

Arkansas Nuclear 2

4Q/2010 Plant Inspection Findings

Initiating Events

Significance:  Dec 31, 2010

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Use Human Performance Tools Results in Two Turbine Building Roof Fires

The inspectors documented a self-revealing finding for contract roofers failing to use human performance tools, per Procedure EN HU 102, "Human Performance Tools," Revision 5, while performing hot work activities on Arkansas Nuclear One's turbine building roof which resulted in two fires. Specifically, contractors committed human performance errors during activities by not performing self- and peer-checks, or demonstrating a questioning attitude which resulted in a fire on September 17 and again on November 18, 2010. These issues were entered into the corrective action program as Condition Reports CR ANO 1 2010 3231, CR ANO C 2010 2428, and CR ANO C 2010 2978.

The failure to use human performance error prevention tools as specified in Procedure EN HU 102, "Human Performance Tools," Revision 5, was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the protection against external activities attribute of the Initiating Events Cornerstone, and affected the cornerstone objective to limit the likelihood of those events that upset plant stability during power operations, and therefore a finding. Using Inspection Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or function would not be available. The finding was determined to have a crosscutting aspect in the area of human performance, associated with work practices, in that the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported. Specifically, the licensee failed to provide adequate oversight of the roofing contractor to prevent fires.

Inspection Report# : [2010005](#) (*pdf*)

Significance:  Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Excessive Overlap of Unit 2 Written Examinations (Section 1R11)

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, at Unit 2. The violation was associated with the biennial written exam overlap for the weeks four, five, and six written examinations administered by the facility during the weeks of July 5-9, 2010, July 12-16, 2010, and July 19-23, 2010. The issues were documented in licensee-initiated Condition Report CR ANO 2 2010-01460, which resulted in the licensee removing five questions from the week four exam and writing new exams for weeks five and six and administering them prior to the cycle end date of July 31, 2010.

The excessive overlap of the written exam portion of the Unit 2 2010 biennial written exams was a performance deficiency in that the licensee failed to follow their established requalification procedures. Specifically, in 2010 some operators were tested using requalification written exams that repeated greater than 50 percent of the questions that had already been used in the earlier exam weeks. This finding was more than minor because if left uncorrected it could have led to a more significant safety concern, in that, licensed operations personnel could be returned to licensed duties without receiving a procedurally valid examination. The performance deficiency was associated with the Initiating Events Cornerstone. The inspectors applied Manual Chapter 0609 "Significant Determination Process," Appendix I, "Licensed Operator Requalification Significance Determination Process," and determined that the finding should be dispositioned as a Green noncited violation. The finding was assessed as having very low safety significance because: (1) the overlap issues were found during the biennial examinations of the operators, (2) there were no actual consequences due to the inadequate examinations, (3) the applicable crews were re-evaluated once the

issues were found, (4) this issue did not exist on the last biennial written exams in 2008 and did not occur on any of the Unit 1 biennial written examinations, and (5) the performance on these new exams was satisfactory. This finding has a crosscutting aspect in the area of work practices because the licensee did not ensure that supervisory and management oversight of work activities supported nuclear safety because the 2010 Unit 2 written exam overlap issues were not caught during the supervisory review and approval prior to administration of the examinations or prior to the start of this inspection [H.4(c)].

Inspection Report# : [2010004](#) (pdf)

Significance: G Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Natural Emergencies Procedure to Control Site Missile Hazards During Severe Weather Warnings and Watches

The inspectors identified a noncited violation of Technical Specification of 5.4.1.a for failure to follow Procedure OP-1203.025, "Natural Emergencies," Revision 30. Specifically, on April 23, 2010, the licensee entered Procedure OP-1203.025 due to a tornado watch/warning and failed to identify and control potential missile hazards in and around the Unit 1 transformer yard. The licensee entered this issue into the corrective action program as Condition Report CR-ANO-C-2010-1003.

Failure of the licensee to assess and control potential missile hazards on site, in and around transformer yards was a performance deficiency. Specifically, the licensee failed to follow Procedure OP 1203.025, "Natural Emergencies," Revision 30 and adequately secure missile hazards on site. The performance deficiency was determined to be more than minor because it was associated with the external hazards attribute and directly affected the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability while in shutdown or at power conditions, and is therefore a finding. Specifically, the failure of the licensee to secure missile hazards on site, especially around the safety related transformers increased the likelihood of a loss of power event that could result in upsetting plant stability. The inspectors evaluated the significance of the finding using Manual Chapter 0609, "Significance Determination Process," Appendix G, Checklist 3, and determined the finding to be of a very low safety significance, Green, because the finding did not cause the loss of mitigating capability of core heat removal, inventory control, power availability, containment control, or reactivity control. The finding was determined to have a crosscutting aspect in the area of problem identification and resolution, associated with the corrective action program, P.1(d), in that the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee failed to take effective corrective action from a previous NRC-identified issue, in that the corrective actions did not ensure that the control room operators had adequate guidance to assess and control potential missile hazards on site prior to the onset of severe weather.

Inspection Report# : [2010003](#) (pdf)

Significance: G Jun 30, 2010

Identified By: Self-Revealing

Item Type: FIN Finding

Troubleshooting in Switchyard Causes Loss of Power to Unit 1 and Unit 2 Startup Transformers

The inspectors documented a self-revealing finding for failure to implement Procedure OP-1015.033, "ANO Switchyard Controls," Revision 12. Specifically, On March 26, 2010, while performing 161 kV Breaker B1205 post-installation testing, several issues developed and testing activities transitioned into troubleshooting activities. Per the above mentioned procedure, a new component and plant impact statement should have been performed. The impact statement should have described the new work activities, objectives and potential for plant impacts so that a proper assessment could be made by operations as to allow the work or not. These troubleshooting activities ultimately resulted in a lockout of the auto-transformer, which resulted in the lockout of startup Transformers 1 and 3 (offsite power source) for Units 1 and 2, respectively. The licensee entered the issue into the corrective action program as Condition Report CR-ANO-C-2010-0726.

The failure to properly implement Procedure OP-1015.033, ANO Switchyard Controls," Revision 12, was a performance deficiency. Specifically, the licensee did not stop and obtain a component and plant impact statement when test activities transitioned into troubleshooting activities in the Arkansas Nuclear One switchyard. The

troubleshooting activities led an auto lockout of the auto transformer and resulted in the loss of offsite power to startup transformers 1 and 3. The performance deficiency was determined to be more than minor because it is associated with the human performance attribute and directly affected the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown conditions, and is therefore a finding. The significance of the finding was determined using Manual Chapter 0609, "Significance Determination Process," Appendix G, Checklist 4, and determined to be of very low safety significance, because it did not cause the loss of mitigating capability of core heat removal, inventory control, power availability, containment control, or reactivity control. The finding was determined to have a crosscutting aspect in the area of human performance associated with work practices, H.4(c), in that the licensee failed to ensure supervisory and management oversight of work activities in the switchyard such that nuclear safety is support. Specifically, the licensee became too involved helping solve the issue discovered in the switchyard and failed to recognize that Procedure OP-1015.033 need to be implemented.

Inspection Report# : [2010003](#) (pdf)

Significance:  Mar 31, 2010

Identified By: NRC

Item Type: FIN Finding

INADEQUATE ROOT CAUSE EVALUATION FAILED TO PREVENT MAIN FEEDWATER PUMP THRUST BEARING FAILURE

Green. The inspectors identified a Green finding for the licensee's failure to develop an adequate root cause evaluation and subsequent corrective actions to prevent reoccurrence of main feedwater pump 2P-1A thrust bearing failure. Specifically, the licensee's root cause evaluation for a thrust bearing failure on March 13, 2009, failed to identify that the main feedwater pump performance had been degrading and did not implement corrective actions to repair the pump during the Unit 2 refueling outage in September 2009. The pump thrust bearing failed again on December 8, 2009, which led to an unplanned manual reactor trip. The licensee entered the issue into their corrective action program as Condition Report CR ANO 2 2009 3744.

The failure to perform an adequate root cause evaluation to prevent the reoccurrence of the main feedwater pump 2P-1A thrust bearing failure was a performance deficiency. The performance deficiency was determined to be more than minor because if left uncorrected could become a more significant safety concern and is therefore a finding. Specifically, the failure to perform thorough and adequate root cause evaluations could lead to a more significant safety concern. Using Manual Chapter 0609, Attachment 4, Phase I worksheet, the finding was determined to be of very low safety significance, Green, because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding was determined to have a crosscutting aspect in the area of problem identification and resolution associated with corrective action program P.1 (c), in that the licensee failed to adequately evaluate the problem with main feedwater pump 2P 1A thrust bearing failure and did not prevent reoccurrence following implementation of corrective action.

Inspection Report# : [2010002](#) (pdf)

Mitigating Systems

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: FIN Finding

Exceeded Technical Specification Allowed Outage Time for Electrical Power Systems Due to Loss of Non-Technical Specification Supported Systems

The inspectors identified a noncited violation of Technical Specifications 3.8.4, "DC Sources - Operating," Technical Specification 3.8.7, "Inverters - Operating," and Technical Specification 3.8.9, "Distribution Systems - Operating," due to the failure to enter the appropriate technical specification or complete the associated required action prior to the appropriate completion time when the associated emergency chillers were out of service. Specifically, the licensee did not enter the appropriate technical specification for an inoperable system, subsystem, train or component when the all necessary attendant non-technical specification support equipment that are required for the system, subsystem, train,

component, or device to perform its specified safety function(s) are also capable of performing their related support function(s). The issue was entered into the licensee's corrective action program as Condition Reports CR ANO 1 2010 3075 and CR-ANO-1-2011-0204.

The inspectors determined that not entering the appropriate technical specification when the emergency switchgear chillers or applicable room cooling unit were not available to provide the technical specification support function for technical specific emergency switchgear equipment was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences and is therefore a finding. Specifically, CALC-93-R-1040-01, "ANO-1 AB Limiting Component Qualification Temperatures," Revision 3 identifies the temperature limits for each applicable room at 120 degrees F except for Room 110 which is 150 degrees F. Licensee Event Report No. 50-313/77-19 described the permanent solution to maintain room temperatures by the installation of two independent chilled water systems (VCH4s and applicable room coolers) to maintain those rooms and associated enclosed equipment (i.e., 480V motor control centers, inverters, battery chargers, instrument AC panels, etc.) below the rated continuous operating temperatures following a loss of coolant accident concurrent with a loss of offsite power, which was accepted by the NRC in a Safety Evaluation Report dated October 10, 1979. Failure to enter Technical Specifications 3.8.4, "DC Sources - Operating," Technical Specification 3.8.7, "Inverters - Operating," and Technical Specification 3.8.9, "Distribution Systems - Operating," due to the loss of the non-technical specification chilled water cooling support system or complete the associated required action prior to the appropriate completion time when the associated emergency chillers were out of service was a violation of technical specifications. Using Inspection Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to require a Phase 2 analysis because removing a VCH-4 chiller from service did result in an actual loss of safety function of a single train for greater than its technical specification allowed outage time. The resident inspectors received support from the regional senior reactor analyst and determined that the finding to be of very low safety significance (Green). Specifically, although the function was lost by the designated support equipment (emergency switchgear chillers), representing the technical specification violation, the licensee had an evaluation that credited compensatory measures and specific environmental conditions that assured the overall functionality of the applicable switchgear train was not lost. The inspectors reviewed the engineering change EC 25691, "Prepare EC markup to CALC-92-E-0103-01 to determine maximum outside ambient temperatures and compensatory measures to allow one chiller train to cool DC/BATT/SWGR areas during maintenance," and determined that it supported the conclusion that the compensatory measures in place assured the overall functionality of the applicable switchgear train was not lost, however, the compensatory measures sufficed for the function, but did not satisfy the technical specification switchgear operability requirements. The finding was determined to have a crosscutting aspect in the area of human performance, associated with decision making, in that the licensee did not use conservative assumptions in decision making and adopt a requirement to demonstrate that the proposed action is safe in order proceed rather than a requirement that it is unsafe in order to disapprove the action. Specifically, the licensee approved an engineering change that relied on the use of compensatory actions and non-safety related equipment to support the operability of technical specification equipment when the safety related support equipment was not available or functional and implemented a procedure change that resulted in not entering the appropriate technical specification when applicable non technical specification safety related equipment was out of service.

Inspection Report# : [2010005](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Required Quality Control Inspections

Inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion X, "Inspection," for the failure to ensure that quality control verification inspections were consistently included and correctly specified in quality-affecting procedures and work instructions for construction-like work activities as required by the quality assurance program. The licensee performed extensive reviews, and inspectors performed independent reviews of the licensee's conclusions as well as independent sampling, to confirm that improper or missed inspections did not actually affect the operability of plant equipment. Entergy initiated prompt fleet-wide corrective actions to ensure proper work order evaluation and proper inclusion of quality control verification inspections. This issue was entered into the corrective action program under Condition Reports CR HQN 2009 01184 and CR HQN 2010 0013.

The failure to ensure that adequate quality control verification inspections were included in quality-affecting procedures and work instructions as required by the quality assurance program was a performance deficiency. This programmatic deficiency was more than minor because, if left uncorrected, it could lead to a more significant safety concern in that the failure to check quality attributes could involve an actual impact to plant equipment. This issue affected the design control attribute of the Mitigating Systems Cornerstone because missed or improper quality control inspections during plant modifications could impact the availability, reliability, and capability of systems needed to respond to initiating events. This performance deficiency was determined to have very low safety significance in Phase 1 of the Significance Determination Process, since it was confirmed to involve a qualification deficiency that did not result in a loss of operability or functionality. The inspectors determined that this performance deficiency involved a crosscutting aspect related to the human performance in decision-making because the licensee did not have an effective systematic process for obtaining interdisciplinary reviews of proposed work instructions to determine whether quality control verification inspections were appropriate.

Inspection Report# : [2010005](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement the Experience and Qualification Requirements of the Quality Assurance Program

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion II, "Quality Assurance Program," for the failure to implement the experience and qualification requirements of the quality assurance program. As a result, the licensee failed to ensure that an individual assigned to the position of quality assurance manager met the qualification and experience requirements of ANSI/ANS 3.1 1978 as required by the quality assurance program. Specifically, the individual assigned to be the responsible person for the licensee's overall implementation of the quality assurance program did not have at least 1 year of nuclear plant experience in the overall implementation of the quality assurance program within the quality assurance organization prior to assuming those responsibilities. This issue was entered into the corrective action program as Condition Report CR HQN 2010 00386. Failure to ensure that an individual assigned to the position as quality assurance manager met the qualification and experience requirements of ANSI/ANS 3.1 1978 as required by the quality assurance program was a performance deficiency. This performance deficiency was determined to be more than minor because, if left uncorrected, it could create a more significant safety concern. Failure to have a fully qualified individual providing overall oversight to the quality assurance program had the potential to affect all cornerstones, but this finding will be tracked under the Mitigating Systems Cornerstone as the area most likely to be impacted. The issue was not suitable for quantitative assessment using existing Significance Determination Process guidance, so it was determined to be of very low safety significance using Inspection Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." The inspectors determined that there was no crosscutting aspect associated with this finding because this issue was not indicative of current performance because the violation occurred more than 3 years ago.

Inspection Report# : [2010005](#) (pdf)

Significance:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Verify the Adequacy of the Unit 2 Refueling Water Tank and the Condensate Storage Tank Transfer Setpoints

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, that design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified methods of calculation, or by the performance of a suitable testing program. Contrary to the above, the licensee failed to assure that design control measures were provided for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculation methods, or by the performance of a suitable testing program. Specifically, since 1998, the licensee failed to verify the adequacy of the Unit 2 refueling water tank and the condensate storage tank transfer setpoints to prevent potential air entrainment due to vortexing in safety-related pump suction piping. This finding was entered into the licensee's corrective action program as Condition Report ANO C 2007 1469.

The inspectors determined that the failure to verify the adequacy of the Unit 2 refueling water tank and the condensate

storage tank transfer setpoints was a performance deficiency. The finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the inspectors determined that the finding was of very low safety significance (Green) because it was a design or qualification deficiency confirmed not to result in loss of operability or functionality. Specifically, the licensee performed subsequent analysis which demonstrated that vortexing in the refueling water and condensate storage tanks would not impact safety-related pump operation during a design basis event. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance. Inspection Report# : [2010005](#) (*pdf*)

Significance:  Sep 30, 2010

Identified By: NRC

Item Type: VIO Violation

Failure to Adequately Implement Foreign Material Exclusion Controls

The inspectors identified a cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated with the licensee's failure to adequately implement Procedure EN MA 118, "Foreign Material Exclusion," Revision 5/6. Specifically, between October 31, 2008, and September 02, 2010, inspectors identified multiple occasions where licensee personnel failed to implement appropriate foreign material exclusion controls in Zone 1 areas around safety related equipment (e.g., failure to appropriately log material in to and out of the zone) as required by station procedure. Each identified instance was a repeat occurrence of previously identified issues that were documented as NRC identified violations in previous inspection reports in 2008, 2009, and early 2010. Measures established by Arkansas Nuclear One to address these previously identified noncited violations failed to restore compliance within a reasonable time after these violations were identified. Finally, these failures had the potential of having a negative impact on safety related components such as fuel failure, safety system reliability and safety related equipment availability. This issue was entered into the licensee's corrective action program as Condition Reports CR ANO 1 2010 3155, CR ANO 2 2010 1839, and CR-ANO-C-2010-2192.

The performance deficiency was determined to be more than minor because it was associated with the human performance attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was determined to have a crosscutting aspect in the area of problem identification and resolution, associated with the corrective action program, P.1(d), in that the licensee takes appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : [2010004](#) (*pdf*)

Significance:  Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures and Generate Adequate Work Orders for Maintenance on Safety Related Equipment

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for station planning personnel's failure to adequately implement station Procedure EN FAP WM 011, "Work Planning Standard," Revision 0, and EN WM 105, "Planning," Revision 6. Specifically, from August 3-19, 2010, multiple examples were identified where work orders used to perform maintenance activities on safety related equipment were incorrectly classified as reference work orders, referenced technical material that did not contain guidance for the prescribed task, or did not contain sufficient detail or direction to accomplish the maintenance activity as written. This issue was entered into the licensee's corrective action program as Condition Reports CR ANO

C 2010
1962, CR ANO C 2010 1964, CR ANO 2 2010 1736, CR ANO C 2010 2114, CR ANO C 2010 2119, and CR ANO C 2010 2140.

The performance deficiency was determined to be more than minor because if left uncorrected, the continued practice of generating inadequate work orders for maintenance activities on safety-related equipment would have the potential to leave risk significant equipment in a degraded condition without the knowledge and approval of site management and operations personnel, and is therefore a finding. The performance deficiency was associated with the Mitigating Systems Cornerstone. Using Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was determined to have a crosscutting aspect in the area of human performance, associated with work practices [H.4(b)] in that the licensee defines and effectively communicates expectations regarding procedural compliance and personnel follow procedures.

Inspection Report# : [2010004](#) (*pdf*)

Significance:  Aug 27, 2010

Identified By: NRC

Item Type: FIN Finding

Fire Protection Compensatory Measures Did Not Cover All Fire Protection Features

The team identified a finding because the licensee did not include fire protection features in Procedure 1000.120, "ANO Fire Impairment Program," Revision 20. The approved fire protection program required implementing compensatory measures for degraded fire protection systems and features, but the fire impairment implementing procedure addressed only action to identify, document and apply compensatory measures for specific fire protection systems. The team identified that the licensee did not implement compensatory measures for periods when the Appendix R emergency lighting units were placed out of service for maintenance and testing. This finding has been entered into the corrective action program as CR-ANO-C-2010-02205.

Failure to ensure that all of the applicable elements of the approved fire protection program were included in the fire impairment implementing procedure is a performance deficiency. The finding is more than minor because it is associated with the Protection Against External Events attribute of the Mitigating Systems cornerstone since it affected the availability, reliability, and capability of systems that respond to fire events to prevent undesirable consequences. Because this issue relates to fire protection, the team used the guidance of Manual Chapter 0609, Appendix F, Attachment 2, to determine that this fire prevention and administrative control deficiency had a low degradation rating in that it minimally impacted the fire protection program. Based on this, the finding screened as having very low safety significance (Green) during a Phase 1 significance determination. This finding is identified as FIN 05000313; 05000368/2010006-01, Inadequate Compensatory Measures for Out-Of-Service Appendix R Emergency Lights. No cross cutting aspect was associated with this finding because the team determined that this deficiency is not indicative of current performance because this practice existed for longer than three years.

Inspection Report# : [2010006](#) (*pdf*)

Barrier Integrity

Significance:  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Adequately Implement Foreign Material Exclusion Controls

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated with the licensee's failure to adequately implement Procedure EN-MA-118, "Foreign

Material Exclusion,” Revision 5. Specifically, between February 4, 2010, and April 22, 2010, multiple occasions were identified where licensee personnel failed to implement appropriate foreign material exclusion controls in areas designated as Zone 1 foreign material exclusion areas. This issue was entered into the licensee's corrective action program as Condition Reports ANO-2-2010-0262, ANO-2-2010-269, ANO-1-2010-0469, ANO-1-2010-0564, ANO-1-2010-0874, ANO-1-2010-0903, ANO-1-2010-0750, ANO-1-2010-1338, ANO-1-2010-1526, ANO-1-2010-1958, and ANO-C-2010-688.

The performance deficiency was more than minor because it affected the human performance attribute of the barrier integrity cornerstone and directly affected the cornerstone objective of providing reasonable assurance that physical barriers protect the public from radionuclide releases caused by accidents or events, and is therefore a finding. Furthermore, station personnel's continued failure to implement appropriate foreign material exclusion controls would result in the introduction of foreign material into critical areas, such as the spent fuel pool or the reactor cavity, which in turn would result in degradation and adverse impacts on materials and systems associated with these areas. Using the Manual Chapter 0609, Appendix G, “Shutdown Operations Significance Determination Process,” Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program, P.1(d), in that the licensee takes appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : [2010003](#) (*pdf*)

Emergency Preparedness

Significance: SL-IV Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Submit for Approval a Decrease in Effectiveness of Emergency Plan

The inspectors identified a noncited violation of 10 CFR 50.54(q) for the failure to apply for and receive approval by the NRC prior to implementing a change that decreased the effectiveness of the Arkansas Nuclear One Emergency Plan. Specifically, the licensee changed the default Protective Action Recommendation from a 2 mile radius and 5 miles downwind for General Emergency conditions to a 5 miles radius and 10 miles downwind which was determined to be a change that decreased the effectiveness of the approved emergency plan and was implemented without application to and approval by the Commission. Because the violation was entered into the licensee's corrective action program as Condition Report CR ANO C 2010 02502, it is being treated as a noncited Severity Level IV violation consistent with Section 2.3.2 of the Enforcement Policy.

The failure to submit, for approval, a change to the Arkansas Nuclear One Emergency Plan that decreases emergency plan effectiveness is a performance deficiency. The finding is more than minor because the change made has the potential to unnecessarily increase the risk to the public. Because this issue has the potential for impacting the NRC's ability to perform its regulatory function, traditional enforcement is applicable in accordance with NRC Inspection Manual Chapter 0612, Appendix B, "Issue Screening." The finding was determined to be a Severity Level IV violation in accordance with Section 6.6.d.1 of the Enforcement Policy because it involved the licensee's ability to meet or implement any regulatory requirement not related to assessment or notification such that the effectiveness of the emergency plan decreases. This violation of NRC requirements occurred on March 13, 2003, no crosscutting aspect is assigned to this finding because it is not indicative of current performance.

Inspection Report# : [2010005](#) (*pdf*)

Occupational Radiation Safety

Public Radiation Safety

Significance:  Sep 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide an Accurate Shipping Manifest

The inspectors identified a noncited violation of 10 CFR 20.2006(b) for failure to ship radioactive waste with an accurate manifest. On May 19, 2009, the licensee shipped 20 Unit 2 spent fuel pool filters to a waste processor for segregation. The licensee was notified on June 1, 2009, that dose rate on one filter was almost twice the licensee reported dose rate (38 rem/hr vice 20 rem/hr). The total activity of the shipment based on the higher dose rate was approximately three times more than reported on the shipping manifest. Based on the inspectors' finding, the licensee corrected the shipping manifest and documented this issue in the corrective action program as Condition Report CR ANO C 2010 1866.

Failure to include the correct total radioactivity on a waste manifest is a performance deficiency. The finding is greater than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program and process (transportation program), and affected the cornerstone objective, in that, it provided incorrect information as part of hazard communication which could increase public dose. Using the public radiation safety significance determination process, the inspectors determined the finding had very low safety significance because: (1) radiation limits were not exceeded, (2) there was no breach of a package during transit, (3) it did not involve a certificate of compliance issue, (4) it was not a low level burial ground nonconformance, and (5) it did not involve a failure to make notifications or provide emergency information. Additionally, this finding had a crosscutting aspect in the area of corrective action program because the licensee did not set a low threshold for identifying and correcting issues [P.1(a)].

Inspection Report# : [2010004](#) (*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:  Dec 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Face-to-Face Supervisory Assessments Less than 4 Hours Before Individuals Began Performing Work Activities Under a Waiver

The inspectors identified a noncited violation of 10 CFR 26.207(a)(3), "Waivers and Exceptions," associated with the failure of supervisory personnel to appropriately perform face-to-face fatigue assessments. Specifically, supervisory personnel were performing one face-to-face fatigue assessment prior to the first shift worked under a waiver issued for multiple days, and not performing additional assessments for consecutive shifts worked under the same waivers when there was a break of at least 10 hours provided between the successive work periods covered by these waivers. The failure to perform face-to-face supervisory assessments less than 4 hours before individuals began performing work activities under a waiver was a performance deficiency. The licensee entered this issue in their corrective action program as Condition Report CR ANO C 2010 2396.

The failure to perform face-to-face supervisory assessments less than 4 hours before individuals began performing work activities under a waiver was a performance deficiency. The performance deficiency was determined to be more

than minor because it was associated with the access authorization attribute of the Security Cornerstone, and affected the associated cornerstone objective to provide assurance that the licensee's security system and material control and accounting program use a defense in-depth approach and can protect against (1) the design basis threat of radiological sabotage from external and internal threats and (2) the theft or loss of radiological materials, and is therefore a finding. Using Inspection Manual Chapter 0609, Appendix E, "Baseline Security Significance Determination Process for Power Reactors," Figures 5 and 6, the finding was determined to have very low safety significance because the calculated point total did not exceed the threshold value for a Green noncited violation. The cumulative total for this finding was zero points, which was calculated by factoring the one impact area (vital areas) against Tier III Element 08.02.08, Security Force Work Hours, of the Access Authorization attribute, which resulted in a total of zero points within this attribute. The finding was determined to have a crosscutting aspect in the area of human performance associated with decision making [H.1(b)] in that the licensee failed to use conservative assumptions in decision making and adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to show it is unsafe in order to disapprove the action. Specifically, the licensee had defined the work period to be 6 weeks without giving appropriate thought about potential consequences of this decision relative to potential fatigue aspects while continuing to work under a waiver.

Inspection Report# : [2010005](#) (*pdf*)

Last modified : March 03, 2011