

# Arkansas Nuclear 1

## 3Q/2011 Plant Inspection Findings

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### 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*)

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### Mitigating Systems

**Significance:**  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Verify the Adequacy of Design of Unit 1 Emergency Core Cooling Systems to Address Potential Voiding**

The inspector identified a noncited violation of 10 CFR 50 Appendix B Criterion III for failure to verify and check the adequacy of design by performance of design reviews, alternate calculations, or a suitable testing program. Specifically, the licensee identified potential void locations during engineering evaluations of the Unit 1 High Pressure Injection, Decay Heat Removal / Low Pressure Injection, Core Flood, and Building Spray systems and did not verify the adequacy of the design of those systems to ensure continued operability. The licensee performed ultrasonic testing on these locations at the time of the identification, but did not install vents, determine an acceptable void size, or establish a program to periodically vent or monitor these locations. The licensee entered this issue into their corrective action program as Condition Report CR-ANO-1-2011-1406.

The failure to verify and check the adequacy of design of the Unit 1 High Pressure Injection, Decay Heat Removal/Low Pressure Injection, Core Flood, and Building Spray systems is a performance deficiency. The performance deficiency is more than minor because it is associated with the design control attribute of the Mitigating

Systems cornerstone and adversely affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspector performed a Phase 1 screening, in accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance (Green), because the finding was confirmed not to result in a loss of operability. This finding has a crosscutting aspect in the area of problem identification and resolution in the corrective action component because the licensee did not take appropriate corrective actions to address safety issues in a timely manner. [P.1.d].

Inspection Report# : [2011004](#) (pdf)

**Significance:**  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Identify the Decay Heat Removal Coolers as Potential Void Locations**

The inspector identified a noncited violation of 10 CFR 50 Appendix B Criterion III for failure to verify and check the adequacy of design by performance of design reviews, alternate calculations, or a suitable testing program.

Specifically, when performing a design review, the licensee did not identify the Decay Heat Removal coolers as locations where gas could accumulate in the Decay Heat Removal system and establish methods to verify the adequacy of design to ensure operability. The licensee performed immediate inspection of the heat exchangers by ultrasonic testing and did not find any voids. The licensee entered this issue into their corrective action program as Condition Report CR-ANO-1-2011-01306.

The failure to identify the Decay Heat Removal heat exchangers as locations where gas could accumulate is a performance deficiency. The performance deficiency is more than minor because if uncorrected, it could lead to a more significant safety concern. Specifically, the licensee could be unaware of an unanalyzed void in the Decay Heat Removal system because they failed to consider the potential for gas accumulation and had no program in place to detect it. The inspector performed a Phase 1 screening, in accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance (Green), because the finding was confirmed not to result in a loss of operability. This finding has a crosscutting aspect in the area of human performance in the decision making component because the licensee did not use conservative assumptions in decision making or conduct effectiveness reviews of safety-significant decisions to verify the validity of the underlying assumptions [H.1.b].

Inspection Report# : [2011004](#) (pdf)

**Significance:**  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Adequately Evaluate the Required Minimum Level in the Borated Water Storage Tank**

The inspectors identified a noncited violation of 10 CFR 50 Appendix B Criterion III for failure to verify and check the adequacy of design by performance of design reviews, alternate calculations, or a suitable testing program.

Specifically, the licensee did not adequately evaluate the required minimum level in the Borated Water Storage Tank to ensure adequate net positive suction head for Emergency Core Cooling System pumps and prevent gas entrainment due to vortex formation. The licensee performed an immediate operability evaluation and concluded that there was sufficient margin in the level to maintain operability. The licensee entered this issue into their corrective action program as Condition Report CR-ANO-1-2011-1407 and CR-ANO-1-2011-1440.

The failure to adequately evaluate the minimum level in the Borated Water Storage Tanks to ensure adequate net positive suction head for Emergency Core Cooling System pumps and prevent vortex formation is a performance deficiency. The performance deficiency is more than minor because it is associated with the design control attribute of the Mitigating Systems cornerstone and adversely affects the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee did not adequately ensure that the design of the Borated Water Storage Tank was sufficient to avoid loss of net positive suction head and prevent air entrainment in the Emergency Core Cooling System pumps. The inspector performed a Phase 1 screening, in accordance with Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance (Green), because the finding was confirmed not to result in a loss of operability. The finding was determined to have

no cross-cutting aspect because the performance deficiency occurred in 2004, and is not indicative of current plant performance.

Inspection Report# : [2011004](#) (pdf)

**Significance:**  Jun 03, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Follow Compliance Work Order for Corrective Maintenance on Safety Related Equipment**

The inspectors identified a Green noncited violation of Unit 1 Technical Specification 5.4.1.a for a failure to perform proper placekeeping in a compliance work order for the replacement of the auto-manual pushbutton, PB-2613, emergency feedwater steam admission valve. Specifically, the instrumentation and controls technician had completed critical steps in a compliance work order without following the work order as written as required in section 5.15 of station procedure, EN-MA-101, Fundamentals of Maintenance,” Revision 9. The licensee took immediate corrective action to restore compliance. This issue has been entered into the corrective action program as Condition Reports CR-ANO-C-2011-0284, CR-ANO-C-1695, and CR-ANO-C-2011-1673.

The inspectors determined that the failure to follow the compliance work order as required by station procedure EN-MA-101, “Fundamentals of Maintenance,” Revision 9, was a performance deficiency because it was within the licensee’s ability to foresee and correct and is also a violation of technical specifications. The performance deficiency was determined to be more than minor because it was associated with the human performance attribute of the Mitigating System Cornerstone and adversely affected the 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, not following compliance work orders while working on safety related equipment could adversely affect the system or component if required to respond to an event. Using MC 0609, Exhibit 1, “Phase 1 Initial Screening and Characterization of Findings,” the finding was determined to be green because it did not result in the loss of operability or functionality; did not represent a loss of system safety function; did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; did not represent an actual loss of safety function of any risk significant system for greater than 24 hours; and did not screen as potentially risk significant due to external events. 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 use human error prevention techniques, such as self and peer checks, and questioning attitude, to ensure that the compliance work order was being followed step-by-step as required, [H.4(a)]

Inspection Report# : [2011003](#) (pdf)

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure to Follow Procedure Results in Depressurizing One Emergency Core Cooling System Suction Header**

Green. The inspectors documented a self-revealing noncited violation of Unit 1 Technical Specification 5.4.1.a for the failure to follow procedure OP-1104.002 “Makeup and Purification System Operation”, Revision 69. Specifically, while draining to depressurize the emergency core cooling system suction header from 55.6 psig to approximately 20 psig to support testing BW-2, P-36 B/C suction stop check isolation valve, operations personnel monitored the incorrect suction pressure indication, drained and depressurized significantly longer than specified in the procedure resulting in the suction header pressure lowering to approximately 1.6 psig before securing the draining evolution. Immediate actions taken to restore compliance included operations personnel filling the emergency core cooling system suction header and subsequent ultra sonic testing on the effected piping to verify no voids existed. This issue was entered into the licensee’s corrective action program as Condition Report CR-ANO-1-2011-0290.

The inspectors determined that operations personnel failed to follow the requirements of procedure OP-1104.002, by failing to monitor the correct pressure indication and by draining significantly longer than the procedure specified. This resulted in inadvertently depressurizing the emergency core cooling suction header to approximately 1.6 psig. This was determined to be a performance deficiency. Specifically, the failure to follow OP-1104.002, as required by Technical Specification 5.4.1.a, and inadvertently depressurizing the emergency core cooling system header was reasonably within the licensee’s ability to foresee and correct. The performance deficiency was more than minor

because it was associated with the human performance attribute of the Mitigating Systems cornerstone and adversely affected the 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. Specifically, lowering pressure below 20 psig potentially voided the emergency core cooling system suction header which would affect the availability of the emergency core cooling system train. Using Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance, Green, because: (1) the finding was not a qualification deficiency that resulted in a loss functionality of the emergency core cooling system header, (2) it did not lead to an actual loss of safety function of the system or train, (3) it did not result in an actual loss of safety function of a single train for greater than its technical specification allowed outage time, (4) it did not represent an actual loss of safety function of one or more nontechnical specification trains of equipment designated as risk-significant per 10 CFR 50.65, for greater than 24 hours and (5) it 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 in that the licensee failed to ensure supervisory and management oversight of work activities were such that nuclear safety was supported when the control room supervisor unknowingly became involved in the task and did not maintain supervision, [H.4(c)].

Inspection Report# : [2011002](#) (pdf)

**Significance:** G 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*)

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## **Barrier Integrity**

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Incorporate Adequate Clearance Guidance Prevents Full Operation of the Unit 1 Emergency Control Room Ventilation Makeup Air Supply Damper**

Green. The inspectors documented a self-revealing noncited violation of 10 CFR 50, Appendix B, Criterion III for an inadequate design package. This inadequacy led to the interference and restricted function of the Unit 1 emergency control room ventilation system damper CV-7910, VSF-9 makeup air supply. Specifically, the engineering change, EC-25425, that was used to install a temporary modification to allow control room tracer gas testing, did not specify any clearance requirements between the temporary modification and the CV-7910, VSF-9 makeup air supply damper. This led to restricted damper operation and interference issues. The licensee took immediate action to remove the

temporary modification and physically restructured the modification prior to continuing the tracer gas testing. This issue was entered into the corrective action program as CR-ANO- C-2010-2848.

The failure to incorporate clearance requirements for the temporary modification between CV-7910 makeup air supply damper and the tracer gas ductwork adaptor, which prevented full operation of the damper, was determined to be a performance deficiency, because it was within the licensee's ability for foresee and correct and is a violation of NRC requirements. The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that the physical design barriers protect the public from radionuclide releases caused by accidents or events, and is therefore a finding. Using Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance, Green, because the finding did not represent a degradation of the barrier function for the control room against radiation, smoke or toxic gas. The finding was determined to have a crosscutting aspect in the area of human performance, associated with resources, in that the licensee did not apply the appropriate engineering thoroughness for the temporary modification due to resource sharing to assist other Entergy sites, and scheduling vacations, which caused an increase in workload during the review and approval of the temporary modification, [H.2(c)].

Inspection Report# : [2011002](#) (*pdf*)

**Significance:**  Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Inadequate Procedural Guidance Results in Damaged Emergency Control Room Ventilation System Air Damper**

Green. The inspectors documented a self-revealing noncited violation of Technical Specification 5.4.1.a for the inadequate maintenance work order and procedure that resulted in damaging the damper, CV-7910, VSF-9 makeup air supply, during planned maintenance activities. Specifically, work order 52220286 referenced a procedurally controlled temporary modification, that referred to an incorrect engineering change document, was vaguely written and led to the installation of the wrong flange cover and resulted in a damaged damper and challenged the control room envelope integrity. The licensee repaired the damaged damper and entered the issue into corrective action program as Condition Report CR-ANO-C-2010-2429.

The failure of the licensee to provide adequate procedural guidance, that led to the installation of the wrong flange cover and resulted in a bent damper, CV-7910, associated with the Unit 1 control room emergency ventilation system was a performance deficiency. This was determined to be within the licensee's ability to foresee and correct and is a violation of a unit 1 technical specification. The performance deficiency was determined to be more than minor because it was associated with the procedure quality attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective provide reasonable assurance that the physical design barriers protect the public from radionuclide releases caused by accidents or events, and is therefore a finding. Using Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance, Green, because the finding did not represent a degradation of the barrier function for the control room against radiation, smoke or toxic gas. The finding was determined to have no cross-cutting aspects due to the procedure change that took place in 2005 and is not indicative of current plant performance.

Inspection Report# : [2011002](#) (*pdf*)

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## **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*)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## Miscellaneous

**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 : January 04, 2012