Comanche Peak 1
4Q/2008 Plant Inspection Findings

Initiating Events

Significance: G 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: G 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 1x10-6. 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)*

Significance: G Sep 21, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
"Failure to Control Transient Combustibles"
The inspectors identified a noncited violation of Technical Specification 5.4.1.d for the licensee's failure to obtain an approved transient combustible permit before introducing transient combustibles into plant areas. As a result, the licensee placed undocumented and unanalyzed transient combustibles in the plant without compensatory measures on five different occasions. The licensee entered the finding into their corrective action program for resolution.

This finding was more than minor because it affected the protection against external factors attribute of the initiating events cornerstone, and it directly affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using NRC Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," Phase 1 worksheet, the finding was determined to have very low safety significance because the condition represented a low degradation of fire prevention and administrative controls and the amount of combustibles was within the combustible loading calculations. The cause of the finding was related to the Human Performance crosscutting component of Work Practices, in that, the licensee failed to effectively communicate expectations, and that personnel failed to follow procedures.
Inspection Report# : 2008004 *(pdf)*

Mitigating Systems

Significance: G 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: G 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: G 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)*

Significance: G Sep 21, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
"Failure to Ensure Roll-up Fire Doors Complied With Fire Code"
The inspectors identified a noncited violation of License Condition 2.G because the licensee failed to ensure that two fire-rated roll up doors complied with the mounting requirements in National Fire Protection Association (NFPA) 80 1977. Specifically, during original construction, the licensee used bolts with a diameter less than the required 3/8-inch. The licensee entered this finding into their corrective action program for resolution as Smartform SMF 2008 001637.

Failure to meet the mounting requirements of NFPA 80 1977 for fire-rated roll up doors is a performance deficiency. The inspectors determined this deficiency was more than minor because it was similar to the more than minor description in Manual Chapter 0612, Appendix E, Example 3.g. This finding affected the mitigating systems

cornerstone. This fire confinement finding was assigned a Moderate A degradation rating because the fire-rated roll up door had improperly installed fire door hardware. Using NRC Inspection Manual Chapter 0609, Appendix F, “Fire Protection Significance Determination Process,” Phase 1, Step 1.3.2, Question 5, the exposed fire area contained no potential damage targets closer than 20 feet (i.e., passive barrier) to the exposing fire area that would result in a demand for safe shutdown and the fire barrier would remain functional for at least 20 minutes. Therefore, the degraded fire-rated roll up doors had very low risk significance.

Inspection Report# : 2008004 *(pdf)*

Significance: W Jun 06, 2008
Identified By: Self-Revealing
Item Type: VIO Violation
Painting Activities Result in Inoperability of Emergency Diesel Generator
The U.S. Nuclear Regulatory Commission performed this supplemental inspection to assess the licensee’s evaluation associated with a White finding (failure of Unit 1 Train B Emergency Diesel Generator 1-02) in the first quarter of 2008. The primary reason for this finding being characterized as White was based on the results of a Phase 3 analysis performed by a region-based senior reactor analyst. The failure of Emergency Diesel Generator 1-02 was attributed to paint being deposited in a location that caused the EDG to fail to start on demand.
Inspection Report# : 2008009 *(pdf)*

Significance: G May 22, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Fire Suppression Systems
A noncited violation of Unit 1, License Condition 2.G, “Fire Protection,” was identified for the fire suppression systems in Fire Zones SE16 and SE18 (remote safety-related panels/Train B switchgear rooms) not being installed in accordance with the approved fire protection program. The fire suppression systems in Fire Zones SE16 and SE18 are manually actuated dry pipe deluge (pre-action) systems with closed sprinkler heads. The actual configuration did not provide protection in the areas containing one train of safe shutdown cables enclosed in 1-hour fire barriers. The team determined that the fire suppression systems in Fire Zones SE16 and SE18 were not installed in accordance with the configurations in Calculation 0210-63-0064, “Partial Sprinkler Coverage Evaluation.” The configurations in this calculation were approved by the NRC as the basis for allowing suppression systems with less than full area coverage. The configuration also did not meet the National Fire Protection Association codes. The licensee entered this finding into its corrective action program under Smart Form SMF-2008-000324-00.

Failure to ensure the installed fire suppression systems met the requirements of the approved fire protection program was a performance deficiency. This finding was more than minor because it is associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and could affect the availability, reliability, and capability of systems that respond to fire events to prevent undesirable consequences. The significance of this finding was assessed using Manual Chapter 0609, Appendix F, “Fire Protection Significance Determination Process.” In completing the Fire Protection Significance Determination Process, Phase 1 and 2 worksheets, it was determined that no potential ignition source could potentially have a direct impact on the cable raceways protected by fire barriers or their supports and that the largest potential ignition sources in the fire zones could not form a hot gas layer sufficient to impact the protected cable raceways or their supports. The evaluation indicated that the finding had a very low safety significance (Green) during the Phase 2 significance determination process. (Section 1R05.4)

Inspection Report# : 2008006 *(pdf)*

Significance: G May 22, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Post-Fire Safe Shutdown Procedures

A noncited violation of Technical Specification 5.4.1.d was identified concerning the failure to maintain adequate written procedures covering fire protection program implementation. Specifically, procedures for operation of Valves 1-8000A and 1-8000B (power-operated relief valve block valves) and Valves 1-8701A and 1-8702B (residual heat removal loop hot-leg recirculation valves) had local manual actions that might not be completed successfully because of potential fire damage. Procedures ABN-804A, “Response to a Fire in the Safeguards Building,” Revision 5, and ABN 806A, “Response to a Fire in the Electrical and Control Building,” Revision 5, directed operators to open the valves from their electrical power supplies because of potential fire damage to control circuits between the main control room and the electrical breakers. Plant operators were instructed to depress a breaker contactor to stroke the valve open. After the operator depresses the contactor, control power is required to hold the contactor closed while the valve strokes. The team identified that potential fire damage to control circuits between the main control room and the electrical breakers could cause a control power fuse to fail, preventing the valve from stroking. The licensee has entered this issue into their corrective action program as Smart Form SMF 2008-000311-00.

Failure to provide adequate procedures for the implementation of the fire protection program was a performance deficiency. This finding was more than minor because it is associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and could affect the availability, reliability, and capability of systems that respond to fire events to prevent undesirable consequences. The significance of this finding was assessed using Manual Chapter 0609, Appendix F, “Fire Protection Significance Determination Process.” The evaluation determined that the procedural deficiency only affected valves required to reach and maintain cold shutdown conditions; therefore, the finding screened as having very low safety significance (Green).

Inspection Report# : 2008006 *(pdf)*

Barrier Integrity

Significance: G Sep 15, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
B.5.b. Phase 2 and 3 Mitigating Strategy
This finding, affecting the Barrier Integrity Cornerstone, is related to mitigative measures developed to cope with losses of large areas of the plant; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has no cross-cutting aspect. See inspection report 2008-008 for more details.
Inspection Report# : 2008008 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 22, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to barricade and conspicuously post a high radiation area
The inspector identified a noncited violation of Technical Specification 5.7.1 because a high radiation area was not barricaded and conspicuously posted. The inspector identified dose rates as high as 109 millirems per hour at 30 centimeters in the compactor area on the 810-foot elevation of the fuel building. The area was controlled and posted as

a radiation area. As immediate corrective action, the licensee barricaded the area with rope and posted it as a high radiation area and documented the finding in the corrective action program.

The finding is greater than minor because, if left uncorrected, the finding could become a more significant safety concern. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined the finding to have very low safety significance because (1) it was not associated with 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. Additionally, the finding had a cross-cutting aspect in the area of human performance, work control component, because the licensee did not coordinate work activities by incorporating actions to address the need for work groups to communicate, coordinate, and cooperate with each other during activities in which interdepartmental coordination is necessary to assure human performance.

Inspection Report# : 2008003 *(pdf)*

Public Radiation Safety

Significance: G Feb 28, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
"Failure to ship radioactive material corrrectly"
The team reviewed a self-revealing, noncited violation of 10 CFR 71.5, which occurred when the licensee failed to ship radioactive material correctly. A radioactive shipment classified as an “excepted package-limited quantity” exceeded the external dose rate limit of 0.5 millirem per hour on the surface of the package. The package recipient identified dose rates of 0.9 millirem per hour on the exterior surface of the package and notified the licensee of the problem. The licensee revised its procedure to correct for this problem by limiting the inner package dose rate to 0.3 millirem per hour, thus reducing the risk for the external dose rate to be more than 0.5 millirem per hour. The finding was placed into the licensee’s corrective action program as Smart Form SMF-2006-2403.

The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (transportation program) and it affected the associated cornerstone objective because the failure to correctly ship radioactive material decreases the licensee’s assurance that the public will not receive unnecessary dose. However, this finding cannot be evaluated by the Public Radiation Safety Significance Determination Process because it did not involve radioactive shipments classified as Schedule 5 through 11, as described in NUREG-1660, and it did not fit traditional enforcement. Therefore, the finding was reviewed by NRC management using Inspection Manual Chapter 0609, Appendix M, and determined to be of very low safety significance because the package was not accessible by the public. Additionally, this finding has a cross cutting aspect in the area of human performance, work practices component, because the worker preparing the shipment did not use self checking as an error prevention technique to ensure that the package did not exceed the dose rate limit (H4.a).
Inspection Report# : 2008007 *(pdf)*

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.

Miscellaneous

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