breaker into the corrective action program. The breaker tripped slower than permitted during response time testing and was inoperable. Because the condition was not entered into the corrective action program, the licensee did not evaluate the condition or assess the extent of condition. The licensee entered the finding into their corrective action program as Smart Forms SMF-2008-003735 and SMF 2008 003767.

The finding was more than minor because, if left uncorrected, it would have led to a more safety significant concern. Specifically, because the cause of the failure would not have been fully evaluated and appropriate corrective actions may not be initiated. Once entered into the corrective action program, the licensee identified additional corrective measures. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Characterization and Screening of Findings," the finding had very low safety significance because the condition did not result the inoperability of the reactor trip breaker when it was required to be operable. The cause of this finding was related to the Problem Identification and Resolution crosscutting component of the corrective action program, in that, the licensee failed to enter the issue into their corrective action program [P1.a].

Inspection Report# : [2008005](#) (*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**

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