

## Arkansas Nuclear 1

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### Initiating Events

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### Mitigating Systems



**Significance:** Dec 21, 2001

Identified By: NRC

Item Type: FIN Finding

#### **FIRE BRIGADE DRILL HOSE SELECTION ISSUE AND PREFIRE PLAN ISSUE.**

In a fire drill, fire brigade did not select primary or secondary hose identified in pre-fire plan. Hose chosen was too short to reach fire. Secondary hose in pre-fire plan would result in breaching fire barrier between redundant trains of equipment. A finding of very low safety significance was identified because, during a fire brigade drill in the Unit 1 south Bus A3 switchgear room, fire brigade members selected a hose to extend from a hose reel that was not identified in the prefire plan as the primary or secondary hose reel. The selected hose was too short to reach the fire scene. Additionally, use of the secondary hose reel would have resulted in breaching a fire barrier between redundant trains of safe shutdown equipment. The finding was greater than minor because retrieval of additional hose would have resulted in a delay in application of water suppression in an actual fire. The finding is of very low safety significance because there were no degraded fire barriers, the fire drill scenario did not require the use of water to extinguish the fire, and because this finding only affects the mitigating systems cornerstone.

Inspection Report# : [2001008\(pdf\)](#)



**Significance:** Oct 22, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO ENSURE THAT ONE TRAIN OF BWST OUTLET VALVES WAS FREE OF FIRE DAMAGE.**

A noncited violation of 10 CFR Part 50, Appendix R, Section III.G.2, was identified for failure to ensure that one of the redundant trains of a system necessary to achieve and maintain hot shutdown conditions in the event of a fire would be free of fire damage. Electrical cables for redundant borated water storage tank (BWST) Outlet Valves CV-1407 and CV-1408 were located in Fire Zone 53Y without spatial separation or fire barriers. The finding had greater than minor significance because if the finding remained unidentified, a fire in Fire Zone 53Y could result in a loss of reactor coolant system makeup capability. Based on review of NRC Manual Chapter 0609, Appendix F (Determining Potential Risk Significance of Fire Protection and Post-Fire Safe Shutdown Inspection Findings), the inspectors determined that the finding was of very low significance. This was based on; (1) the fire loading was very low in Fire Zone 53Y and equated to an approximately one minute fire duration, (2) the fire ignition frequency from the licensee's individual plant examination of external events for this zone was low (i.e., 4.88 E-3/year), and, (3) based on review of the electrical cables and equipment located in this room, there were no components whose failure would result in an accident initiator (i.e., loss of offsite power, loss of main feedwater, etc.) so the finding only affects the mitigating systems cornerstone.

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



**Significance:** Jul 31, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

#### **INADEQUATE DESIGN CONTROL MEASURES TO ASSURE THE CORRECT TRANSLATION OF THE DESIGN BASIS FOR THE SAFETY-RELATED BATTERIES INTO TS 4.6.2.2 AND THE APPLICABLE SURVEILLANCE PROCEDURES.**

The design control measures established by the licensee for the translation of design requirements were not adequate to assure that the correct test discharge rate for the Unit 1 safety-related batteries was used to evaluate battery operability. The team determined that the failure to properly translate design basis electrical load information into calculation 92-E-0021-01 that resulted in non-conservative surveillance testing was a violation of 10 CFR Part 50 Appendix B Criterion III, "Design Control". However, the battery remained operable for the present because the battery was relatively new and had a capacity well beyond the load requirements. The safety significance of the finding was very low because there was no loss of battery safety function. Since the licensee has included the item in their corrective action program as Condition Report 1-2001-0793, this design control violation is being treated as a noncited violation (NCV 50-313/0104-01) in accordance with Section VI.A.1 of the Enforcement Policy

Inspection Report# : [2001004\(pdf\)](#)

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## Barrier Integrity

G**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: FIN Finding

**NO TESTING PROGRAM OR POSITIVE CONTROLS DURING MAINTENANCE FOR UNIT 1 DECAY HEAT VAULT PURGE VENTILATION ISOLATION DAMPERS TO ENSURE VAULTS WERE SEALED POSTACCIDENT**

The inspectors identified that the Unit 1 decay heat vault purge ventilation isolation dampers had no leak testing requirements or controls during maintenance to ensure the accident analysis assumption of no leakage from the vaults was met. Also, reactor building penetration leakage in the decay heat vaults was not evaluated as a contributor to postaccident dose consequences. This failure to monitor damper degradation through testing or have positive controls on damper position during maintenance could have resulted in increased postaccident dose consequences. When dose consequences were considered for unsealed decay heat vaults, a more than minimal increase in control room thyroid dose resulted but was still within general design criterion 19 limits. This finding is in the licensee's corrective action program as Condition Report ANO-1-2001-656. This issue was characterized as having a very low safety significance using the significance determination process. The finding only represented a potential degradation of the radiological barrier function provided for the auxiliary building.

Inspection Report# : [2001002\(pdf\)](#)G**Significance:** Jun 30, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO IMPLEMENT BORIC ACID CORROSION EVALUATION TRENDING PROGRAM**

The inspectors identified that a violation of 10 CFR Part 50, Appendix B, Criterion V, occurred in that the licensee failed to implement a program for trending boric acid corrosion evaluations as required by their procedure. The finding was determined to suggest a programmatic problem that had a credible potential to impact safety because any cumulative effects of repetitive boric acid leaks on reactor coolant system barrier integrity could be missed. This violation is being treated as a noncited violation and is in the licensee's corrective action program as CR ANO-C-2001-050. The finding was found to have very low safety significance using the significance determination process because the reactor coolant system barrier was not in a degraded condition.

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

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## Emergency Preparedness

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## Occupational Radiation Safety

G**Significance:** Sep 18, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**TRAINING PROCEDURE FOR THE USE OF SELF CONTAINED BREATHING APPARATUSES WAS INADEQUATE**

Green. The inspectors determined that the licensee's training procedure for the use of self contained breathing apparatuses was inadequate. The training did not address air bottle changeout. This could be risk significant if events caused emergency response workers, such as operations personnel, to be in an atmosphere that is immediately dangerous to life or health for an extended time. The failure to establish an adequate training procedure is a violation of 10 CFR 20.1703(c)(4)(ii), which requires the licensee to implement and maintain a respiratory protection program that includes written procedures regarding training of respirator users. This violation is being treated as a noncited violation in accordance with Section VI.A of the NRC Enforcement Policy and is in the licensee's corrective action program as Condition Report CR-ANO-C-2000-0207. This noncited violation was characterized as a green finding based on the use of the emergency preparedness significance determination process. It was determined to have a very low safety significance because it did not involve the failure to implement or meet an emergency preparedness planning standard and there had been no actual event.

Inspection Report# : [2000009\(pdf\)](#)G**Significance:** Sep 18, 2000

Identified By: NRC

Item Type: FIN Finding

**THE PROBLEM IDENTIFICATION AND RESOLUTION PROCESS DID NOT CORRECT THE SELF CONTAINED BREATHING APPARATUS TRAINING INADEQUACY**

Green. The problem identification and resolution process did not correct the self contained breathing apparatus training inadequacy. Despite discussions of similar problems in NRC Information Notice 98-20 and a quality assurance surveillance that alerted the licensee to a missing element in its training program, the licensee failed to correct the problem. This issue was characterized as a green finding because the significance of the related technical issue.

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

**Significance: N/A** May 31, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO DOCUMENT AND EVALUATE THE REASONS FOR INCREASING DOSE ESTIMATES**

On May 31, 2001, the inspectors identified three examples in which the licensee increased the person-rem exposure estimates on two radiation work permits without documenting the reasons why the additional exposure was necessary. The failure to document the reasons for the additional exposure is a violation of Technical Specification 6.8.1.(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 Condition Report ANO-C-2001-0297. The safety significance of this finding was determined to be more than minor because documenting the reasons for changing dose estimates was used, in part, to evaluate whether the task was being performed ALARA and to determine if additional ALARA controls were necessary. As a result, the failure to document the reasons for changing the person-rem estimates could cause additional unnecessary worker dose, resulting in a credible impact on safety. However, this issue did not affect the Occupational Radiation Safety cornerstone since there were no unplanned or unintended doses that resulted from actions contrary to Technical Specifications requirements.

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

**Significance: SL-IV** Mar 22, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**THE LICENSEE HAD NO PROCESS TO TRACK THE TOTAL EXPOSURE OF ANO RADIATION WORKERS WHO WERE ALSO LICENSED AS RADIOGRAPHERS.**

The licensee had no process to track the total exposure of ANO radiation workers who were also licensed as radiographers as required by 10 CFR 20.2104(a). This violation of 10 CFR 20.2104(a) 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 Condition Report CR-ANO-C-2001-0102. The significance of this noncited violation was determined to be more than minor because the failure to track the total exposure of radiation workers could lead to an overexposure credible impact on safety. However, this issue did not affect the cornerstone since there were no over exposures or substantial potential for an over exposures to occur and the ability to assess dose was not comprised.

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



**Significance:** Oct 04, 2000

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO POST A RADIATION AREA**

On February 28, 2000, the licensee identified that the Unit 1 Decay Heat Vault A was not posted as a radiation area for seven days. On February 21, 2000, the entire 317-foot elevation of Unit 1 was deposted from a radiation area when radiological conditions returned to normal (less than 4 millrems per hour) following cleanup of a unit shutdown crud burst. However, general radiation levels in the Decay Heat Vault A were as high as 50 millrems per hour. Operations and radiation protection personnel entered the Decay Heat Vault A on at least three occasions for routine operations during this time. 10 CFR 20.1003 defines a radiation area as an area, accessible to individuals in which radiation levels could result in an individual receiving a dose equivalent in excess of 5 millrems in 1 hour. 10 CFR 20.1902 requires the posting of radiation areas. The failure to post the above area as an radiation area was a violation of 10 CFR 20.1902. This violation is being treated as a noncited violation and is in the licensee's corrective action program as Condition Report 1-2000-01229. This issue was characterized as a "green" finding using the Occupational Radiation Safety Significance Determination Process. It was determined to have very low safety significance because there was no overexposure or substantial potential for an overexposure to occur and the ability to assess dose was not compromised.

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

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## Public Radiation Safety



**Significance:** Mar 31, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**FAILURE TO CONTROL RADIOACTIVE MATERIAL**

Technical Specification 6.8.1 requires written procedures be established, implemented, and maintained covering the activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Appendix A, Section 7 references procedures for control of radioactivity. Procedure 1012.020, Radioactive Material Control, Change 006-01-0, Section 6.10, states that any item or material, other than liquids or granular solids and not otherwise excepted, may be unconditionally released from radiological restrictions when it has been evaluated to have no accessible areas that may have become contaminated and has no detectable contamination greater than the minimum sensitivity of the combined survey method and instrument. Items with detectable radioactive contamination greater than the minimum sensitivity of the licensee's instruments were released from the controlled access area on February 12, March 18, and May 4, 1999, as described in the licensee corrective action program in Condition Reports 2-1999-0307, 2-1999-0344, and C-1999-0128. There were no more than 5 occurrences and a member of the public did not receive more than 5 millirems; therefore, this finding had very low significance.

Inspection Report# : [2000013\(pdf\)](#)

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**Physical Protection**

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**Miscellaneous**

**Significance:** N/A Mar 22, 2001

Identified By: NRC

Item Type: FIN Finding

**LICENSEE'S PROBLEM IDENTIFICATION AND RESOLUTION PROGRAM**

The licensee adequately identified problems and put them into the corrective action program. However, there was one instance in which the licensee did not recognize that the total exposure of ANO radiation workers who were also licensed as radiographers was not being recorded in accordance with regulatory requirements. The licensee adequately used risk in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementation of corrective actions. Licensee audits and assessments critically assessed the licensee's problem identification and resolution activity and identified needs for improvement in a number of areas including root cause evaluation, timely condition report initiation, and condition report backlogs. During inspection interviews, workers at the site expressed no reservations to input safety issues into the problem identification and resolution program. The licensee generally implemented corrective actions in a timely manner. The licensee implemented effective corrective actions to prevent recurrence of significant conditions adverse to quality.

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

Last modified : March 29, 2002