UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

October 30, 2000

Craig Anderson, Vice President
Operations
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S.R. 333
Russellville, Arkansas 72801-0967

SUBJECT: NRC INSPECTION REPORT NO. 50-313/00-10; 50-368/00-10

Dear Mr. Anderson:

This refers to the integrated inspection conducted on August 20 through September 30, 2000, at the Arkansas Nuclear One, Units 1 and 2 facility. The enclosed report presents the results of this inspection. The results of this inspection were discussed with you and members of your staff in exit meetings on September 8, September 15, September 29, and October 4, 2000.

The inspection was an examination of activities conducted under your licenses as they relate to safety and to compliance with the Commission's rules and regulations and with the conditions of your licenses. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel. Specifically, this inspection focused on reactor safety and radiation safety.

Based on the results of this inspection, the NRC has identified an issue that was evaluated under the risk significance determination process as having very low safety significance (green). The NRC has also determined that a violation is associated with this issue. This issue is being treated as a noncited violation (NCV), consistent with Section VI.A of the Enforcement Policy. This NCV is described in the subject inspection report. If you contest the violation or significance of the NCV, 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, Region IV, the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and the NRC resident inspector at Arkansas Nuclear One.

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Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/

P. Harrell, Chief
Project Branch D
Division of Reactor Projects

Docket Nos.: 50-313
50-368
License Nos.: DPR-51
NPF-6

Enclosure:
NRC Inspection Report No.
50-313/00-10; 50-368/00-10

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Only inspection reports to the following:
David Diec **(DTD)**
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ANO Site Secretary **(VLH)**
Dale Thatcher **(DFT)**

DOCUMENT NAME: R:_ANO\2000\AN2000-10RP-RLB.wpd

RI:DRP/D	SRI:DRP/D	RI:DRP/E	PE;DRP/D	C:EMB
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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket Nos.:	50-313; 50-368
License Nos.:	DPR-51; NPF-6
Report No.:	50-313/2000-10; 50-368/2000-10
Licensee:	Entergy Operations, Inc.
Facility:	Arkansas Nuclear One, Units 1 and 2
Location:	1448 S. R. 333 Russellville, Arkansas 72801
Dates:	August 20 through September 30, 2000
Inspectors:	R. Bywater, Senior Resident Inspector K. Weaver, Resident Inspector L. Ricketson, Senior Health Physicist J. Dodson, Health Physicist C. Paulk, Senior Reactor Inspector L. Willoughby, Project Engineer J. Keeton, Resident Inspector M. Shannon, Senior Health Physicist D. Carter, Health Physicist
Approved by:	P. Harrell, Chief, Project Branch D Division of Reactor Projects

ATTACHMENTS:

Attachment 1:	Supplemental Information
Attachment 2:	NRC's Revised Reactor Oversight Process

SUMMARY OF FINDINGS

Arkansas Nuclear One, Units 1 and 2
NRC Inspection Report 50-313/2000-10; 50-368/2000-10

50-313/00-10, 50-368/00-10; on 08/20-09/30/00; Entergy Operations, Inc., Arkansas Nuclear One, Units 1 & 2. Integrated Resident & Regional Report; Access Controls to Rad. Sig. Areas

The inspection report covers a 6-week period of inspection by resident and region based inspectors.

The body of the report is organized under the broad categories of reactor safety, radiation safety and other activities. Findings are discussed as they pertain to the cornerstones of safety as reflected in the summary below.

Radiation Safety
Cornerstone: Occupational Radiation Safety

- Green. 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 millirems 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 millirems 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 millirems 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 1-2000-0129.

  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 (Section 2OS1).

Report Details

Summary of Plant Status

At the beginning of this inspection period, Unit 1 operated at or near 100 percent power. On September 13, Unit 1 operators reduced reactor power to approximately 85 percent to perform turbine governor valve testing. On September 14, operators returned Unit 1 to 100 percent power. Unit 1 remained at or near 100 percent power at the end of this inspection period.

At the beginning of this inspection period, Unit 2 was at approximately 98 percent power. On September 13, Unit 2 operators reduced reactor power to approximately 85 percent to perform main steam safety valve testing. On September 15, Unit 2 operators commenced a plant shutdown for Refueling Outage 2R14. Unit 2 remained shutdown in Refueling Outage 2R14 at the end of this inspection period.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment - Routine Inspection

a. Inspection Scope

The inspectors performed a partial walkdown of the Unit 1 Emergency Diesel Generator 2. Procedure 1104.036, "Emergency Diesel Generator Operation," Revision 39 was used to verify the correct lineup for the system.

b. Issues and Findings

No significant findings were identified.

1R05 Fire Protection - Monthly Routine Inspection

a. Inspection Scope

The inspectors performed fire protection walkdowns to assess the material condition of plant fire protection equipment, proper control of transient combustibles, and operational status of fire barriers used to prevent fire propagation. The following risk significant areas were inspected:

- Unit 2 Charging Pump Rooms
- Unit 2 Upper South Electrical Penetration Room
- Unit 2 Lower South Piping Penetration Room

b. Issues and Findings

No significant findings were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the status of the Unit 2 Emergency Diesel Generator 1 to determine if the maintenance rule criteria for this system had been appropriately applied. The inspectors reviewed the information in the maintenance rule data base and current condition reports and verified that the (a)(2) category was appropriate.

In addition, the inspectors reviewed two systems with performance problems to assess the effectiveness of the implementation of the maintenance rule. Specifically, the inspectors reviewed Condition Report ANO-2-1999-0533, which documented oil leakage on the Unit 2 Auxiliary Transformer, and Condition Report ANO-C-2000-0026, which documented the Bulk Fuel Oil Storage Tank T-25 level decreasing below the minimum administrative limit.

b. Issues and Findings

No significant findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed and evaluated the effectiveness of the plant impact statement which documented the controls and contingencies that were established to reduce plant risk during troubleshooting and repairs of the switchyard 500KV Breaker B5110.

The inspectors reviewed the licensee's Shutdown Operations Protection Plan, Revision 2, for the Unit 2 Refueling Outage 2R14, to determine if the licensee adequately implemented shutdown risk considerations.

The inspectors reviewed shutdown operations protection plan score cards on a daily basis and compared them to actual plant conditions to ensure that the licensee implemented acceptable defense-in-depth strategies for critical safety functions.

b. Issues and Findings

No significant findings were identified.

1R14 Nonroutine Plant Evolutions

a. Inspection Scope

The inspectors reviewed and observed operator performance and response during portions of the Unit 2 shutdown, cooldown, and transfer to shutdown cooling system operation at the initiation of Refueling Outage 2R14. These activities were conducted in accordance with Procedure 2102.004, "Power Operation," Revision 26 and Procedure 2102.010, "Plant Cooldown," Revision 32.

b. Issues and Findings

No significant findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following operability evaluations for technical adequacy:

- Condition Report ANO-2-2000-0391, Unit 2 Charging Pump C Breaker Trip
- Condition Report ANO-2-2000-0406, Unit 2 Charging Pump C Breaker Trip
- Condition Report ANO-C-2000-0129, Unit 1 and Unit 2 Emergency Diesel Generator operability during an alternate shutdown
- Condition Report ANO-C-2000-0270, evaluation of the inability to develop the Unit 1 and Unit 2 seismic accelerographs
- Condition Report ANO-2-2000-0428, Leak on Shutdown Cooling Line at Fitting for Relief Valve 2PSV-5089
- Condition Report ANO-2-2000-0429, Pump 2P-60B Seal Leakage

b. Issues and Findings

No significant findings were identified.

1R19 Postmaintenance Testing

a. Inspection Scope

The inspectors observed the following postmaintenance testing activities to determine whether the testing activities adequately confirmed equipment operability:

- Procedure 1106.006, "Emergency Feedwater Pump Operation," Supplement 3, and "Emergency Feedwater Valve Stroke Testing," Revision 60, conducted following maintenance to the Emergency Feedwater Service Water Supply Valves CV-1206 and CV-3851 (Unit 1)
- Postmaintenance testing conducted on Unit 2 Emergency Diesel Generator 1 and associated components following the scheduled 18 month outage. Extensive planned maintenance had been performed on this equipment (Unit 2)

b. Issues and Findings

No significant findings were identified.

1R20 Refueling and Outage

a. Inspection Scope

Throughout Unit 2 Refueling Outage 2R14, the inspectors reviewed weekly and daily work schedules to identify risk significant evolutions and maintenance activities. The inspectors reviewed the Unit 2 Shutdown Operations Protection Plan prior to the outage to ensure that the licensee had considered risk, had developed mitigation strategies for losses of key safety functions, and had adhered to operating license and technical specification requirements. The inspectors observed portions of the plant cooldown and reactor coolant system draindown for reactor vessel head removal.

b. Issues and Findings

No significant findings were identified.

1R21 Safety System Design and Performance Capability

.1 (Closed) Unresolved Item 50-368/9909-03: Evaluation of the combined effects on the Unit 2 emergency diesel generators of underpredicting the maximum heat load and microfouling of the heat exchangers.

An unresolved item was identified during a safety system engineering inspection as a result of the need for additional licensee evaluation of the combined effects on the Unit 2 emergency diesel generators of under-predicting the maximum heat load and microfouling of the heat exchangers.

The inspectors reviewed Condition Report CR-ANO-C-1999-0211 and Procedure 1052.007, “Secondary Chemistry Monitoring,” Change No. 017-06-0, and conducted interviews with licensee engineers to determine if the licensee could demonstrate the ability of the Unit 2 emergency diesel generators to perform their intended safety function when the correct maximum heat load was considered with potential microfouling of the heat exchangers (i.e., jacket water, lube oil, and air coolers).

The inspectors determined that the licensee had adequately demonstrated that the Unit 2 emergency diesel generators could perform their intended safety function when the correct maximum heat load was considered with potential microfouling of the heat exchangers (i.e., jacket water, lube oil, and air coolers).

No significant findings were identified.

.2 (Closed) Unresolved Item 50-313; 368/9909-04: Evaluation of the licensee's consideration of instrument uncertainties in calculations and acceptance criteria.

An unresolved item was identified during a safety system engineering inspection as a result of the need for additional NRC review of the licensee's consideration of instrument uncertainties in calculations and acceptance criteria to determine if the licensee's tests and procedures are adequate to demonstrate equipment operability.

The inspectors reviewed Condition Reports ANO-1-1999-0200, -2-1999-0544, -2-1999-0554, and -2-1999-0561, which were written during the previous inspection to address the team's concerns related to the consideration of instrument uncertainties. The review was performed to determine if the licensee's tests and procedures were adequate to demonstrate operability.

The inspectors determined that the licensee had appropriately considered instrument uncertainties when developing tests and procedures.

No significant findings were identified.

.3 (Closed) Unresolved Item 50-313; 368/9909-06: Evaluation of the potentially adverse erosion/corrosion and fatigue effects of excessive service water flow.

An unresolved item was identified during a safety system engineering inspection as a result of the need for additional evaluation, by the licensee, of the potentially adverse erosion/corrosion and fatigue effects of excessive service water flow on Unit 1 components served.

The inspectors reviewed Condition Report ANO-C-1999-0209 to assess the licensee's evaluation of the effects of flow in excess of the design capability of various heat exchangers.

The inspectors determined that, even though some heat exchangers were subject to flows in excess of the original design, the licensee had demonstrated that the flows were acceptable, and that they were being monitored on an increased frequency so that any corrective actions could be implemented prior to the heat exchangers becoming incapable of performing their intended safety functions.

No significant findings were identified.

.4 (Closed) Unresolved Item 50-313/9909-09: Demonstration of available net-positive suction head with one service water pump operating during a normal plant shutdown.

An unresolved item was identified during a safety system engineering inspection as a result of the need for additional evaluation, by the licensee, of the available net-positive suction head with only one service water pump operating during a normal plant shutdown of Unit 1.

The inspectors reviewed Condition Report ANO-1-1999-0254; Calculation 89-E-0044-02, "ANO-1 SW Pump NPSH and Submergence Requirements," Revision 0; and Procedure 1203.030, "Loss of Service Water," Change 011-02-0 to determine if the licensee was able to demonstrate that there was adequate net-positive suction head available to support one service water pump operating during a normal plant shutdown.

The inspectors determined that the licensee demonstrated that there would be adequate net-positive suction head for a single service water pump during a normal plant shutdown as a result of system design and operating procedures.

No significant findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed portions of, and reviewed acquired data from the following surveillance test activities:

- Procedure 2306.006, "Main Steam Safety Valve Test," Revision 12 (Unit 2)
- Procedure 1104.036, Supplement 1, "Emergency Diesel (DG1) Monthly Test," Revision 39 (Unit 1)
- Procedure 2104.36, "Emergency Diesel Generator Operations - 2DG2 Monthly Test (Slow Start)," Revision 043-05-0 (Unit 2)
- Procedure 1106.006, "Emergency Feedwater Pump Operation, " Supplement 3, "Emergency Feedwater Valve Stroke Testing," Revision 60 (Unit 1)
- Procedure 2305.049, “EDG Periodic Tests,” Revision 3 (Unit 2)
- Procedure 1106.006, Supplement 12, "Steam Driven Emergency Feedwater Pump (P-7A) Test (Quarterly)," Revision 60 (Unit 1)

b. Issues and Findings

No significant findings were identified. Following performance of Procedure 2306.006 on September 15, 2000, three of the ten main steam safety valves tested had as-found setpoints below the technical specification acceptance criterion of +/- 3% of the design setpoint. The licensee initiated Condition Report ANO-2-2000-0422 to document this issue and planned to submit a licensee event report within 30 days.

1EP6 Drill Evaluations

a. Inspection Scope

On August 29, 2000, the licensee conducted an emergency preparedness drill. Prior to the drill, the inspectors reviewed the scenario to determine whether it was of appropriate scope to be included in the performance indicator statistics as intended by the licensee. During the drill, the inspectors observed performance of the operations crew in the simulator, as well as licensee performance in the Technical Support Center and Emergency Operations Facility. The inspectors observed activities involving event classification, notification, and protective action recommendations. The inspectors' observations were compared with licensee identified findings to determine the adequacy of the licensee's exercise evaluation process.

b. Issues and Findings

No significant findings were identified.

2. RADIATION SAFETY
Cornerstone: Occupational Radiation Safety, **Public Radiation Safety**

2OS1 Access Controls to Radiologically Significant Areas

a. Inspection Scope

Radiation workers and radiation protection personnel were interviewed concerning their radiation protection work requirements. A number of tours of the controlled access area were conducted. The following items were reviewed to ensure that the physical and administrative controls for airborne areas, radiation areas, high radiation areas, locked high radiation areas, very high radiation areas, and worker adherence to these controls were accomplished in accordance with regulatory requirements:

- Quality Assurance Audit QAP-3-99.
- Access controls and surveys of the following three significant high dose work areas in the Unit 2 radiologically controlled area: upper guide structure movement, steam generator reactor coolant system pipe cutting, and removal/replacement of the reactor head.

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- The following two job-in-progress reviews were performed: Unit 2 upper guide structure movement and steam generator feedwater pipe cutting.
- Radiation work permits and specified electronic dosimeter set points.
- Placement of personnel dosimetry.
- Job coverage by radiation protection personnel.
- Associated program procedures.
- A summary of radiological operational condition reports written between January 1, 1999, and September 27, 2000. Eight of these condition reports were reviewed in detail.

b. Issues and Findings

On February 28, 2000, the licensee wrote Condition Report 1-2000-0129 which documented that a radiation area boundary located in Unit 1 Decay Heat Vault A was not posted for seven days. On February 21, 2000, the entire 317-foot elevation of Unit 1 was deposted when radiological conditions returned to normal (less than 4 millirems per hour) following a unit shutdown crud burst. However, general radiation levels in Decay Heat Vault A were as high as 50 millirems per hour. Operations and radiation protection

personnel entered Decay Heat Vault A on at least three occasions for routine operations during this time. Corrective actions, which included discussing the event with the radiation protection staff and establishing a team to benchmark other programs for potential process improvements to enhance the current posting/deposting methods, appeared effective.

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 millirems in 1 hour. 10 CFR 20.1902 requires the posting of radiation areas. The failure to post the above area as a radiation area was a violation of 10 CFR 20.1902. When this violation was processed through the Occupational Radiation Safety Significance Determination Process, it was determined to be a "green" finding and 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. 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 1-2000-0129 (50-313/0010-01).

2OS2 ALARA Planning and Controls

a. Inspection Scope

The inspectors interviewed radiation workers and radiation protection personnel involved in high dose rate and high exposure jobs in the radiologically controlled areas during routine operations. Independent radiation surveys of selected work areas within the radiologically controlled area was conducted. No high exposure jobs or work in high radiation areas was performed during the inspection. The following items were reviewed and compared with regulatory requirements to determine whether the licensee had an adequate program to maintain occupational exposure ALARA:

- ALARA program procedures
- Processes used to estimate and track exposures
- Plant collective exposure history for the past 3 years, current exposure trends, and 3-year rolling average dose information
- Four radiation work permit packages from Outage 2P2K and seven radiation work permits for Refueling Outage 2R14 steam generator replacement work activities which resulted in the highest personnel collective exposures during the inspection period
- Use of engineering controls to achieve dose reductions
- Individual exposures of selected work groups (health physics, operations, and mechanical maintenance)
- Hot spot tracking and reduction program

- Plant related source term data, including source term control strategy
- Radiological work planning
- Three post outage ALARA reports
- Selected corrective action documentation involving higher than planned exposure levels and radiation worker practice deficiencies since the last inspection in this area
- ALARA Committee meeting minutes and presentations
- Declared pregnant worker dose monitoring controls

b. Issues and Findings

No significant findings were identified.

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

a. Inspection Scope

The inspectors interviewed cognizant personnel and walked down the major components of the gaseous and liquid release systems to observe ongoing activities, equipment material condition, and the system configuration, as compared to the description in the Final Safety Analysis Report. The following items were reviewed and compared with regulatory requirements:

- 1998 and 1999 Radiological Effluent Release Report
- Changes to the Offsite Dose Calculation Manual and to the radioactive waste system design and operation
- Anomalous results, if any, reported in the Radiological Effluent Release Report
- Effluent radiological occurrence performance indicator incidents
- Sample collection and analyses of liquid and gaseous effluents
- Selected radioactive liquid waste release permits and associated projected doses to members of the public
- Compensatory sampling and radiological analyses conducted when effluent monitors were declared out of service
- Monthly, quarterly, and annual dose calculations
- Air cleaning system surveillance test results

- Surveillance test results for the stack and vent flow rates
- Records of calibrations performed since the last inspection for effluent radiation monitors and flow measurement devices
- Effluent radiation monitor alarm setpoint values
- Calibration and quality control records of counting room instrumentation associated with effluent monitoring and release activities
- Quality Assurance Audit QAP-28-2000, “Environmental Monitoring”
- Corrective action reports related to the radioactive effluent treatment and monitoring program

b. Issues and Findings

No significant findings were identified.

2PS2 Radioactive Material Processing and Transportation

a. Inspection Scope

The inspectors interviewed radiation protection personnel involved in material processing and transportation activities and walked down the liquid and solid radioactive waste processing systems to verify that the current system configuration and operation agreed with the descriptions contained in the Final Safety Analysis Report and in the Process Control Program. No shipments of radioactive materials were conducted during the inspection, but the following items were reviewed and compared with regulatory requirements:

- The adequacy of any changes made to the radioactive waste processing systems since the last inspection
- Waste stream sampling procedures and radio-chemical sample analyses results for each of the licensee’s radioactive waste streams
- Scaling factors and calculations used to account for difficult-to-measure radionuclides
- 10 CFR Part 20, Appendix G, quality assurance program
- Documentation for seven nonexcepted package shipments which demonstrated shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and licensee verification of shipment readiness
- Applicable transport cask Certificates of Compliance

- Transferee licenses
- Procedures for cask loading and closure
- Training of personnel responsible for the conduct of radioactive waste processing and radioactive material shipment preparation activities
- Quality Assurance Audit QAP-1-2000, "Radwaste Management"
- Quality Assurance (Vendor) Audit AR-98-THRMO-01
- Corrective action reports related to the radioactive material and shipping programs written since the previous inspection

b. Issues and Findings

No significant findings were identified.

4. OTHER ACTIVITIES

4OA2 Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed corrective action program records for locked high radiation areas, very high radiation areas, and unplanned exposure occurrences for the past 12 months to confirm that these occurrences were properly recorded as performance indicators. The licensee's procedures define a Locked High Radiation Area as an area with dose rates greater than 1000 millirems per hour but less than or equal to 500 rads per hour at one meter from a radiation source. Controlled access area exit transactions with exposures greater than 100 millirems for the past 12 months were reviewed and selected examples were investigated to determine whether they were within the dose projections of the governing radiation work permits.

Additionally, radiological effluent release program corrective action records, licensee event reports, and annual effluent release reports documented during the past four quarters were reviewed to determine if any events exceeded the performance indicator thresholds.

b. Issues and Findings

No significant findings were identified.

4OA3 Event Followup

(Closed) Licensee Event Report (LER) 50-313/2000-001-00: Reactor Building atmosphere sample not taken as required by technical specifications due to personnel errors during review and approval of maintenance activity.

This licensee event report was a minor issue since two other methods of identifying reactor coolant system leakage remained operable during the time frame when reactor building atmosphere sample was not taken in accordance with technical specifications.

4OA6 Management Meetings

.1 Exit Meeting Summary

The inspectors presented the preliminary inspection results of the review of previously identified unresolved items to Mr. R. Lane, Director, Engineering, on September 8, 2000.

The inspectors presented the preliminary inspection results of the ALARA planning, effluents, and radioactive material processing/transportation inspections to Mr. C. Anderson, Vice President, Operations, and other members of licensee management on September 15, 2000.

The inspectors presented the preliminary inspection results of the radiological area access controls inspection to Mr. B. Bement, General Manager, and other members of licensee management on September 29, 2000.

The inspectors presented the inspection results of the resident inspections to Mr. B. Bement, General Manager, and other members of licensee management on October 4, 2000.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT 1

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Anderson, Vice President, Operations
B. Bement, General Manager, Plant Operations
M. Cooper, Licensing Specialist
J. Crabill, System Engineer
N. Eggemeyer, Manager, Technical Support
M. Frala, Supervisor, Chemistry
D. Hicks, Supervisor, Radioactive Waste
T. Ivy, Engineer, System Engineering
D. James, Manager, Licensing
R. Lane, Director, Engineering
T. Madeley, Chemist
D. MacPhee, Engineer, System Engineering
M. McCullah, Technician, Radioactive Waste
M. McInerny, Technical Specialist, Engineering
D. Moore, Supervisor, Radiation Protection
S. Pyle, Specialist, Licensing
J. Smith, Manager, Radiation Protection
M. Smith, Manager, Engineering Program and Components
D. Stoltz, Supervisor, Radiation Protection
R. Wilson, Engineer, System Engineering

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-313/0010-01	NCV	Failure to post a radiation area (Section 2OS1)

Closed

50-368/9909-03	URI	Evaluation of the combined effects on the Unit 2 emergency diesel generators of under predicting the maximum heat load and micro fouling of the heat exchanges (Section 1R21)
50-313;368/9909-04	URI	Evaluation of the licensee's consideration of instrument uncertainties in calculations and acceptance criteria (Section 1R21)
50-313;368/9909-06	URI	Evaluation of the potentially adverse erosion/corrosion and fatigue effects of excessive service water flow (Section 1R21)
50-313/9909-09	URI	Demonstration of the available net positive suction head with one service water pump operating during a normal plant shutdown (Section 1R21)

50-313/2000-001-00	LER	Reactor Building atmosphere sample not taken as required by technical specifications due to personnel errors during review and approval of maintenance activity (Section 4OA3)
50-313/0010-01	NCV	Failure to post a radiation area (Section 2OS1)

PARTIAL LIST OF DOCUMENTS REVIEWED

Procedure 1052.007	Secondary Chemistry Monitoring	Revision 17
Procedure 1203.030	Loss of Service Water	Revision 11
Procedure 1012.027	ALARA Program	Revision 3
Procedure 1012.019	Radiological Work Permits	Revision 6
MES-11	The Elimination of Cobalt Based Hardfacing Alloys in Primary System Valves	Revision 0
Radiation Protection Department Standing Order 005	RWP Writer's Guide	Revision 5
Calculation 89-E-0044-02	ANO-1 SW Pump NPSH and Submergence Requirements	Revision 0

Condition Reports

ANO-1-1999-0200
ANO-1-1999-0254
ANO-2-1999-0544
ANO-2-1999-0211
ANO-C-1999-0215
ANO-C-1999-0026
ANO-C-1999-0116
ANO-2-1999-0771
ANO-C-1999-0234
ANO-1-1999-0110
ANO-1-2000-0117
ANO-1-2000-0129
ANO-2-2000-0110
ANO-2-2000-0309

Initial and revised exposure goal for 2000

Radiation Work Permit Exposure Summaries (1/1-9/12/2000)

Arkansas Nuclear One Five Year ALARA Plan

ALARA Managers Committee Meeting Minutes (3/15/99, 5/10/99, 8/4/99, 12/15/99, 3/8/2000, 7/3/2000)

2R13 ALARA Report, 2P99S/G ALARA Report, 2P2K ALARA Report

2R14 Steam Generator Replacement Project ALARA Handbook

2P2K Radiation Work Permits 2000-4021, 2000-4028, 2000-4049, 2000-4062

2R14 Radiation Work Permits 2000-2007, 2000-2201, 2000-2202, 2000-2203, 2000-2205, 2000-2206, 2000-2211

Quality Assurance Surveillance, 1/18-2/3/1999

Quality Assurance Surveillance, 7/7-28/1999

Radiation Protection Annual Report for 1998, ANO-99-00166, 3/22/1999

Radiation Protection Annual Report for 1999, ANO-2000-00096, 3/17/2000

ATTACHMENT 2

NRC'S REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
•Initiating Events	•Occupational	•Physical Protection
•Mitigating Systems	•Public	
•Barrier Integrity		
•Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC used two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW, or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, or RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspections so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http:\\www.nrc.gov\NRR\OVERSIGHT\index.html