Comanche Peak 1
1Q/2008 Plant Inspection Findings

Initiating Events

Significance: G Sep 25, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to appropriately secure adjustment set screw resulted in RHR valve failure.
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, for failure to provide work instructions or procedures appropriate to the circumstances. Specifically, Work Order 3-05-333517-01 and Procedure INC-2085, “Rework and Replacement of I&C [Instrumentation and Control] Equipment,” Revision, 3, directed the replacement of the positioner for Valve 1-HCV-0607, but did not contain appropriate instructions for applying loctite or other measures to ensure the adjustment screw remained securely in place, despite operational experience in 1999, that indicated this action was necessary. As a result Valve 1-HCV-0607 failed to operate when called upon.

When operators attempted to place the Train B residual heat removal system in service, Valve 1-HCV-0607, the Train B residual heat removal heat exchanger outlet valve would not open because the Bailey Type AV1 positioner had malfunctioned. The pilot valve stem adjustment screw (that had been replaced during a recent outage) became loose and repositioned such that it prevented the valve from stroking open. The licensee had received and reviewed 1999 operating experience information that a loose pilot valve adjustment screw was determined to be the main cause of a Bailey positioner failure that led to a reactor trip at another facility. However, the team determined that the licensee had not taken appropriate action to prevent such failures at Comanche Peak Steam Electric Station, resulting in the failure of Valve 1-HCV-0607 when called upon.

The team determined that the failure of the licensee to adequately implement operating experience into maintenance procedures was a performance deficiency. The performance deficiency had plant impact because it caused a loss of one train of a safety function (residual heat removal). The finding was determined to be more than minor because it is associated with the equipment performance attribute for assuring availability and reliability and affected the initiating events cornerstone to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Using Appendix G, “Shutdown Operations Significance Determination Process,” Checklist 2, of Manual Chapter 0609, “Significance Determination Process,” the significance of the finding was determined to be Green, very low safety significance, because one train of residual heat removal was operable and at least two steam generators were available for decay heat removal.
Inspection Report# : 2007007 *(pdf)*

Significance: G Jun 22, 2007
Identified By: Self-Revealing
Item Type: FIN Finding
Inadequate restoration following valve maintenance
The inspectors reviewed a self-revealing finding for the inadequate restoration from valve maintenance which resulted in a manual turbine runback. On November 30, 2006, while Unit 1 was at 100 percent power, the 2A Feedwater Heater Normal Level Control Valve 1-LV-2509 failed closed. Operators initially ran the turbine back to 1100 MWe, but eventually reduced load to 700 MWe due to main feedwater pump suction oscillations. The root cause of the event was determined to be inadequate maintenance work practices upon restoration from maintenance on the level control valve.

The finding is more than minor because it is related to the human performance attribute and affected the initiating event cornerstone objective to limit the likelihood of those events that upset plant stability during power operations. The finding was determined to have a very low risk significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available.
Inspection Report# : 2007003 *(pdf)*

Mitigating Systems

Significance: W Jan 24, 2008
Identified By: Self-Revealing
Item Type: VIO Violation
Painting Activities Result in Inoperability of Emergency Diesel Generator
A violation of Unit 1 Technical Specification 3.8.1, “AC Sources - Operating,” was identified for the licensee’s failure to satisfy Limiting Condition for Operation 3.8.1 in that painting activities conducted on the Unit 1 Train B EDG 1-02 resulted in paint being deposited and left in a location that caused the EDG to become inoperable. As a result, EDG 1-02 failed to start on demand during the subsequent monthly surveillance test. Following the discovery of the condition, the required actions were satisfied; however, the time period between the occurrence of the condition and the discovery of the condition exceeded the allowed outage time. This issue was entered into the licensee’s corrective action program as SMF-2007-03253.

The finding was greater than minor because it was associated with the human performance 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. The Phase 1 Worksheets in Manual Chapter 0609, “Significance Determination Process,” were used to conclude that a Phase 2 analysis was required because the performance deficiency affected the emergency power supply system that is a support system for both mitigating and containment barrier systems. Based on the results of the Phase 2 analysis, the finding was determined to have low to moderate safety significance (White). The senior reactor analyst determined that a more detailed Phase 3 analysis was needed to fully assess the safety significance. Based on the results of the Phase 3 analysis, the finding was determined to have low to moderate safety significance (White). The Phase 1, 2, and 3 Significance Determination Process analyses associated with this finding, including assumptions and limiting core damage sequences, is included as Attachment 3 to this report. The cause of this finding was determined to have a crosscutting aspect in the area of human performance associated with work practices in that the licensee failed to provide adequate supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported [H.4(c)]. Specifically, the actions planned and taken to assess and control the operational impact of the painting activities on the functionality of the emergency diesel generator were not reflective of adequate supervisory and management oversight of the activities.
Inspection Report# : 2007008 *(pdf)*

Significance: G Jan 24, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Alarm Response Procedure for EDG Failure to Start
The inspectors identified a noncited violation of Unit 1 Technical Specification 5.4.1.a, “Procedures,” for an inadequate alarm response procedure. The inspectors determined that Procedure ALM-1302A, “Diesel Generator 1-02 Panel,” Revision 5, was inadequate in that it was ambiguous and did not cause the responders to verify that the fuel racks were free as part of the response actions to investigate the cause of the unit failing to start. Consequently, the licensee failed to identify that the Unit 1 Train B Emergency Diesel Generator 1-02 fuel racks were not free to move, which led to an extended period of inoperability and a significant delay in diagnosing the cause of the emergency diesel generator failure to start. This issue was entered into the licensee’s corrective action program as SMF-2007-03426.

The finding was determined to be 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 Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding was determined to have very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of safety function, did not represent an actual loss of a single train for greater than its Technical Specification allowed outage time, did not represent a loss of a non-Technical Specification Train of equipment for greater than 24 hours, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.

Inspection Report# : 2007008 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Oct 25, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Evaluate Radiological Conditions
The inspector reviewed a self-revealing non-cited violation of 10 CFR 20.1501(a) for failure to conduct a radiological survey. Specifically, on April 16, 2007, a worker's electronic dosimeter alarmed when the individual attempted to move a bag containing a small vacuum cleaner from a posted contaminated and radiation area. The bag of materials had not been surveyed for radiation levels and therefore had not been labeled to indicate the potential hazard. The bag was subsequently surveyed and found to have radiation levels of 600 millirem per hour on contact and 150 millirem per hour at 30 centimeters from the surface. Corrective actions include counseling of personnel, evaluation of possible organizational changes, and generation of a training request to include this event in future training.

The failure to conduct a radiological survey 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 worker health and safety from exposure to radiation. The failure to perform the radiation survey led to a worker receiving unintended and additional exposure. 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) as low as is reasonably achievable planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. In addition, this finding has a crosscutting component associated with human performance and work coordination because the licensee failed to keep workers apprised of work status and plant conditions that may affect work activities prior to removing contaminated items from the reactor containment building. (H.3.(b3)).

Inspection Report# : 2007005 *(pdf)*

Significance: G Jun 22, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Evaluate Radiological Hazards
The inspectors reviewed a self-revealing noncited violation of 10CFR20.1501(a) for the failure to adequately evaluate radiological conditions in a work area. While performing maintenance on proximity switch cable sleeves on an assembly from the spent fuel pool up-ender, one worker was exposed to concentrations of airborne radioactivity higher than anticipated, resulting in the internal contamination and unplanned dose to the individual. A committed effective dose equivalent of 27 millirem was assigned to the individual. Additionally, after the initial alarm of the airborne activity monitor, a contamination survey of the work area was not performed to evaluate conditions prior to resuming work.

The finding is more than minor because it is associated with the occupational radiation safety attribute of program and process and affected the cornerstone objective because it involves unplanned and unintended dose to a worker. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined that the finding was of very low safety significance because: (1) it was not an ALARA finding, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. In addition, this finding has a cross-cutting aspect in the area of human performance associated with work control because the licensee failed to appropriately coordinate work activities by incorporating actions to keep personnel apprised of conditions at the job site which impacted radiological safety (H.3(b)).

Inspection Report# : 2007003 *(pdf)*

Significance: G Jun 22, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Provide a Detailed Work Plan
The inspectors identified a noncited violation of Technical Specification 5.4.1.a for the failure to develop an adequately detailed work plan for the maintenance of proximity switch sleeves which resulted in the internal contamination of one individual. Specifically, the licensee did not provide adequately detailed work instructions in the work order to allow the ALARA planners to develop an adequate Radiation Work Permit and radiological controls for the maintenance evolution.

The finding is more than minor because it is associated with the occupational radiation safety attribute of program and process and affected the cornerstone objective because it involves unplanned and unintended dose to a worker. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined that the finding was of very low safety significance because: (1) it was an ALARA work planning finding, (2) the 3-year rolling average collective dose is less than 135 person-rem/unit. In addition, this finding has a cross-cutting aspect in the area of human performance associated with work control because the licensee failed to appropriately plan work activities by incorporating job site conditions which may impact radiological safety (H.3(a)).
Inspection Report# : 2007003 *(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

Significance: N/A Sep 25, 2007
Identified By: NRC
Item Type: FIN Finding
Problem Identification and Resolution Team Inspection Results
The team reviewed approximately 189 risk significant issues, apparent and root cause analyses, and other related documents, to assess the effectiveness of the licensee's problem identification and resolution processes and systems. The team concluded that the licensee's management systems were effective, although seven examples occurred during the assessment period of failure to implement appropriate and timely corrective actions. Overall, corrective actions were appropriate to the circumstances. The licensee implemented an effective program for evaluating operational experience, although the team identified one example where ineffective use of operating experience led to a valve becoming inoperable.

The team concluded that the licensee maintained an overall safety-conscious work environment. However, based on interviews, concerns with trust in management and the ability to raise issues above direct supervision existed within the security force. A majority of security officers interviewed stated that although they would issue smart forms or inform their direct supervision with concerns, they would be hesitant to elevate issues. Individuals interviewed (outside of the security organization) were comfortable raising safety issues and elevating them to appropriate levels of management as necessary. The team concluded that the employee concerns program (SafeTeam) effectively resolved safety issues raised by plant and contract personnel. Plant personnel interviewed generally considered the employee concerns program a viable option to pursue safety issues. However, the majority of security force personnel interviewed lacked confidence in the SafeTeam's ability to resolve issues or maintain confidentiality.

The licensee overall performed effective and critical self-assessments. However, a licensee contract employee safety culture survey performed during this assessment period failed to identify the above concerns within the security force. Licensee management stated that a new safety culture survey was planned (with emphasis on ensuring a representative sample within the security force) for the fall of 2007.
Inspection Report# : 2007007 *(pdf)*

Last modified : June 05, 2008