

Wolf Creek 1

Initiating Events

Mitigating Systems

Significance: N/A Mar 23, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Fire Protection

A noncited violation of Technical Specifications Section 5.4.1 when the licensee failed to follow Procedure AP 10-102, "Control of Combustible Materials," Revision 6. The inspectors identified that the licensee placed transient combustibles weighing approximately 530 pounds inside the turbine building within 20 feet of the auxiliary building without the required permit. A permit was required in this area if the transient combustibles weight is greater than 100 pounds. This finding was greater than minor because it had a credible impact on safety. This finding did not involve an impairment or degradation of a fire protection feature. The finding was of No Color because the issue was determined to be a violation greater than minor. The placement of the transient combustible material did not affect any installed fire protection features and it would not have impeded access to the area by the licensee's fire brigade

Inspection Report# : [2001006\(pdf\)](#)

Significance: TBD Feb 15, 2002

Identified By: NRC

Item Type: URI Unresolved item

Failure to Implement Corrective Action for Past Indications of Emergency Diesel Generator Heat Exchanger Tube Degradation

The inspectors identified a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to implement corrective action to prevent recurrence for a significant condition adverse to quality. In 1990 and 1991, the licensee identified that the emergency diesel generator heat exchangers exhibited severe wall thinning and pitting because of de-alloying of the base metals and flow accelerated corrosion. As corrective action, the licensee planned to perform periodic eddy current examination of the heat exchanger tubes to provide early indication of tube degradation. However, this corrective action was not implemented until December 13, 2001, despite several missed opportunities to implement this action. This item is in the corrective action system as Performance Improvement Request 2002-0048. This item is being treated as an unresolved item pending licensee metallurgical and structural analysis of several degraded tubes following which the risk significance of this finding will be determined.

Inspection Report# : [2002006\(pdf\)](#)

Significance: TBD Feb 15, 2002

Identified By: NRC

Item Type: URI Unresolved item

Failure To Provide Acceptance Criteria For Eddy Current Testing

The inspectors identified a violation of 10 CFR Part 50, Appendix B, Criterion V, for failure to include appropriate acceptance criteria in an activity affecting quality. As of December 13, 2001, Work Order WO 01-229167-001, which directed the licensee to perform eddy current testing on Emergency Diesel Generator A heat exchanger tubes, did not initially include acceptance criteria for maximum allowable heat exchanger tube wall thinning. As a result, the licensee did not document the significant tube degradation identified or take corrective action to plug the degraded tubes until

January 4, 2002. This item is in the corrective action system as Performance Improvement Request 2002-0048. This item is being treated as an unresolved item pending licensee metallurgical and structural analysis of several degraded tubes following which the risk significance of this finding will be determined. (Section 4OA3.4).
Inspection Report# : [2002006\(pdf\)](#)

Significance: TBD Feb 15, 2002

Identified By: NRC

Item Type: URI Unresolved item

Failure to Promptly Identify Significantly Degraded Emergency Diesel Generator Heat Exchanger Tubes

The inspectors identified a violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to promptly identify a significant condition adverse to quality. Specifically, on December 13, 2001, the licensee performed eddy current examination of the Emergency Diesel Generator A heat exchanger tubes, and identified significant tube degradation, but failed to document the condition or report it to management until January 4, 2002. The licensee had no acceptance criteria for performance of the testing, and personnel believed that the condition could be corrected during a future outage. This item is in the corrective action system as Performance Improvement Request 2002-0048. This item is being treated as an unresolved item pending licensee metallurgical and structural analysis of several degraded tubes following which the risk significance of this finding will be determined.

Inspection Report# : [2002006\(pdf\)](#)

Significance: TBD Feb 15, 2002

Identified By: NRC

Item Type: URI Unresolved item

Evaluate Post Operability of Emergency Diesel Generator B Following Analysis of Heat Exchanger Tubes

Emergency Diesel Generator B may have been inoperable for a significant period of time. During eddy current testing, the licensee identified nine intercooler heat exchanger tubes that exhibited suspected de-alloying, indicating that the structural integrity of the tubes was indeterminate. The licensee bounding calculation determined that the intercooler heat exchanger would be operable with up to three intercooler heat exchanger tubes failing. The licensee subsequently plugged these heat exchanger tubes on January 7, 2002. This item is in the corrective action system as Performance Improvement Request 2002-0048. This item is being treated as an unresolved item pending licensee metallurgical and structural analysis of several degraded tubes following which the risk significance of this finding will be determined.

Inspection Report# : [2002006\(pdf\)](#)

Significance:  Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

Lack of monitoring a small radius elbow

The team identified that licensee's lack of monitoring a small radius elbow, in Train A of the essential service water system in the Train B switchgear room, with a tee-connection approximately two pipe lengths downstream, did not allow the licensee to demonstrate that the piping stresses remained within design allowable to exclude the possibility of a pipe rupture that could defeat safety-function redundancy. This finding was of very low safety significance because there was no actual leakage in the area of concern and the system remained operable. There is no regulatory requirement for monitoring for erosion/corrosion, therefore, there was no violation of regulatory requirements. The licensee initiated Performance Improvement Request 20012794 to evaluate the condition of the piping in the Train B switchgear room. In addition, the licensee was considering to risk-inform the erosion/corrosion program

Inspection Report# : [2001007\(pdf\)](#)

Significance:  Jul 10, 2002

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Failure to Follow Procedure While Drawing a Vacuum on the Reactor Coolant system

The inspectors documented a failure to follow procedure while drawing a vacuum on the reactor coolant system. Although Item 4.6 of Operations Procedure SYS BB-112, "Vacuum Fill of the RCS," Revision 17, stated that residual heat removal pump flow rate during vacuum venting shall be less than 2000 gallons per minute to prevent pump cavitation, operators allowed the flow rate to exceed 2000 gallons per minute. The failure to follow procedure while drawing a vacuum on the reactor coolant system was identified as a violation of Technical Specification 5.4.1, for a Regulatory Guide 1.33 referenced procedure. This violation is being treated as a noncited violation and is in the licensee's corrective action program as Performance Improvement Request 2002-1247. A risk analyst in the Office of Nuclear Reactor Regulation determined that this issue was of very low safety significance because all other emergency core cooling components were available and inventory remained in the secondary side of the steam generators which would provide for reflux cooling of the reactor.

Inspection Report# : [2002002\(pdf\)](#)

Significance:  Mar 31, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Three hour rated fire door partially open between vital switchgear rooms

The inspectors identified that a 3-hour rated fire door between the safety-related switchgear rooms was partially open. License Condition 2.C(5)(a) of the Wolf Creek Generating Station Facility Operating License requires, in part, that the licensee implement and maintain in effect all provisions of the approved fire program. The fire protection program required that 3-hour rated fire doors remain closed if compensatory measures were not in place. The license condition was not met since the 3-hour fire barrier between the switchgear rooms was not intact and the licensee did not have compensatory measures in place. The licensee's failure to maintain in effect the provisions of the fire protection program was a violation of Operating License Condition 2.C(5)(a). This violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy. The inspectors entered the significance determination process since the partially open door affected a fire separation barrier for multiple safety systems. This had a credible impact on safety and was an impairment to a fire protection feature. The door was partially open for less than 3 hours, the ignition frequency was relatively low, the automatic fire detection and suppression systems were minimally affected, and manual firefighting effectiveness was unaffected. Using the plant specific significance determination process "Transients with Power Conversion System" worksheet, this violation was evaluated as having had very low safety significance. The secondary heat removal and power conversion system mitigation capabilities were available for decay heat removal.

Inspection Report# : [2000011\(pdf\)](#)

Significance:  Dec 30, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

Failure to Satisfactorily Perform Technical Specification Surveillance Requirement 3.8.1.3 Emergency Diesel Generator A

The licensee failed to satisfactorily perform Technical Specification Surveillance Requirement 3.8.1.3 on Emergency Diesel Generator A on two occasions. The licensee determined that the diesel would have performed satisfactorily in the event of a loss of offsite power. The licensee initiated corrective action document Performance Improvement Request 2000-3385 as a result of this issue.

Inspection Report# : [2000010\(pdf\)](#)

Barrier Integrity

Significance:  Nov 02, 2001

Identified By: NRC

Item Type: FIN Finding

Ineffective controls to minimize macro-biological growth and accumulation of foreign material in the essential service water system

The team identified that the licensee's controls to minimize macro-biological growth and accumulation of foreign material in the essential service water system were not effective. This finding was of very low safety significance because the essential service water system and containment isolation functions remained operable. The licensee's biological control and system flushing programs were not adequate to prevent the growth and accumulation of clams and their debris (i.e., shells and shell pieces) at the essential service water containment isolation valves for the containment coolers. The clams and their debris were contributing causes of these valves' failure to fully close. There are no regulatory requirements for a biological control program, therefore, there was no violation of regulatory requirements. The licensee entered this issue into the corrective action program as Performance Improvement Request 20012802 to reassess the effectiveness of the biological control and system flushing programs

Inspection Report# : [2001007\(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Significance:  Jul 19, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Use NIOSH Certified Respiratory Protection Equipment

During a review of self-contained breathing apparatus maintenance and surveillance records, the inspector identified that 36 self-contained breathing apparatus air bottles were past the 3-year hydrostatic test dates. Hydrostatic testing had expired in April 2001 for 31 of the self-contained breathing apparatus air bottles that were in service. According to the National Institute for Occupational Safety and Health, self-contained breathing apparatus units with expired hydrostatic testing are no longer certified. The use of non-National Institute for Occupational Safety and Health certified respiratory protection equipment was a violation of 10 CFR 20.1703(a). This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Performance Improvement Request 2001-1835. The safety significance of this violation was determined to be more than minor, because it had a credible impact on safety due to previously identified air bottle failures and questionable availability for emergency response. This violation was processed through the Emergency Preparedness Significance Determination Process and determined to be of very low safety significance, because there was no failure to meet an emergency planning standard or risk significant planning standard

Inspection Report# : [2001003\(pdf\)](#)

Significance:  Jul 10, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Follow Procedural Requirements For Out-of-Calibration Instruments

On July 18, 2001, the inspectors identified a continuous air monitor in the radwaste truck bay with an expired calibration. The calibration due date was May 31, 2001. The licensee identified on June 4, 2001, in Performance Improvement Request 2001-1452, a survey instrument which was out of calibration. The calibration due date was also May 31, 2001. The licensee had not properly marked the instruments out of calibration or removed them to the designated holding area. Radiation Protection Procedure RPP-01-405, Revision 12, requires that instruments be properly marked out of calibration and/or placed in a proper holding area. The licensee's failures to follow procedural requirements involving out-of-calibration instruments were two examples of a violation of Technical Specification 5.4.1.a. This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Performance Improvement Request 2001-1833. The safety significance of this violation was determined to be more than minor, because it had a credible impact on safety and it involved conditions contrary to licensee procedures which impact instrumentation related to measuring worker dose. This violation was processed through the Occupational Radiation Safety Significance Determination Process and determined to be of very low safety significance, because there was no overexposure, no substantial potential for overexposure because the instruments were not used, and the ability to assess dose was not compromised because the whole body counter was operable.

Inspection Report# : [2001003\(pdf\)](#)



Significance: Dec 30, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

Failure to Follow Radiological Work Permit Requirement

Technical Specification 5.4.1 requires procedures for the radiation work permit system. Section 6.2.2 of Procedure AP 25B-300, "Radiation Work Permit Program," Revision 10, states that all workers shall read, understand, and follow the provisions set forth on their radiation work permit. On October 30, 2000, a radiation worker did not follow the radiological requirement listed on Radiation Work Permit 00-3220, as described in the licensee's corrective action program, reference Performance Improvement Request 2000-3290.

Inspection Report# : [2000010\(pdf\)](#)



Significance: Oct 27, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

Failure to Perform a Dose Rate Survey

10 CFR 20.1501 requires that each licensee shall make, or cause to be made, surveys that are reasonable under the circumstances to evaluate the potential radiological hazards. On October 25, 2000, after Spent Fuel Pool Cleanup Filter FEC01B was transferred into a waste liner at approximately 4 a.m., the licensee failed to conduct a dose rate survey of the area surrounding the waste liner. The licensee performed a followup radiation survey at approximately 8:30 a.m., after identifying that a survey had not been conducted. The survey identified two high radiation areas which were subsequently properly posted as described in the licensee's correction action program Performance Improvement Request 2000-3225.

Inspection Report# : [2000009\(pdf\)](#)



Significance: Oct 27, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

Failure to Follow Radiation Work Permit Special Instructions

Technical Specification 5.4.1 requires that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Radiation Work Permit 005000, Revision 0, special instruction (7) stated that proper contamination and airborne controls were to be established in accordance with radiation work permit briefing material prior to commencing work. On October 6, 2000, a deconner received an uptake while performing deconning activities inside the containment bioshield. The deconner failed to follow the radiation work permit special instructions to establish respiratory protection or high efficiency particulate airborne ventilation prior to initiating deconning activities. The details are described in corrective action program Performance Improvement Request 2000-2909.

Inspection Report# : [2000009\(pdf\)](#)

Significance:  Sep 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Perform a Contamination Survey

On August 28, 2000, the inspectors identified that radiation protection personnel failed to perform a contamination survey of an area containing scaffolding located in the residual heat exchanger Room A prior to workers entering the area on August 9, 2000. 10 CFR Part 20, Section 1501(a), states, in part, each licensee shall make or cause to be made surveys that are reasonable under the circumstances to evaluate concentrations or quantities of radioactive material and the potential radiological hazards. The failure to perform a contamination survey of the above area was a violation of 10 CFR Part 20, Section 1501(a). This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This issue is in the licensee's corrective action program as Performance Improvement Request 2000-2403. This violation was determined to have very low safety significance, because there was no overexposure or substantial potential for an overexposure to occur.

Inspection Report# : [2000008\(pdf\)](#)

Significance:  Sep 01, 2000

Identified By: NRC

Item Type: FIN Finding

Poor Radiological Work Planning

During the review of the licensee's Refueling Outage 10 exposure estimates and exposure performance data, the inspectors identified that Radiation Work Permit 99-4200 (secondary side steam generator work) total person-rem exceeded budgeted person-rem by greater than 50 percent (11.9 rem verses 6.6 rem). The inspectors noted that approximately 2 person-rem of this additional exposure was due to foreign object retrieval work, which was not planned during Refueling Outage 10. Although retrieval work was not necessary during Refueling Outage 9, it had been performed during previous refueling outages. The failure to plan/budget for the retrieval operation caused the licensee to exceed its budgeted estimate by greater than 50 percent. This issue is in the licensee's corrective action program as Performance Improvement Request 2000-2430. This issue was determined to have very low-safety significance, because actual job dose was less than 25 person-rem and there was only one occurrence.

Inspection Report# : [2000008\(pdf\)](#)

Public Radiation Safety

Physical Protection

Significance:  Aug 27, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Failure To Properly Access Vital Areas

A noncited violation of 10 CFR 73.55(d)(7)(i)(B) occurred when two licensee employees failed to follow proper procedures when entering vital areas. On August 27- and September 28, 2001, licensee employees did not properly enter vital areas but followed another person through the open door. The finding is more than minor because it had a credible impact on safety. One person entered a vital area without properly badging in. The second person did not have the appropriate access level to enter a vital area. The finding was found to be of very low safety significance using the Safeguards Significance Determination Process. There were no vulnerabilities in the access control program or the safeguards systems or plans, and a safeguard contingency response was not required. This finding of very low safety significance, which is documented in the licensee's corrective action program, is being treated as a noncited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy.

Inspection Report# : [2001003\(pdf\)](#)

Significance:  Jun 15, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Metal Detectors

Through a series of tests, the inspector demonstrated that the metal detectors did not detect the test weapon at an 85 percent rate. Paragraph 3.10.1.5 a(1) of the Physical Security Plan, Revision 32, requires that personnel are searched to detect firearms, explosives, and incendiary devices. The plan also requires that the metal detector units conform to Regulatory Guide 5.7, Revision 1, "Entry/Exit Control for Protected Areas, Vital Areas, and Material Access Areas," Paragraph C.1.e, which requires that the metal detectors detect a test weapon with an 85 percent success rate. The failure to adequately detect a test weapon 85 percent of the time is a violation of Paragraph 3.10.1.5 a(1) of the Physical Security Plan, Revision 32. Prior to the end of the inspection, the licensee implemented adequate corrective actions to ensure that the metal detectors would meet the 85 percent criteria. This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Performance Improvement Request 2001-1551. The safety significance of this finding was determined to be very low by the physical protection significance determination process because there were less than two similar findings in the last 4 quarters. The issue was more than minor because the potential failure to detect firearms represents a credible impact on safety and impacts a key performance attribute of the physical protection cornerstone to meet its intended function.

Inspection Report# : [2001002\(pdf\)](#)

Significance:  Aug 12, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Package Search

The inspector identified that security officers manning the x-ray search equipment were not visually searching hand-carried packages which contained material that could not be identified. The licensee's failure to adequately search packages being processed through the x-ray machine was a violation of paragraphs 1.6.1 and 1.6.8 of the Physical Security Plan, Revision 31, and paragraph 6.3.3.2 of Security Procedure SEC 01-202, Revision 37. This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation

was entered into the licensee's corrective action program as Performance Improvement Request 2000-1939 The issue was of very low safety significance because no similar findings had occurred during the previous four quarters.

Inspection Report# : [2000007\(pdf\)](#)

Miscellaneous

Significance: N/A May 17, 2002

Identified By: NRC

Item Type: FIN Finding

Identification and Resolution of Problems

The licensee was effective at identifying problems and placing them into the corrective action program. Observations and findings identified by the NRC during the evaluation period (March 1, 2001 to April 1, 2002) were similar those identified in licensee audits and assessments. The licensee effectively prioritized reviews and evaluated issues with few exceptions. The licensee was effective in determining the extent of conditions, and implementation of corrective actions. The depth of the condition evaluations and the rigor applied to cover the actions was appropriate to the significance of the safety issue involved. Based on interviews conducted during this inspection, workers at the site felt free to input safety issues into the problem identification and resolution program.

Inspection Report# : [2002003\(pdf\)](#)

Significance: N/A Mar 28, 2001

Identified By: NRC

Item Type: FIN Finding

Licensee's problem identification and resolution program was effective

The licensee adequately identified problems and put them into the corrective action program. The licensee appropriately used risk in determining the extent to which individual problems would be evaluated and in establishing schedules for implementation of corrective actions. Licensee audits and assessments were effective in identifying problems. Based on the interviews conducted during this inspection, workers at the site were comfortable placing safety issues into the problem identification and resolution program. Corrective actions, when specified, were generally implemented in a timely manner. With a few exceptions identified by the licensee, corrective actions to prevent recurrence of conditions adverse to quality were generally effective.

Inspection Report# : [2001005\(pdf\)](#)

Last modified : August 29, 2002