



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

February 14, 2007

Jeffrey S. Forbes, Vice President,
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SUBJECT: ARKANSAS NUCLEAR ONE - NRC INTEGRATED INSPECTION REPORT
05000313/2006005 AND 05000368/2006005

Dear Mr. Forbes:

On December 31, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Arkansas Nuclear One, Units 1 and 2, facility. The enclosed integrated report documents the inspection findings, which were discussed on January 17, 2007, and again on February 8, 2007, with you and other members of your staff.

The inspection examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

The report documents five self-revealing findings of very low safety significance (Green). Three of these findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as noncited violations consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest these noncited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at Arkansas Nuclear One, Units 1 and 2, facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be made available electronically for public inspection

Entergy Operations, Inc.

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in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Jeffrey A. Clark, Chief
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Dockets: 50-313
50-368
Licenses: DPR-51
NPF-6

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NRC Inspection Report 05000313/2006005 and 05000368/2006005
w/Attachment: Supplemental Information

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SUNSI Review Completed: JAC ADAMS: Yes No Initials: JAC
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R:\ REACTORS\ ANO\2006\AN2006-05RP-RWD.wpd

RIV:RI:DRP/E	RI:DRP/E	SRI:DRP/E	C:DRS/OB
CHYoung	JEJosey	RWDeese	ATGody
T-JAC	T-JAC	T-JAC	/RA/
2/5/2007	2/5/2007	2/5/2007	2/4/2007
C:DRS/PSB	C:DRS/EB1	C:DRS/EB2	C:DRP/E
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**U.S. NUCLEAR REGULATORY COMMISSION
REGION IV**

Dockets: 50-313, 50-368

Licenses: DPR-51, NPF-6

Report: 05000313/2006005 and 05000368/2006005

Licensee: Entergy Operations, Inc.

Facility: Arkansas Nuclear One, Units 1 and 2

Location: Junction of Hwy. 64W and Hwy. 333 South
Russellville, Arkansas

Dates: September 24 through December 31, 2006

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SUMMARY OF FINDINGS

IR 05000313/2006005, 05000368/2006005; 09/24/2006 - 12/31/2006; Arkansas Nuclear One, Units 1 and 2; Fire Protection, Operability Evaluations, Refueling and Outage Activities, Follow-up of Events and Notices of Enforcement Discretion.

This report covered a 3-month period of inspection by resident and regional specialist inspectors. Five Green findings, three of which were noncited violations were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management's review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. A self-revealing noncited violation of Unit 2 Technical Specification 6.4.1.c, Fire Protection Program Implementation, was identified for the failure of maintenance personnel to follow Procedure EN-DC-127, "Control of Hot Work and Ignition Sources," while performing hot work. Specifically, the licensee failed to ensure that combustible material within 35 feet of the work area was removed or protected. Consequently, torch cutting activities near the Unit 2 containment sump strainer caused a nearby plastic bag containing used protective clothing to ignite. This issue was entered into the licensee's corrective action program as Condition Reports ANO-2-2006-1565 and Condition Report ANO-2-2006-1701. A number of additional examples of hot work activities that involved inadequate implementation of applicable hot work control procedures were also identified.

The finding is greater than minor because it is associated with the protection against external factors attribute of the initiating events cornerstone, and it directly affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Additionally, if left uncorrected, the practice of conducting hot work in a manner that results in unintended combustion of nearby materials would become a more significant safety concern in that it could result in a fire in or near other risk important equipment. The finding is not suitable for evaluation with the significance determination process neither the fire protection significance determination process nor the shutdown operations significance determination process address shutdown fire protection findings. However, the finding is determined to be of very low safety significance by NRC management's review because the finding occurred while the unit was already in a cold shutdown condition, and the operability of equipment necessary to maintain safe

shutdown was not challenged. The cause of the finding is related to the crosscutting element of human performance associated with work practices because the fire watch failed to use error prevention techniques like self checking and peer checking which would have prevented the event (Section 1R05).

- Green. A self-revealing noncited violation of Unit 2 Technical Specification 6.4.1.a, "Procedures," was identified when an operator failed to close Valve 2DCH-11, resin sluice header drain valve, when securing from a resin transfer as required by procedure. One week later, while aligning the plant for alternate purification with Valve 2DCH-11 being out of position, an unanticipated loss of approximately 230 gallons of reactor coolant system inventory occurred. This issue was entered into the licensee's corrective action program as Condition Report ANO-2-2006-1464.

The finding was determined to be more than minor because it affected the configuration control attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using the shutdown operations significance determination process, the finding was determined to have very low safety significance because the finding did not result in a loss of 2 feet or more of reactor coolant system inventory and did not result in a loss of reactor coolant system inventory while in reduced inventory. The cause of the finding is related to the crosscutting element of human performance associated with work practices because the operator failed to use error prevention techniques like self checking and peer checking which would have prevented the event (Section 1R20).

- Green. A self-revealing finding was identified associated with the licensee's practice of using a hammer to remove the main hook pin on the Unit 2 polar crane. Specifically, the license failure to provide clear guidance and training resulted in station personnel cold working by the main hook and load cell pins and this practice resulted in both pins being deformed and not usable with reactor vessel level lowered to just below reactor vessel flange level. As a result, Unit 2 was exposed to an increased period of elevated likelihood of a loss of decay heat removal while the unit remained in a lowered vessel level condition for an additional unplanned 27 hours. This issue was entered into the licensee's corrective action program as Condition Report ANO-2-2006-1553.

The finding was determined to be more than minor because it affected the equipment performance attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. This finding was determined to be a finding of very low safety significance using the shutdown operations significance determination process because the event did not involve a loss of shutdown control or a reduction in mitigation capability which would have increased the frequency of occurrence of a loss of decay heat removal.

The cause of this finding is related to the crosscutting element of human performance associated with resources because the training of personnel and procedural guidance available was adequate (Section 1R20).

- Green. A self-revealing finding was identified when the Unit 1 main feedwater Pump A tripped, resulting in a plant run back to 40 percent reactor power. The trip occurred due to electromagnetic interference from an air conditioning unit recently installed on top of the main feedwater pump cabinet. This interference caused an overspeed trip signal on the digital speed monitor for the main feedwater pump turbine when no such actual condition occurred. This issue was entered into the licensee's corrective action program as Condition Report ANO-1-2006-1399.

The finding was determined to be more than minor because it affected the design control attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the initiating events cornerstone and did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. The finding had crosscutting aspects in the area of problem identification and resolution associated with operating experience because the licensee's failure to implement and institutionalize OE through changes to station processes and procedures (Section 4OA3).

Cornerstone: Mitigating Systems

- Green. A self-revealing noncited violation of ANO Unit 2 License Condition 2.C.(3)(b), "Fire Protection," was identified for failure of the licensee to maintain the lube oil collection system for Reactor Coolant Pumps C and D in an operable condition. Specifically, the licensee failed to perform a modification on the motor installed on Reactor Coolant Pump C which resulted in the oil collection tank and its associated overfill berm being filled with water from the component cooling water system. This issue was entered into the licensee's corrective action program as Condition Report ANO-2-2006-1407.

The finding was determined to be more than minor because it affected the protection against external factors attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the fire protection significance determination process, the finding is determined to have very low safety significance because the condition constituted a low degradation of a fire prevention and administrative controls feature (Section 1R15).

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent rated thermal power (RTP) and remained there until November 9, 2006, when a trip of the Main Feedwater Pump A occurred due to a malfunction associated with the electronic overspeed trip device. The trip resulted in an automatic runback to 40 percent RTP. Unit 1 returned to 100 percent RTP on November 10 and remained there for the remainder of the inspection period.

Unit 2 began the inspection period with the reactor shut down for Refueling Outage 2R18. Following the refueling outage, the Unit 2 reactor achieved criticality on October 27 and main generator output breakers were closed on October 28. Approximately 67 percent RTP was achieved on October 30 when the unit performed a Technical Specification (TS) required shutdown to hot standby in response to a fire in 480-volt Motor-Control Center 2B-53. Unit 2 was restarted, and main generator output breakers were closed on November 1. The unit achieved 100 percent RTP on November 3 and remained there for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness for Impending Adverse Weather Conditions

On November 30 the inspectors completed a review of the licensee's readiness for impending adverse weather involving icy weather. The inspectors: (1) reviewed plant procedures, the Updated Final Safety Analysis Reports (UFSAR), and TSs to ensure that operator actions defined in adverse weather procedures maintained the readiness of essential systems; (2) walked down portions of the below listed two systems to ensure that adverse weather protection features (heat tracing, space heaters, weatherized enclosures, temporary chillers) were sufficient to support operability, including the ability to perform safe shutdown functions; (3) reviewed maintenance records to determine that applicable surveillance requirements were current before the anticipated ice storm developed; and (4) reviewed plant modifications, procedure revisions, and operator work arounds to determine if recent facility changes challenged plant operation.

- November 30, 2006, Units 1 and 2, offsite electrical distribution systems

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

1R02 Evaluation of Changes, Tests, or Experiments (71111.02)

a. Inspection Scope

The inspectors reviewed the effectiveness of the licensee's implementation of changes to the facility structures, systems, and components (SSCs); risk-significant normal and emergency operating procedures; test programs; and the UFSAR in accordance with 10 CFR 50.59, "Changes, Tests, and Experiments." The inspectors reviewed the safety evaluations performed by the licensee dealing with the Unit 2 pressurizer replacement. The evaluations were reviewed to verify that licensee personnel had appropriately considered the conditions under which the licensee may make changes to the facility or procedures or conduct tests or experiments without prior NRC approval. Procedures, evaluations, screenings, and applicability determinations reviewed are listed in the attachment to this report.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

The inspectors: (1) walked down portions of the two below listed risk important systems and reviewed plant procedures and documents to verify that critical portions of the selected systems were correctly aligned, and (2) compared deficiencies identified during the walkdown to the licensee's UFSAR and corrective action program (CAP) to ensure problems were being identified and corrected.

- October 3, 2006, Unit 1, Emergency Diesel Generator (EDG) K-4A
- December 13, 2006, Unit 1, reactor building spray system Train A

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Inspection

The inspectors walked down the six below listed plant areas to assess the material condition of active and passive fire protection features and their operational lineup and readiness. The inspectors: (1) verified that transient combustibles and hot work activities were controlled in accordance with plant procedures; (2) observed the condition of fire detection devices to verify they remained functional; (3) observed fire

suppression systems to verify they remained functional and that access to manual actuators was unobstructed; (4) verified that fire extinguishers and hose stations were provided at their designated locations and that they were in a satisfactory condition; (5) verified that passive fire protection features (electrical raceway barriers, fire doors, fire dampers steel fire proofing, penetration seals, and oil collection systems) were in a satisfactory material condition; (6) verified that adequate compensatory measures were established for degraded or inoperable fire protection features and that the compensatory measures were commensurate with the significance of the deficiency; and (7) reviewed the UFSAR to determine if the licensee identified and corrected fire protection problems.

- September 25, 2006, Unit 2, Fire Zone 2032-K, containment building (south side)
- October 17, 2006, Unit 1, Fire Zone 98-J, EDG access corridor
- December 13, 2006, Unit 1, Fire Zones 4-EE, 12-EE, and 14-EE, Elevation 317 feet of the auxiliary building, west decay heat removal pump room
- December 26, 2006, Unit 2, Fire Zone 2040-JJ, access corridor; charging pump; radwaste and boron management system area
- December 27, 2006, Unit 1, Fire Zone 67-U, lab and demineralizer access area
- December 27, 2006, Unit 1, Fire Zone 79-U, upper north piping penetration room

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed six samples.

b. Findings

Introduction. A self-revealing, Green noncited violation of TS 6.4.1.c was identified for the licensee's failure to adequately implement their procedure for the control of hot work and ignition sources while performing hot work activities.

Description. On September 25, 2006, hot work activities were being performed on the Unit 2 containment sump strainer. A plastic bag was being utilized at a nearby step-off pad at the high contamination area boundary as a receptacle for used protective clothing. While torch cutting on the west containment sump strainer door was in progress, sparks from the activity caused the plastic bag to ignite. The inspectors identified the fire to the firewatch, who was in the vicinity. The bag was extinguished by smothering soon thereafter by the workers that were involved in the hot work activity.

Procedure EN-DC-127, "Control of Hot Work and Ignition Sources," Revision 2, requires that combustible material within 35 feet of the work area that could become ignited from the hot work shall be removed or protected. Procedure EN-DC-127, Attachment 9.1, "Hot Work Permit," was issued for this activity and showed that this requirement to be checked off by the hot work supervisor as being completed. The inspectors noted that the bag was within 35 feet of the work area and had not been removed.

Corrective actions that were taken by the licensee in response to this event to prevent recurrence included: moving the step-off pad farther away from the work area, clearing the area near the door of unnecessary equipment and materials, coaching the firewatch and his supervisor concerning the responsibility of the firewatch and how to deal with distractions, discussing alternatives to more effectively contain sparks from the cutting operation, discussing the event with craft personnel, and conducting more frequent area inspections.

A number of additional deficiencies were identified through a review of recent licensee performance in the conduct of related hot work activities. Section 4OA2 of this enclosure contains some details of other instances that occurred during the Unit 2 Refueling Outage 2R18. Also, three examples involving circumstances similar to the subject of this finding occurred during the prior refueling outages for each of the two units. On March 25, 2005, fallen welding slag caused the smoldering of debris below Containment Cooler D inside the Unit 2 containment building. On September 29 torch cutting resulted in falling hot metal and slag that caused combustible materials in the work area to catch on fire. On October 14 three small fires of trash bags containing combustible materials in the Unit 1 turbine building basement were caused by hot work activities that were being performed on the levels above. There was no firewatch posted on the basement level.

Each of these instances was entered into the licensee's CAP. These occurrences represent instances of inadequate implementation of applicable hot work control procedures. The inspectors concluded that the recent increase in the number of related findings when compared to past occurrences represented a trend which, if left uncorrected, could become a more significant safety concern in that it could result in a fire in or near risk important equipment.

Analysis. The performance deficiency associated with this finding involved the failure of maintenance personnel to adequately implement the licensee's procedure for control of hot work and ignition sources. The finding is greater than minor because it is associated with the protection against external factors attribute of the initiating events cornerstone, and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Additionally, if left uncorrected, the practice of conducting hot work in a manner that results in unintended combustion of nearby materials would become a more significant safety concern in that it could result in a fire in or near risk important equipment. Manual Chapter (MC) 0609, "Significance Determination Process," Appendix F, "Fire Protection Significance Determination Process," does not address the potential risk significance of shutdown fire protection findings. Additionally, MC 0609, Appendix G, "Shutdown Operations Significance Determination Process," does not address fire protection findings. Thus, the finding is not suitable for significance determination process evaluation, but has been reviewed by NRC management and is determined to be of very low safety significance because the finding occurred while the unit was already in a cold shutdown condition; and the operability of equipment necessary to maintain safe shutdown was not challenged. The cause of the finding is related to the crosscutting element of human performance in that maintenance personnel failed to follow procedures.

Enforcement. Unit 2 TS 6.4, "Procedures," requires that written procedures be established, implemented, and maintained covering fire protection program implementation. Procedure EN-DC-127, "Control of Hot Work and Ignition Sources," is one of those procedures and requires that combustible material within 35 feet of the work area that could become ignited from the hot work shall be removed or protected. Contrary to this, on September 25, 2006, maintenance personnel failed to remove or protect combustible material within 35 feet of the work area. Because the finding is of very low safety significance and has been entered into the licensee's CAP as Condition Reports (CRs) ANO-2-2006-1565 and CR ANO-2-2006-1701, this violation is being treated as an NCV consistent with Section VIA of the Enforcement Policy: NCV 05000368/2006005-01, "Fire During Hot Work Activities on the Containment Sump Strainer."

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors reviewed licensee programs, verified performance against industry standards, and reviewed critical operating parameters and maintenance records for the Unit 1 EDG A cooling water heat exchanger. The inspectors verified that: (1) performance tests were satisfactorily conducted for heat exchangers/heat sinks and reviewed for problems or errors; (2) the licensee utilized the periodic maintenance method outlined in EPRI NP-7552, "Heat Exchanger Performance Monitoring Guidelines"; (3) the licensee properly utilized befalling controls; (4) the licensee's heat exchanger inspections adequately assessed the state of cleanliness of their tubes; and (5) the heat exchanger was correctly categorized under the Maintenance Rule.

- September 5, 2006, Unit 1 EDG A cooling water heat exchanger

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection Activities (71111.08)

Inspection Procedure 71111.08 requires four samples size as identified in Sections 02.01, 02.02, 02.03, and 02.04.

a. Inspection Scope

.1 Performance of Nondestructive Examination (NDE) Activities Other than Steam Generator Tube Inspections, Pressurized Water Reactor (PWR) Vessel Upper Head Penetration Inspections, Boric Acid Corrosion Control

The inspection procedure requires the review of NDE activities consisting of two or three different types (i.e., volumetric, surface, or visual). The inspectors observed the performance of three ultrasonic examinations (volumetric) (one on a section of service water piping for wall thickness and two on field welds in the pressurizer spray line). The inspectors also reviewed the radiographic examinations (volumetric) of the two spray line welds. (The welds are identified in the attachment to this report.)

For each of the observed NDE activities, the inspectors verified that the examinations were performed in accordance with the specific site procedures and the applicable American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) requirements.

During review of each examination, the inspectors verified that appropriate NDE procedures were used, examinations and conditions were as specified in the procedure, and test instrumentation or equipment was properly calibrated and within the allowable calibration period. The inspectors also verified the NDE certifications of the personnel who performed the above volumetric examinations. Finally, the inspectors observed that indications identified during the radiographic examinations were dispositioned in accordance with the ASME Code-qualified NDE procedures used to perform the examinations.

The inspection procedure requires review of one or two examinations with recordable indications that were accepted for continued service to ensure that the disposition was made in accordance with the ASME Code. The inspectors were informed that no indications exceeding ASME Code allowables were known to be in service.

The inspection procedure further requires verification of one to three welds on Class 1 or 2 pressure boundary piping to ensure that the welding process and welding examinations were performed in accordance with the ASME Code. The inspectors observed welding performed on a safety injection system valve in the prefabrication shop. The inspectors verified that the welding was performed in accordance with Sections IX and XI of the ASME Code. This included review of welding material issue slips to establish that the appropriate welding materials had been used and verification that the welding procedure specification (WPS E-P8-T-A8,Ar, "Manual Gas Tungsten Arc Welding (GTAW) of P-No. 8 Stainless Steels," Revision 0) had been properly qualified.

The inspectors completed the one sample required by Section 02.01.

.2 Reactor Vessel Upper Head Penetration Inspection Activities

The inspection requirements for this section parallel the inspection requirement steps in Section 02.01. The inspectors observed the NDEs on nine reactor vessel upper head

penetrations. There were eight control element drive mechanism penetrations (Nos. 12, 21, 58, 59, 60, 61, 72, and 79) and one incore instrumentation penetration (No. 82).

The inspectors verified that the nondestructive activities were performed in accordance with the requirements of NRC Order EA-03-009. The NDEs performed during the NRC inspection did not reveal any defects or indications.

The inspectors completed the one sample required by Section 02.02.

.3 Boric Acid Corrosion Control Inspection Activities (PWRs)

The inspectors evaluated the implementation of the licensee's boric acid corrosion control program for monitoring degradation of those systems that could be deleteriously affected by boric acid corrosion. The inspection procedure requires review of a sample of boric acid corrosion control walkdown visual examination activities through either direct observation or record review. The inspectors reviewed the documentation associated with the licensee's boric acid corrosion control walkdown. Additionally, the inspectors performed independent observations of piping containing boric acid during walkdowns of the containment building and the auxiliary building.

The inspection procedure requires verification that visual inspections emphasize locations where boric acid leaks can cause degradation of safety significant components. The inspectors verified through direct observation and program/record review that the licensee's boric acid corrosion control inspection efforts are directed towards locations where boric acid leaks can cause degradation of safety-related components.

The inspection procedure requires both a review of one to three engineering evaluations performed for boric acid leaks found on reactor coolant system (RCS) piping and components and one to three corrective actions performed for identified boric acid leaks. The licensee had identified a boric acid leak on the containment spray header during an inspection for materials that could come loose and clog the sump screens during a loss-of-coolant accident or steam line rupture inside containment. The inspectors reviewed the licensee's analysis of the condition to evaluate the assessment of the condition and proposed corrective actions.

The inspectors completed the one sample required by Section 02.03.

.4 Steam Generator Tube Inspection Activities

There were no steam generator tube inspections performed during this outage. The inspectors reviewed Evaluation ER-2005-0469-001, "Operational Assessment of ANO-2 Steam Generator Tubing for Cycles 18-20," dated August 31, 2006. The evaluation concluded that no tube examinations were required to be performed during Cycles 18-20. The inspectors noted that the basis was the condition of the tubes from the previous inspections that were performed after the steam generators were replaced.

This sample was not completed because there was no activity to observe.

.5 Identification and Resolution of Problems

The inspection procedure requires review of a sample of problems associated with inservice inspections documented by the licensee in the CAP for appropriateness of the corrective actions. The inspectors reviewed three CRs, which dealt with inservice inspection and welding activities. From this review, the inspectors concluded that the licensee has an appropriate threshold for entering issues into the CAP and has procedures that direct a root cause evaluation when necessary. The licensee also had an effective program for applying industry operating experience.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program (71111.11)

a. Inspection Scope

On December 14, 2006, the inspectors observed testing and training of Unit 1 senior reactor operators and reactor operators to identify deficiencies and discrepancies in the training, to assess operator performance, and to assess the evaluator's critique. The training was a simulator training scenario.

Documents reviewed by the inspectors included:

- ANO Unit 1 Dynamic Exam Scenario SES-1-008, Revision 5

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed the two below listed maintenance activities to: (1) verify the appropriate handling of SSCs performance or condition problems; (2) verify the appropriate handling of degraded SSC functional performance; (3) evaluate the role of work practices and common cause problems; and (4) evaluate the handling of SSC issues reviewed under the requirements of the Maintenance Rule, 10 CFR Part 50, Appendix B, and TSs.

- November 28, 2006, Unit 1, turbine building ventilation
- December 5, 2006, Unit 2, 480-volt electrical distribution

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

.1 Risk Assessment and Management of Risk

a. Inspection Scope

Risk Assessment and Management of Risk

The inspectors reviewed the six below listed assessment activities to verify: (1) performance of risk assessments when required by 10 CFR 50.65 (a)(4) and licensee procedures prior to changes in plant configuration for maintenance activities and plant operations; (2) the accuracy, adequacy, and completeness of the information considered in the risk assessment; (3) that the licensee recognizes, and/or enters as applicable, the appropriate licensee-established risk category according to the risk assessment results and licensee procedures; and (4) that the licensee identified and corrected problems related to maintenance risk assessments.

- September 19 through October 27, 2006, Unit 2, pressurizer replacement
- September 19 through October 27, 2006, Unit 2, containment sump modification
- November 13-17, 2006, Unit 1, planned maintenance for the week
- November 27 through December 1, 2006, Unit 1, planned maintenance for the week
- December 4-8, 2006, Unit 2, planned maintenance for the week
- December 11-15, 2006, Unit 1, planned maintenance for the week

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed six samples.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors: (1) reviewed plants status documents, such as operator shift logs, emergent work documentation, deferred modifications, and standing orders, to determine if an operability evaluation was warranted for degraded components; (2) referred to the UFSAR and design basis documents to review the technical adequacy of licensee operability evaluations; (3) evaluated compensatory measures associated with operability evaluations; (4) determined degraded component impact on any TSs; (5) used the significance determination process to evaluate the risk significance of degraded or inoperable equipment; and (6) verified that the licensee has identified and implemented appropriate corrective actions associated with degraded components.

- September 22, 2006, Unit 2, reactor coolant pump (RCP) oil collection system
- October 3, 2006, Unit 2, Electrical Bus 2B-5
- October 28, 2006, Unit 2, containment spray header
- December 19, 2006, Unit 2, containment sump

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed four samples.

b. Findings

Introduction. A Green self-revealing noncited violation of the Unit 2 license condition for fire protection was identified for failure of the licensee to maintain the RCP oil collection system for RCPs C and D in an operable condition. Specifically, the licensee failed to perform a modification on the motor installed on RCP C, which resulted in the oil collection tank and its associated overflow berm filling up and overflowing with water from the component cooling water (CCW) system.

Description. On September 20, 2006, while the licensee was conducting a hot shutdown walkdown in containment during the start of Refueling Outage 2R18, the licensee discovered that the RCP oil collection system drain tank for RCPs C and D, (2T-110) and its associated overflow berm were filled and overflowing with water. The licensee determined that the drain tank and associated berm were inoperable because the licensee could not perform their intended function of providing a collection and holding point for possible oil leakage from RCPs C and D.

The licensee obtained a sample of the water and determined that it was from the CCW system. Based on this, the licensee then identified and performed inspections of all interface points of the CCW system with the RCP oil collection system. During this inspection, two leakage points were identified: the outlet flange of lube oil Cooler 2E-25D, and the interface of the threaded supply and return piping nipples for the lower bearing oil cooler on RCP C. The leakage from the lower bearing oil cooler was determined to be the source that was leaking into the oil collection system through the drip pans below the motor.

During their investigation to determine the cause of this failure, the licensee identified the cause of the leakage to be fatigue at the root diameter of the threaded schedule 40 pipe nipple. They also determined that this type of failure had previously occurred on the motor installed on RCP B in December of 1995. This failure was documented in CR ANO-2-1995-0555 and was also determined to be due to fatigue at the root diameter of the threaded schedule 40 pipe nipple. The licensee determined, during their review of the RCP B failure of December 1995, that Modification PEAR 9-0330, Revision 1, had been developed and implemented to replace the schedule 40 threaded pipe nipple on the RCPs with schedule 80 threaded pipe nipples. This modification was performed on the motors of all installed RCPs but not the Unit 2 spare motor. Completion of the modification on the spare RCP motor was to be accomplished during motor refurbishment; however, the modification was never performed. In 2005 during Refueling Outage 2R17, the spare RCP motor was installed as the RPC C motor without the modification.

In reviewing this issue, the inspectors noted that the licensee had trend data for the volume of oil in RCPs C and D which indicated that oil volume in RCPs C and D had gone down over the cycle. The inspectors determined through interviews that this oil was not contained in the oil collection system or the overflow berm as per design but had most likely overflowed the berm and gone to the containment sump via the floor drain system. During the operating cycle, the sump had been pumped to the auxiliary building for processing.

Analysis. The inspectors determined that the failure to maintain the oil collection system drain tank for RCPs C and D in an operable condition was a performance deficiency. The finding was determined to be more than minor because it affected the protection against external factors attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using MC 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is assumed to degrade fire protection defense-in-depth strategies involving barriers; therefore, the significance of the finding is determined by using Appendix F, "Fire Protection Significance Determination Process," of MC 0609. Using the Phase 1 Worksheet of Appendix F, the inspectors assumed the condition represented a low degradation of the fire prevention and administrative controls category since the oil collection would have kept oil from contacting hot surfaces in the containment building. Additionally, the inspectors assumed that no intervening combustibles were present between the overflow path and adjacent fire areas and that the containment sump, to which the floor drains installed in the area of the berm transported any oil that overflowed, lacked a significant ignition source.

Enforcement. ANO Unit 2 License Condition 2.C.(3)(b), "Fire Protection," states, in part, that the licensee shall implement and maintain all provisions of the approved fire protection program. "ANO Unit 1 and Unit 2 - Fire Hazards Analysis," Revision 9, is part of the ANO Unit 2 fire protection program. Section 6.4.5, "Fire Barriers, Seals, and Penetrations," of the Fire Hazards Analysis states, in part, that the fire barrier system at ANO has been designed to ensure that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. Contrary to this, the filling to overflow of the oil collection system tank and overflow berm with water from the CCW system

during Operating Cycle 18 prevented a potential RCP oil fire in the containment basement from being confined per the fire protection program. Because the finding is of very low safety significance and has been entered into the licensee's CAP as CR ANO-2-2006-1407, this violation is being treated as an NCV consistent with Section VIA of the Enforcement Policy: NCV 05000368/2006005-02, "Failure to Perform Modification Resulted in an Inoperable RCP Oil Collection System."

1R17 Permanent Plant Modifications (71111.17)

.1 Annual Review

The inspectors reviewed key affected parameters associated with energy needs, materials/replacement components, timing, heat removal, control signals, equipment protection from hazards, operations, flowpaths, pressure boundary, ventilation boundary, structural, process medium properties, licensing basis, and failure modes for the modification listed below. The inspectors verified that: (1) modification preparation, staging, and implementation does not impair emergency/abnormal operating procedure actions, key safety functions, or operator response to loss of key safety functions; (2) postmodification testing maintained the plant in a safe configuration during testing by verifying that unintended system interactions will not occur, SSC performance characteristics still meet the design basis, the appropriateness of modification design assumptions, and the modification test acceptance criteria has been met; and (3) the licensee has identified and implemented appropriate corrective actions associated with permanent plant modifications.

- September 19 through October 26, 2006, Unit 2, pressurizer replacement

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors selected the six below listed postmaintenance test activities of risk significant systems or components. For each item, the inspectors: (1) reviewed the applicable licensing basis and/or design-basis documents to determine the safety functions; (2) evaluated the safety functions that may have been affected by the maintenance activity; and (3) reviewed the test procedure to ensure it adequately tested the safety function that may have been affected. The inspectors either witnessed or reviewed test data to verify that acceptance criteria were met, plant impacts were evaluated, test equipment was calibrated, procedures were followed, jumpers were properly controlled, the test data results were complete and accurate, the test equipment was removed, the system was properly realigned, and deficiencies during testing were documented. The inspectors also reviewed the UFSAR to determine if the licensee identified and corrected problems related to postmaintenance testing.

- October 17, 2006, Unit 1, Emergency Feedwater Pump P-7A
- October 22, 2006, Unit 2, pressurizer heater capacity
- October 24, 2006, Unit 2, replacement pressurizer relief valve monitor test

- October 25, 2006, Unit 2, containment spray header repairs
- October 27, 2006, Unit 2, replacement pressurizer leakage
- November 1, 2006, Unit 2, containment building personnel hatch leakage rate testing

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed six samples.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20)

1. Unit 2 Forced Outage Caused by Fire in Motor Control Center 2B-53

a. Inspection Scope

The inspectors reviewed the following risk significant outage activities to verify defense in depth commensurate with the outage risk control plan and compliance with the TSs: (1) the risk control plan, (2) tagging/clearance activities, (3) heatup and cooldown activities, and (4) restart activities.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

2. Refueling and Pressurizer Replacement Outage 2R18

a. Inspection Scope

The inspectors reviewed the following risk significant refueling items or outage activities to verify defense in depth commensurate with the outage risk control plan, compliance with the TSs, and adherence to commitments in response to Generic Letter 88-17, "Loss of Decay Heat Removal": (1) the risk control plan, (2) tagging/clearance activities, (3) RCS instrumentation, (4) electrical power, (5) decay heat removal, (6) spent fuel pool cooling, (7) inventory control, (8) reactivity control, (9) containment closure, (10) reduced inventory conditions, (11) refueling activities, (12) heatup and cooldown activities, (13) restart activities, and (14) licensee identification and implementation of appropriate corrective actions associated with refueling and outage activities. The inspectors' containment inspections included observation of the containment sump for damage and debris, supports, braces, and snubbers for evidence of excessive stress, water hammer, or aging.

The inspectors completed one sample.

b. Findings

.1 Inadvertent RCS Draining While in Mode 5

Introduction. A Green self-revealing noncited violation of the licensee's TS requirement for procedures was identified when an operator failed to close a resin sluice header drain valve as required by procedure. Later, while operators were aligning the unit for alternate reactor coolant purification, a loss of approximately 230 gallons of RCS inventory occurred.

Description. On September 14, 2006, operations personnel performed Procedure OP-2104.019, "Clean Resin Transfer," to add clean resin to Purification Ion Exchanger 2T-36B. During this procedure, Valve 2DCH-11 was opened as part of the system lineup. Subsequently, when the evolution was completed and the plant lineup was being restored, station personnel failed to properly perform Step 22.2 of the procedure leaving Valve 2DCH-11 in the open position.

Subsequently, on September 21, 2006, with Unit 2 in Mode 5, the licensee was in the process of aligning alternate purification in accordance with Procedure OP-2104.004, "Shutdown Cooling System," Attachment J, "Alternate Purification." When Step 2.11 of this procedure was performed, the control room operators noted that pressurizer level began to lower. The evolution was stopped and the lineup was secured. At this point, pressurizer level stopped lowering. Station personnel performed a system walkdown and discovered that Valve 2DCH-11 was in the open position. Operations personnel determined that approximately 230 gallons were drained from the RCS through the open valve.

During their review, the inspectors noted that Procedure OP-2104.004, Attachment J, directed personnel to prepare a caution tag for components to prevent the loss of RCS inventory. However, the procedure contained a note that preceded Step 1.11 which directed the caution tag be hung on the room door instead of Valve 2DCH-11 and two other valves. This tag stated that, since the valves were normally closed, any misalignment would be detected by system abnormalities. The inspectors determined that this note contributed to Valve 2DCH-11 not being discovered out of position prior to initiating alternate purification since the licensee did not perform a valve lineup verification.

Analysis. The failure of station personnel to manipulate Valve 2DCH-11 in accordance with station procedure was determined to be a performance deficiency. The finding was determined to be more than minor because it affected the configuration control attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors used MC 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process," and assumed that the administrative controls implemented to avoid operations that could lead to perturbations in RCS level control attribute was affected. The finding was determined to have very low safety significance because the finding did not result in a loss of 2 feet or

more of RCS inventory and did not result in a loss of RCS inventory while the unit was in reduced inventory. The cause of the finding is related to the crosscutting aspect of human performance associated with work practices because the operator failed to use error prevention techniques like self checking and peer checking which would have prevented the event.

Enforcement. Unit 2 TS, Section 6.4.1.a, "Procedures," requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Procedure OP-2104.019, "Clean Resin Transfer," is a procedure required by Regulatory Guide 1.33. Contrary to the above, on September 14, 2006, the licensee failed to fully implement Procedure OP-2104.019, "Clean Resin Transfer," when the licensee failed to close Valve 2DCH-11. Because this finding is of very low safety significance and has been entered into the CAP as CR ANO-2-2006-1464, this violation is being treated as an NCV, consistent with Section VIA of the NRC Enforcement Policy: NCV 05000368/2006005-03, "Inadvertent RCS Draining While in Mode 5."

.2 Unplanned Increase in Time with Reactor Vessel Water Level at Flange Level

Introduction. A Green self-revealing finding was identified associated with the licensee's use of a hammer to remove and reinstall both the main hook pin and the load cell pin on the Unit 2 polar crane. Unit 2 was maintained in a condition with reactor vessel water level being maintained just below the reactor vessel flange for an additional unplanned 27 hours when the pins could not be used due to deformation by the hammer.

Description. On September 24, 2006, station personnel were preparing the Unit 2 polar crane for the reactor vessel closure head removal. This involved removing the normally installed main hook, installing a load cell, and then reinstalling the main hook. During performance of Procedure OP-2504.005, "Reactor Vessel Closure Head Removal," Revision 12, Step 7.22, licensee personnel were unable to easily remove the polar crane main hook pin. After the pin was removed, it was examined by the licensee and discovered to be mushroomed at one end. When the licensee inspected the pin used to secure the load cell into place, it was discovered to be in the same condition. The licensee determined this condition to be caused by the practice of using a hammer, as necessary, to both remove and install the pins during previous refueling outages.

The inspectors noted that the licensee did not have a formal procedure that controlled the removal and installation of the pins, and that station personnel were controlling this evolution as a skill-of-the-craft process. A review of the applicable procedures by the inspectors revealed that Procedure OP-2504.005, Step 7.22, "Reactor Vessel Closure Head Removal," simply states, "Verify that the load cell is attached to the polar crane." The inspectors also determined that the use of hammers was a common practice being used to remove and reinstall the pins on the polar crane, and there was no existing evaluation for the effects of this on the integrity of the pins. The inspectors determined that the lack of adequate procedural direction and the practice of hammering the pins in and out directly contributed to the deformation of the pins. Finally, the inspectors were informed by licensee personnel that the practice of using hammers to remove the pins

was not part of the formal training received by maintenance personnel; however, in at least one instance, a discussion between instructors and maintenance personnel outside the formal lesson plan had occurred describing the practice of using hammers as being acceptable.

Analysis. The inspectors determined that the licensee's failure to provide clear guidance and training on how to remove the main hook and load cell pins without causing damage was a performance deficiency. The finding was determined to be more than minor because it affected the equipment performance attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the finding using MC 0609, "Significance Determination Process," Appendix G, "Shutdown Operations Significance Determination Process." The inspectors determined that the finding was not a loss of shutdown control as defined by MC 0609, Appendix G, Table 1, and then evaluated the issue using Checklist 3 of MC 0609, Appendix G, Attachment 1. The inspectors determined that a quantitative analysis was not required because the event did not represent a reduction in mitigation capability which would have increased the frequency of occurrence of a loss of decay heat removal. Therefore, the finding was determined to have very low safety significance. The cause of the finding is related to the crosscutting element of human performance associated with resources because the training of personnel and procedural guidance available was adequate.

Enforcement. While a performance deficiency was identified, there were no violations of NRC requirements identified during the review of this issue. The licensee has entered this issue into the CAP as CR ANO-2-2006-1553: Finding (FIN) 05000368/2006005-04, "Unplanned Increase in Time with Reactor Vessel Water Level at Flange Level."

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the UFSAR, procedure requirements, and TSs to ensure that the four below listed surveillance activities demonstrated that the SSCs tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the following significant surveillance test attributes were adequate: (1) preconditioning; (2) evaluation of testing impact on the plant; (3) acceptance criteria; (4) test equipment; (5) procedures; (6) jumper/lifted lead controls; (7) test data; (8) testing frequency and method demonstrated TS operability; (9) test equipment removal; (10) restoration of plant systems; (11) fulfillment of ASME Code requirements; (12) updating of performance indicator (PI) data; (13) engineering evaluations, root causes, and bases for returning tested SSCs not meeting the test acceptance criteria were correct; (14) reference setting data; and (15) annunciators and alarms setpoints. The inspectors also verified that the licensee identified and implemented any needed corrective actions associated with the surveillance testing.

- August 4, 2006, Unit 1, makeup system Valve MU-36A local leak rate test
- October 5, 2006, Unit 2, main steam safety valve lifts (inservice test)
- October 15, 2006, Unit 2, Valve 2SV-8271-2 local leak rate test

- October 23, 2006, Unit 2, Containment Cooler A

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed four samples.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspector performed an in-office review of Revision 037-05-0 to Emergency Plan Implementing Procedure OP-1903.010, "Emergency Action Level Classification." The revision was submitted in October 2006. The revision corrected emergency plan guidance for transient event classification and notification practices at Arkansas Nuclear One and was a corrective action for the NCV 05000313,368/2006003-02, "Failure to Meet Immediate Notification Requirements during Transient Events."

The revision was compared to the previous revision, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1; and NEI 99-01, "Methodology for Development of Emergency Action Levels," Revision 2; and to the standards in 10 CFR 50.47(b) to determine if the revision was adequately conducted following the requirements of 10 CFR 50.54(q). This review was not documented in a safety evaluation report and did not constitute approval of licensee changes, therefore, the revision is subject to future inspection.

The inspector completed one sample during the inspection.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

For the one below listed simulator-based training evolutions contributing to drill/exercise performance, emergency response organization, and PIs, the inspectors: (1) observed the training evolution to identify any weaknesses and deficiencies in classification, notification, and protective action requirements (PAR) development activities; (2) compared the identified weaknesses and deficiencies against licensee identified

findings to determine whether the licensee is properly identifying failures; and (3) determined whether licensee performance is in accordance with the guidance of the NEI 99-02, "Voluntary Submission of Performance Indicator Data," acceptance criteria.

- December 7, 2006, Unit 2, simulator-based exercise requiring notice of unusual event and alert declarations

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control To Radiologically Significant Areas (71121.01)

a. Inspection Scope

This area was inspected to assess the licensee's performance in implementing physical and administrative controls for airborne radioactivity areas, radiation areas, high radiation areas, and worker adherence to these controls. The inspectors used the requirements in 10 CFR Part 20, the TSs, and the licensee's procedures required by TSs as criteria for determining compliance. During the inspection, the inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspectors performed independent radiation dose rate measurements and reviewed the following items:

- PI events and associated documentation packages reported by the licensee in the occupational radiation safety cornerstone
- Controls (surveys, posting, and barricades) of radiation, high radiation, or airborne radioactivity areas
- Radiation work permits, procedures, engineering controls, and air sampler locations
- Conformity of electronic personal dosimeter alarm set points with survey indications and plant policy; workers' knowledge of required actions when their electronic personnel dosimeter noticeably malfunctions or alarms
- Barrier integrity and performance of engineering controls in airborne radioactivity areas
- Adequacy of the licensee's internal dose assessment for any actual internal exposure greater than 50 millirem committed effective dose equivalent

- Physical and programmatic controls for highly activated or contaminated materials (nonfuel) stored within spent fuel and other storage pools
- Self-assessments related to the access control program since the last inspection; there were no audits, licensee event reports, and special reports documented.
- Corrective action documents related to access controls
- Licensee actions in cases of repetitive deficiencies or significant individual deficiencies
- Radiation work permit briefings and worker instructions
- Adequacy of radiological controls such as, required surveys, radiation protection job coverage, and contamination controls during job performance
- Dosimetry placement in high radiation work areas with significant dose rate gradients
- Changes in licensee procedural controls of high dose rate - high radiation areas and very high radiation areas
- Controls for special areas that have the potential to become very high radiation areas during certain plant operations
- Posting and locking of entrances to all accessible high dose rate - high radiation areas and very high radiation areas
- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements

The inspectors completed 21 of the required 21 samples.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 PI Verification (71151)

.1 Occupational Radiation Safety Cornerstone

a. Inspection Scope

The inspectors reviewed licensee documents from April through September 2006. The review included corrective action documentation that identified occurrences in locked high radiation areas (as defined in the licensee's TSs, very high radiation areas (as defined in 10 CFR 20.1003), and unplanned personnel exposures (as defined in NEI 99-02). Additional records reviewed included as low as reasonably achievable records and whole body counts of selected individual exposures. The inspectors interviewed licensee

personnel that were accountable for collecting and evaluating the PI data. In addition, the inspector toured plant areas to verify that high radiation, locked high radiation, and very high radiation areas were properly controlled. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 4, were used to verify the basis in reporting for each data element.

- Occupational Exposure Control Effectiveness

The inspectors completed the required sample (1) in this cornerstone

b. Findings

No findings of significance were identified.

.2 Public Radiation Safety Cornerstone

a. Inspection Scope

The inspectors reviewed licensee documents from April through September 2006. Licensee records reviewed included corrective action documentation that identified occurrences for liquid or gaseous effluent releases that exceeded PI thresholds and those reported to the NRC. The inspectors interviewed licensee personnel that were accountable for collecting and evaluating the PI data. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 4, were used to verify the basis in reporting for each data element.

- Radiological Effluent TS/Offsite Dose Calculation Manual Radiological Effluent Occurrences

The inspectors completed the required sample (1) in this cornerstone

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

The inspectors performed a daily screening of items entered into the licensee's CAP. This assessment was accomplished by reviewing CRs and attending corrective action review and work control meetings. The inspectors: (1) verified that equipment, human performance, and program issues were being identified by the licensee at an appropriate threshold and that the issues were entered into the CAP; (2) verified that corrective actions were commensurate with the significance of the issue; and (3) identified conditions that might warrant additional follow-up through other baseline inspection procedures.

.2 Selected Issue Follow-up Inspection

In addition to the routine review, the inspectors selected the two below listed issues for a more in-depth review. The inspectors considered the following during the review of the licensee's actions: (1) complete and accurate identification of the problem in a timely

manner; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause, and previous occurrences; (4) classification and prioritization of the resolution of the problem; (5) identification of root and contributing causes of the problem; (6) identification of corrective actions; and (7) completion of corrective actions in a timely manner.

- September 20, 2006, Unit 2, repeat occurrence of containment purge isolation
- October 30, 2006, Unit 2, repeat occurrence of improper electrical connections in motor-control centers

When evaluating the effectiveness of the licensee's corrective actions for these issues, the following attributes were considered:

- Complete and accurate identification of the problem in a timely manner commensurate with its significance and ease of discovery
- Evaluation and disposition of operability and reportability issues
- Consideration of extent of condition, generic implications, common cause, and previous occurrences
- Classification and prioritization of the resolution of the problem commensurate with its safety significance
- Identification of root and contributing causes of the problem for significant conditions adverse to quality
- Identification of corrective actions which are appropriately focused to correct the problem
- Completion of corrective actions in a timely manner commensurate with the safety significance of the issue

Documents reviewed by the inspectors are listed in the attachment

.3 Semiannual Trend Review

a. Inspection Scope

The inspectors completed a semi-annual trend review of repetitive or closely related issues that were documented in corrective action documents to identify trends that might indicate the existence of more safety-significant issues. The inspectors' review consisted of the 6-month period of June 24 through December 31, 2006. When warranted, some of the samples expanded beyond those dates to fully assess the issue. The inspectors also reviewed CAP items associated with deficiencies in the conduct of activities involving hot work. The inspectors compared and contrasted their results with the results contained in the licensee's quarterly trend reports. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy. Documents reviewed by the inspectors are listed in the attachment.

b. Findings

During the Unit 2 pressurizer replacement Refueling Outage 2R18 from September 19 through October 28, 2006, several deficiencies were noted involving the conduct of hot work. Licensee Procedure EN-DC-127, "Control of Hot Work and Ignition Sources," contains the governing guidelines for the conduct of hot work, including "Hot Work Permit," Attachment 8.1, which serves to document that the applicable requirements for each activity involving hot work are met. Examples of instances resulting from failures to adequately implement the control of hot work procedure included:

- On September 24, 2006, welding activities being conducted on the Unit 2 main condenser manway cover resulted in paint/crud smoldering that was extinguished with a portable fire extinguisher.
- On September 25, 2006, sparks from torch cutting of the Unit 2 containment sump strainer ignited a nearby plastic bag containing used anti-contamination clothing.
- On September 26, 2006, a substantial amount of slag from the containment sump strainer torch cutting flowed down onto a fire blanket that was protecting the floor and caused the fire blanket to ignite.
- On September 27, 2006, slag from the containment sump strainer torch cutting flowed down through a fire blanket and landed on Valve 2BS-38 in the containment sump. The slag came in contact with debris buildup on the valve locking chain and began to smoke and smolder. A portable fire extinguisher was discharged to extinguish the smoldering.
- On September 28, 2006, the firewatch posted for the containment sump strainer hot work could not get to his designated fire extinguisher. The firewatch had moved to the east side of the sump and the extinguisher remained on the west side of the sump.
- On October 5, 2006, a small fire in the Unit 2 containment building basement below the pressurizer was extinguished by the assigned firewatch using a portable extinguisher.
- On October 16, 2006, welding and grinding activities above the replacement pressurizer were being performed without proper protection to prevent sparks from traveling down the cavity below.

The licensee entered each of these occurrences into their CAP.

.4 Access Control to Radiologically Significant Areas

Section 2OS1 evaluated the effectiveness of the licensee's problem identification and resolution processes regarding access controls to radiologically significant areas and radiation worker practices. The inspectors reviewed corrective action documents for root cause/apparent cause analysis against the licensee's problem identification and resolution process. No findings of significance were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

a. Inspection Scope

The inspectors: (1) reviewed operator logs, plant computer data, and/or strip charts for the below listed evolutions to evaluate operator performance in coping with nonroutine events and transients; (2) verified that operator actions were in accordance with the response required by plant procedures and training; and (3) verified that the licensee has identified and implemented appropriate corrective actions associated with personnel performance problems that occurred during the nonroutine evolutions sampled.

- October 26, 2006, Unit 1, fish intrusion into the circulating water system
- October 30, 2006, Unit 2, fire in Motor-Control Center 2B-53
- November 9, 2006, Unit 1, unplanned loss of Main Feedwater Pump P-2A

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed three samples.

b. Findings

Introduction. A Green self-revealing finding was identified when the licensee replaced an air conditioning unit for the Unit 1 Main Feedwater Pump (MFP) A control cabinet without considering the effects of electromagnetic interference (EMI) on the digital speed monitor (DSM) housed in the cabinet. Consequently, MFP A tripped, resulting in an unplanned automatic plant power reduction from 100 percent to 40 percent RTP.

Description. In September 2006 the air conditioning unit for the Unit 1 MFP A cabinet failed. During the procurement phase of replacement efforts, the station discovered that the current air conditioning unit was no longer available because it had become obsolete. The licensee contacted the cabinet manufacturer who recommended to the licensee a replacement unit. On October 12 the licensee replaced the air conditioning unit with the recommended replacement after evaluating it as being an equivalent unit in accordance with Procedure EN-DC-313, "Procurement Engineering Process," Revision 0.

Subsequently, on November 9, 2006, while Unit 1 was operating at 100 percent RTP MFP A tripped, which caused the integrated control system to initiate and perform an unplanned automatic power reduction to 40 percent RTP. Operators surveyed the indications and concluded that the cause of the MFP trip was an overspeed condition; however, at the time of the trip, there were no indications that the MFP had actually experienced an overspeed.

After extensive troubleshooting, the licensee suspected that EMI from the air conditioning unit was the cause of the faults. The licensee performed a review of the new air conditioning unit and identified that the bottom section of the new unit was molded plastic and not metal like the previous unit. They also discovered the configuration of this new unit placed the blower fan directly above, and in closer proximity to, the DSM than did that of the previous air conditioning unit. The licensee decided to remove power to the air conditioning unit to verify that it was the initiator of the faults in the DSM. With power to the air conditioning unit removed, the faults and trips did not recur.

The inspectors reviewed the licensee's root cause evaluation of this event, documented in CR ANO-1-2006-1399, which determined the root cause to be that the procurement engineering equivalency guidelines did not consider EMI as a potential failure mode. During this review, the inspectors noted that the licensee had not questioned or investigated any of the differences between the old and the new air conditioning units. Instead, the licensee had relied on the manufacturer's designation that the new unit was an equivalent replacement for the old unit.

Also, during their review of the root cause analysis, the inspectors noted that there had been previous experiences with the MFP A control system involving EMI, as well as a substantial amount of industry operating experience concerning the topic of EMI and digital components. During interviews with station personnel, the inspectors also determined that station engineers received specific training on EMI related to digital components.

Analysis. The inspectors determined that the failure of the licensee to adequately evaluate the new air conditioning unit with respect to design differences and possible EMI interactions was a performance deficiency. The finding was determined to be more than minor because it affected the design control attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using the MC 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the condition only affected the initiating events cornerstone and did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. The cause of the finding is related to the crosscutting element of problem identification and resolution associated with operating experience because the licensee's failure to implement and institutionalize OE through changes to station processes and procedures.

Enforcement. While a performance deficiency was identified with regard to the trip of the MFP A, there were no violations identified during the review of this issue. The licensee has entered this issue into the CAP as CR ANO-1-2006-1399: FIN 05000313/2006005-5, "Trip of a MFP Due to Inadequate Design Control."

4OA5 Other Activities

.1 (Closed) Temporary Instruction (TI) 2515/169, Mitigating Systems Performance Index (MSPI) Verification

a. Inspection Scope

During this inspection period, the inspectors completed a review of the licensee's implementation of the MSPI in accordance with the guidance provided in TI 2515/169. The review examined the licensee's MSPI Basis Documents (ANO1-A-6-0001, Revision 1, and ANO2-SA-06-00001, Revision 0) and verified the established system boundaries and monitored components were consistent with guidance provided in NEI 99-02, "Reactor Oversight Process Performance Indicators," Revision 4. The inspectors verified that the licensee did not include credit for unavailability hours for "short term unavailability" or "operator recovery actions to restore the risk-significant function" as is allowed by NEI 99-02.

Additionally, the inspectors reviewed the baseline MSPI unavailability time using plant specific values for the period of 2002 through 2004. The verification included all planned and unplanned unavailability. For Unit 1, the inspectors reviewed the baseline MSPI unreliability data using plant specific values for the period of 2002 through 2004. Unit 2 derived its baseline unreliability on industry standard values, as is permitted by NEI 99-02. The plant specific data for 2005 through 2006 were also reviewed to ensure the licensee properly accounted for the actual unavailability hours of MSPI systems. For the same period, the MSPI component unreliability data was examined to ensure the licensee identified all failures of monitored components. The accuracy and completeness of the reported unavailability and unreliability data was verified by reviewing operating logs, CRs, and work order documents. The unavailability and unreliability data was compared with PI data submitted to the NRC to ensure that any discrepancies would not result in a change to the index color.

b. Findings

No findings of significance were identified. This completes the inspection requirements for this TI.

.2 Institute of Nuclear Power Operations Plant Assessment Report Review

a. Inspection Scope

The inspectors reviewed the final report for the Institute of Nuclear Power Operations plant assessment of Arkansas Nuclear One, Units 1 and 2, conducted in July and August 2006. The inspectors reviewed the report to ensure that issues identified were consistent with the NRC perspectives of licensee performance and to verify if any significant safety issues were identified that required further NRC followup.

b. Findings

No findings of significance were identified.

.3 (Closed) Unresolved Item (URI) 05000313/2006003-01, Failure to Retrieve Required Records of Activities Affecting Quality

In response to inspectors questioning the seismic capability of the Tendon Surveillance Cranes L-28 on Unit 1, the licensee could not locate the appropriate documentation. The licensee evaluated the as found conditions of the cranes against the uniformed building code. The licensee concluded that the cranes would be able to withstand the design basis earthquake without affecting mitigating equipment. These evaluations were reviewed by the inspectors. No findings of significance were identified, and no violations of NRC requirements were identified. The licensee documented the evaluations demonstrating the seismic qualification in CR ANO-1-2005-3109. This unresolved item (URI) is closed.

.4 NRC TI 2515/166, PWR Containment Sump Blockage

The inspectors reviewed ANO's Unit 2 implementation of plant modifications and procedure changes committed to in their response to Generic Letter 2004-02, "Potential Impact of Debris on Emergency Recirculation During Design Basis Accidents at Pressurized Water Reactors."

The inspectors observed installation of the containment recirculation sump strainers, debris barriers, and interceptors. In addition, the inspectors verified that ANO Unit 2 has implemented specific procedure changes to control tags, labels, tape, and other objects inside the containment building.

At the time of the inspection, industry testing for chemical effects on containment recirculation sumps was not complete. Since the testing was not complete, ANO Unit 2 evaluated the new recirculation sump modifications to the original design basis, Regulatory Guide 1.82, "Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident," Revision 0. Final review and acceptance of the modification will be performed by the Office of Nuclear Reactor Regulation at a later date.

4OA6 Meetings, Including Exit

On October 6, 2006, the inspectors presented the access controls inspection results to Mr. T. Mitchell, General Manager and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

The engineering inspectors presented the results of the inservice inspection review to Mr. J. Kowalewski, Director, Engineering, on October 10, 2006. Mr. Kowalewski acknowledged the inspection findings. The engineering inspector conducted a followup exit with Mr. T. Mitchell, General Manager, Plant Operations, on December 4, 2006, to provide updated information on the documentation associated with the review of the containment sump modification. The inspectors identified that they had not reviewed proprietary information.

On November 1, 2006, the inspector presented the results of the emergency plan change inspection to Mr. R. Holeyfield, Supervisor, Emergency Preparedness. The inspector confirmed that proprietary information was not provided or examined during the inspection.

The resident inspectors presented the inspection results of the resident inspections to Mr. J. Forbes, Vice President, Operations, and other members of the licensee's management staff on January 17, 2007. The resident inspectors conducted a followup exit with Mr. J. Forbes, Vice President, Operations, on February 8, 2007. The licensee acknowledged the findings presented. The inspectors noted that while proprietary information was reviewed, none would be included in this report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Barnes, Manager, Planning, Scheduling, and Outages
S. Bennett, Project Manager, Licensing
B. Berryman, Manager, Operations Unit 1
J. Browning, Manager, Operations Unit 2
S. Cotton, Manager, Training
B. Daiber, Supervisor, Systems Engineering
J. Eichenberger, Manager, Corrective Actions and Assessments
J. Forbes, Vice President, Operations
R. Fowler, Emergency Planner
R. Freeman, Emergency Planner
J. Giles, Manager, Technical Support
M. Ginsberg, Supervisor, Engineering Programs and Components
R. Gresham, Emergency Planner
D. Harris, Emergency Planner
A. Hawkins, Licensing Specialist
J. Hoffpauir, Manager, Maintenance
R. Holeyfield, Manager, Emergency Planning
M. Huff, Supervisor, Project Engineering
D. James, Manager, Licensing
W. James, Manager, Engineering Projects
J. Kowalewski, Director, Engineering
T. Marlow, Director, Nuclear Safety Assurance
J. Miller, Jr., Manager, System Engineering
T. Mitchell, General Manager, Plant Operations
D. Moore, Manager, Radiation Protection
K. Panther, Nondestructive Examination Site Level III
C. Reasoner, Manager, Engineering Programs and Components
C. Tyrone, Manager, Quality Assurance
F. Van Buskirk, Licensing Specialist
D. White, Emergency Planner
P. Williams, Supervisor, Systems Engineering
M. Woodby, Manager, Design Engineering

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000368/2006005-01	NCV	Fire During Hot Work Activities on the Containment Sump Strainer (Section 1R05)
05000368/2006005-02	NCV	Failure to Perform Modification Resulted in an Inoperable RCP Oil Collection System (Section 1R15)

05000368/2006005-03	NCV	Inadvertent RCS Draining While in Mode 5 (Section 1R20)
05000368/2006005-04	FIN	Unplanned Increase in Time with Reactor Vessel Water Level at Flange Level (Section 1R20)
05000313/2006005-05	FIN	Trip of a MFP Due to Inadequate Design Control (Section 4OA3)

Closed

05000313/2006003-01	URI	Failure to Retrieve Required Records of Activities Affecting Quality (Section 4OA5)
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Discussed

None

LIST OF DOCUMENTS REVIEWED

In addition to the documents referred to in the inspection report, the following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

Section 1R01: Adverse Weather Protection

NUMBER	TITLE	REVISION
OP-2203.008	Natural Emergencies	9
OP-1203.025	Natural Emergencies	20

Section 1R02: Evaluation of Changes, Tests, or Experiments

Engineering Requests

NUMBER	TITLE	REVISION
ER-ANO-2002-0836-003	Pressurizer Replacement	1
ER-ANO-2002-0836-004	Original Pressurizer Removal / Replacement Pressurizer Installation	1
ER-ANO-2002-0836-020	Replacement Pressurizer Heater Electrical Design Input	0

Section 1R04: Equipment Alignment

Procedures

NUMBER	TITLE	REVISION
OP-1104.036	Emergency Diesel Generator Operations	45
Op-1107.002	ES Electrical System Operations	23
OP-1104.005	Reactor Building Spray System Operation	46

Section 1R05: Fire Protection

Plant Drawings

FZ-1038, Sheet 1, Revision 2
FZ-2018, Sheet 1, Revision 2

Procedures

NUMBER	TITLE	REVISION
	Arkansas Nuclear One Fire Hazards Analysis	11
PFP-U1	ANO Prefire Plan (Unit 1) - Section 1B-357-67-U.doc, Section 1B-354-79-U.doc	2
PFP-U2	ANO Prefire Plan (Unit 2) - Section 2B-335-2040- JJ.doc	2
EN-DC-127	Control of Hot Work and Ignition Sources	2

CRs

ANO-1-2005-0950 ANO-2-2005-1724 ANO-2-2006-1565 ANO-2-2006-1701
ANO-1-2005-1397

Section 1R07: Heat Sink Performance

NUMBER	TITLE	REVISION
ULD-1-SYS-01	ANO-1 Emergency Diesel Generator (EDG) System	4
ULD-1-SYS-10	ANO-1 Service Water Systems	13
SPEC-6600-M-012	Emergency Diesel Generators for ANO Unit 1	1
ER-ANO-2004-0663-000	2004 Unit 1 EDG Thermal Test Results	0
ER-980310	EDG Coolers, E-20A/B, Service Water Flow Requirements	
CALC-91-R-2013-01	Service Water Performance Testing Methodology	14

Section 1R08: Inservice Inspection (71111.08P)

CRs:

ANO-2-2005-0916

ANO-2-2006-1208

ANO-C-2006-1733

NDEs

REPORT	COMPONENT/LOCATION	METHOD
BOP-RT-06-055	FW-50 (WDR-40631) Drawing No. 2CCA-15-1, Sheet 1	Radiographic
BOP-RT-06-056	FW-51 (WDR-40632) Drawing No. 2CCA-15-1, Sheet 1	Radiographic
ISI-UT-06-033	2-73-SWS-R-12B-30R, 2HBC-60-1 between FW-52C & FW-6C1	Automatic Ultrasonic
ISI-UT-06-040	FW-50 (WDR-40631) Drawing No. 2CCA-15-1, Sheet 1	Ultrasonic
ISI-UT-06-042	FW-51 (WDR-40632) Drawing No. 2CCA-15-1, Sheet 1	Ultrasonic

Procedures

PROCEDURE	TITLE	REVISION
CEP-NDE-0110	Program Section for Certification of NDE Personnel	2
CEP-NDE-0111	Certification of Ultrasonic Personnel in Accordance with ASME Section XI, Appendix VII	1
CEP-NDE-0400	Ultrasonic Examination	0
CEP-NDE-0404	Manual Ultrasonic Examination of Ferritic Piping Welds (ASME XI)	1
CEP-NDE-0423	Manual Ultrasonic Examination of Austenitic Piping Welds (ASME XI)	1
CEP-NDE-0505	Ultrasonic Thickness Examination	3

Welding Procedures/Qualification Records

NUMBER	TITLE	REVISION/ DATE
PQR 107	Manual Gas Tungsten & Shielded Metal Arc Welding (GTAW & SMAW), P-No. 8, SA-312 Type 304	1
PQR 170	Manual Gas Tungsten & Shielded Metal Arc Welding (GTAW & SMAW), P-No. 8, SA-240 Type 304	1
WPS E-P8-T-A8,Ar	Manual Gas Tungsten Arc Welding (GTAW) of P-No. 8 Stainless Steels	0
WPS E-P8-T(M)-A8,Ar	Machine Gas Tungsten Arc Welding (GTAW) of P-No. 8 Stainless Steels	0
WP 06-121	2T-1 Surge Line	October 3, 2006

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

COPD-024, "Risk Assessment Guidelines," Revision 18

Section 1R15: Operability Evaluations

CRs

ANO-2-1995-0555	ANO-2-2006-1459	ANO-2-2006-1522	ANO-2-2006-1796
ANO-2-2006-1407	ANO-2-2006-1478	ANO-2-2006-1539	ANO-2-2006-1853
ANO-2-2006-1433	ANO-2-2006-1521	ANO-2-2006-1757	ANO-2-2006-1879

Procedure

OP-2305.002, "Reactor Coolant System Leak Detection," Revision 14

Engineering Requests

ER-ANO-2000-2528-003, "ANO Sump Operability when the RCS Temperature is Above 200 F"
ER-ANO-2004-0060-000, "ANO-2 Sump Operability for the RCS Temperature above 200 F"

Miscellaneous Documents

2CNA108802, "Safety Evaluation Report," dated October 26, 1988
0CAN088404, "Station Letter to USNRC Requesting Exemption," dated August 15, 1984

Section 1R17: Permanent Plant Modifications

Engineering Requests

NUMBER	TITLE
ER-ANO-2002-0836-003	Pressurizer Replacement
ER-ANO-2002-0836-004	Original Pressurizer Removal / Replacement Pressurizer Installation
ER-ANO-2002-0836-005	Interference Removal / Reinstallation Inside the Pressurizer Cubicle
ER-ANO-2002-0836-006	Interference Removal / Reinstallation Outside the Pressurizer Cubicle
ER-ANO-2002-0836-007	ANO-2 Pressurizer Replacement Rigging and Handling
ER-ANO-2002-0836-020	Replacement Pressurizer Heater Electrical Design Input

Section 1R20: Refueling and Outage Activities

Procedures

NUMBER	TITLE	REVISION
OP-2104.004	Shutdown Cooling System	031-00-0
OP-2104.019	Clean Resin Transfer	009-01-0
OP-2504.005	Reactor Vessel Closure Head Removal	012-01-0

Miscellaneous Document

Shutdown Operations Protection Plan, dated August 4, 2005

CRs

ANO-2-2006-1464	ANO-2-2006-1573	ANO-2-2006-2032	ANO-C-2006-1678
ANO-2-2006-1553	ANO-2-2006-1734	ANO-C-2006-1473	

Section 2OS1: Access Controls to Radiologically Significant Areas

CRs

ANO-1-2006-0479	ANO-2-2006-1434	ANO-2-2006-1497	ANO-2-2006-1568
ANO-1-2006-0700	ANO-2-2006-1446	ANO-2-2006-1501	ANO-2-2006-1568
ANO-1-2006-1113	ANO-2-2006-1471	ANO-2-2006-1511	ANO-2-2006-1575
ANO-2-2005-1429	ANO-2-2006-1495	ANO-2-2006-1523	ANO-2-2006-1598

ANO-2-2006-1606	ANO-2-2006-1674	ANO-2-2006-1716	ANO-2-2006-1774
ANO-2-2006-1636	ANO-2-2006-1675	ANO-2-2006-1717	ANO-2-2006-1790
ANO-2-2006-1638	ANO-2-2006-1695	ANO-2-2006-1748	ANO-C-2006-1698
ANO-2-2006-1671	ANO-2-2006-1696	ANO-2-2006-1765	

Audits and Self-Assessments

Self-Assessment Report, "QS-2006-ANO-007, 2R18 Radiation Protection Outage Planning Review"

Radiation Work Permits

NUMBER	TITLE
RWP 2006-2420	Scaffold Activities
RWP 2006-2501	Support Activities for Pressurizer Replacement
RWP 2006-2502	Remove and Replace Pressurizer
RWP 2006-2520	Incore Instrument Thimble Tube Replacement
RWP 2005-2530	Sump Screen Modification
RWP 2006-2540	Hot Leg RTD Replacement

Procedures

NUMBER	TITLE	REVISION
1601.209	Whole Body Counting/Bioassay	CHANGE 009-00
EN-RP-104	Personnel Contamination Events	3
EN-RP-108	Radiation Protection Posting	3
EN-RP-131	Air Sampling	1
EN-RP-203	Dose Assessment	0
EN-RP-208	Whole Body Counting and In-Vitro Bioassay	0
PL-182	Radiation Protection Expectations and Standards	1

Miscellaneous Document

Alpha Monitoring Plan, Revised August 22, 2006

Section 4OA2: Identification and Resolution of Problems

CRs

ANO-2-2006-1535	ANO-2-2006-1655	ANO-2-2006-1891
ANO-2-2006-1625	ANO-2-2006-1693	ANO-2-2006-2174

Section 4OA3: Event Follow-up

Procedures

NUMBER	TITLE	REVISION
EN-DC-141	Design Inputs	2
EN-DC-313	Procurement Engineering Process	0

CRs

ANO-1-2006-1399	ANO-2-2006-1464	ANO-2-2006-2444	ANO-2-2006-2449
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Section 4OA5: Other Activities (TI 2515/0166)

Safety Evaluation

FFN-06-008, "Unit 2 RBS/ECCS Sump Strainer Replacement"

LIST OF ACRONYMS

ANO	Arkansas Nuclear One
ASME	American Society of Mechanical Engineers Boiler and Pressure Vessel Code
CAP	corrective action program
CCW	component cooling water
CFR	<i>Code of Federal Regulations</i>
CR	condition report
DSM	digital speed monitor
EDG	emergency diesel generator
EMI	electromagnetic interference
FIN	finding
MC	manual chapter
MFP	main feedwater pump
MSPI	mitigating systems performance index
NCV	noncited violation
NDE	nondestructive examination
PI	performance indicator
PWR	pressurized water reactor
RCP	reactor coolant pump
RCS	reactor coolant system
RTP	rated thermal power
SSCs	system, structure, and components
TI	temporary instruction
TS	Technical Specification
UFSAR	Updated Final Safety Analysis
URI	unresolved item