

# Comanche Peak 2

## 2Q/2010 Plant Inspection Findings

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### Initiating Events

**Significance:**  Dec 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **Failure to Control Reactor Coolant System Pressure During Solid Plant Operations**

A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the failure of operators to follow procedural requirements for maintaining reactor coolant system pressure. Specifically, a reactor operator adjusted charging flow during solid plant operations and failed to control the reactor coolant system pressure increase. As a result, a power operated relief valve lifted to provide low temperature overpressure protection of the reactor coolant system. The licensee entered the finding into the corrective action program as Condition Report CR 2009 005542.

The finding is more than minor because it is associated with the human performance attribute of the initiating events cornerstone and affects the cornerstone objective to limit those events that upset plant stability and challenge critical safety functions during shutdown operations. Specifically, the inadvertent lifts of the power operated relief valves could lead to a loss of reactor coolant system inventory and pressure control. Using NRC Manual Chapter 0609, Appendix G, Attachment 1, Checklist 2, the finding was determined to be of very low safety significance because the licensee maintained adequate mitigation capability for the current plant state and the event was not characterized as a loss of control condition. The finding has a human performance crosscutting aspect associated with decision making because the licensee did not formally define the role of the reactor operator maintaining reactor coolant system pressure.

Inspection Report# : [2009005](#) (*pdf*)

**Significance:**  Jun 22, 2008

Identified By: NRC

Item Type: FIN Finding

#### **Instrument Tubing Failure Causes Plant Trip**

The inspectors reviewed a self-revealing finding for the licensee's failure to follow a tubing installation specification when installing condenser vacuum instrument tubing. Specifically, the installation did not follow Tubing Specification CPSES-I-1018 for general flexibility or thermal growth considerations, ultimately resulting in tubing failure. The tubing failure caused turbine trip instrumentation to fail low, causing a Unit 2 turbine and reactor trip. The licensee entered the finding into their corrective action program and modified the instrument tubing in both Units 1 and 2 to prevent another failure.

The finding is greater than minor because it is associated with the Initiating Events Cornerstone attribute of design control and affected the cornerstone objective, in that it caused a turbine and reactor trip that challenged critical safety functions. The finding is of very low safety significance because, although the likelihood of a reactor trip increased, all mitigating systems were available. The cause of this finding is related to the human performance cross-cutting component of Work Practices, in that, the licensee failed to provide proper oversight of contractors such that nuclear safety is supported.

Inspection Report# : [2008003](#) (*pdf*)

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### Mitigating Systems

**Significance:** **G** Sep 19, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Seal Electrical Enclosure**

The inspectors identified a Green noncited violation of License Condition 2.G for the failure of the licensee to seal a penetration in the Unit 2 train B safety chiller electrical cabinet. As a result, the equipment was vulnerable to water damage from a fire sprinkler activation during a postulated fire on the redundant train. The licensee entered the finding into their corrective action program as Smart Form SMF-2009-001069-00.

The finding was more than minor because it was associated with the protection against external events attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective, in that, it decreased the reliability of the redundant safety chiller train in case of fire on the Unit 2 train A safety chiller. Using NRC Manual Chapter 0609, the inspectors determined that a Phase 3 analysis was required. 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:** **G** Sep 19, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure To Seal Electrical Penetrations**

The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion III, for the failure of the licensee to follow the design basis and seal electrical penetration conduits in the containment spray pump rooms. As a result, the water from a pipe break in the valve isolation tank rooms would flow into the conduits in the containment spray pump room and could cause a train of residual heat removal, safety injection, and containment spray equipment to become inoperable. The licensee entered the finding into their corrective action program as Smart Form SMF-2009-000926-00.

The finding was more than minor because it was associated with the design control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the capability of systems that respond to events. Using NRC Manual Chapter 0609, the inspectors determined that a Phase 3 analysis was required. 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:** **G** 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:**  Aug 14, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Untimely Corrective Actions For Bailey/Asea Brown Boveri Positioners**

The team identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure of to promptly correct a condition adverse to quality when they did not apply thread sealant to safety-related atmospheric relief valves positioner adjustment screws. This issue was entered into the licensee's corrective action program as SmartForm SMF-2009-004054. The licensee took corrective actions by performing an operability determination, which provided reasonable assurance that the atmospheric relief valves were operable and completion of the thread sealant repairs could be reasonably delayed until the next scheduled outage.

The finding was more than minor since it affected the Mitigation System Cornerstone attribute of availability and reliability of mitigating equipment, specifically the operability of the atmospheric relief valves. Using Manual Chapter 0609, Attachment 4, "Phase 1- Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance since it did not result in a loss of the safety system function. No crosscutting aspect was assigned because this issue was not indicative of current plant performance.

Inspection Report# : [2009006](#) (*pdf*)

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## **Barrier Integrity**

**Significance:**  Dec 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate procedure for environmentally qualified actuator refurbishment**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, for the failure of the licensee to translate environmental qualification requirements for motor operated valve and damper actuators into procedures. Specifically, actuator refurbishment procedures directed the removal of conduit plugs, drain plugs, and T-drains, but did not require them to be re-installed in the correct configuration. As a result, multiple actuators were not in their specified condition for environmental qualification. After evaluation, the licensee determined that the actuators were still environmentally qualified in the as-found configuration. The licensee entered the finding into the corrective action program as Condition Report CR 2009 000848.

The finding was more than minor because it was associated with the containment configuration control attribute of the

barrier integrity cornerstone and adversely affected the cornerstone objective, in that, the licensee's procedure for actuator refurbishment did not provide reasonable assurance that actuators would continue to be environmentally qualified in order to protect the public from radionuclide releases caused by accidents or events. 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 finding did not represent an actual open pathway in the physical integrity of reactor containment. The finding has a human performance cross cutting aspect associated with resources because the licensee failed to maintain complete and accurate procedures.

Inspection Report# : [2009005](#) (*pdf*)

**Significance:**  Dec 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Close the Containment Airlock Outer Door**

A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the failure of maintenance personnel to follow procedural requirements for closing the containment personnel airlock outer door. As a result, the containment personnel outer door was left open for over an hour and the containment integrity function of the door was compromised. The licensee entered the finding into the corrective action program as Condition Report CR 2009 005275.

The finding is more than minor because it is associated with the containment barrier performance attribute of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that physical barriers protect the public from radionuclide releases caused by events. 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 result in an actual open pathway in the physical integrity of the containment. The finding has a human performance crosscutting aspect associated with decision making because the licensee did not communicate the basis of the importance of the containment door providing an integrity function to the personnel operating the door.

Inspection Report# : [2009005](#) (*pdf*)

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

**Significance:**  Dec 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to barricade and post a high radiation area**

A self-revealing noncited violation of Technical Specification 5.7.1.a was identified for failure to maintain a high radiation area barricaded and conspicuously posted. The lower valve gallery on the 832-foot elevation of the auxiliary building had been de-posted from a locked high radiation area to radiation area after a resin transfer and flush operation. Radiation protection had mistakenly determined, by a partial radiation survey, that the entire lower valve gallery was a radiation area. Consequently, two workers received unexpected electronic dose rate alarms because the workers entered a high radiation area without knowledge that dose rates measured 900 millirem per hour. The licensee revised Procedure RPI-624, "Resin Transfer Job Coverage," to provide clear instructions requiring that radiation surveys of the whole system after resin transfers and flushes are completed. The licensee entered the finding into the corrective action program as Condition Report CR 2009 002876.

The failure to barricade and post a high radiation area is a performance deficiency. The finding was more than minor because it was associated with the occupational radiation safety cornerstone attribute (exposure control) of program

and process and affected the cornerstone objective, in that, the failure to properly control a high radiation area had the potential to increase personnel dose. Using the occupational radiation safety significance determination process, the inspectors determined the finding to have very low safety significance because: (1) it was not associated with as low as reasonably achievable (ALARA) planning or work controls, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. The finding has a human performance crosscutting aspect associated with resources because the licensee did not ensure that the procedure was complete and accurate.

Inspection Report# : [2009005](#) (*pdf*)

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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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