APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION

REGION IV

NRC Inspection Report: 50-313/83-27
50-368/83-27

Licenses: DPR-51
NPF-6

Dockets: 50-313
50-368

Licensee: Arkansas Power and Light Company
Post Office Box 551
Little Rock, Arkansas 72203

Facility Name: Arkansas Nuclear One (ANO), Units 1 and 2

Inspection At: ANO Site, Russellville, Arkansas

Inspection Conducted: October 1 - November 4, 1983

Inspectors:

L. J. Callan, Senior Resident Reactor Inspector (Paragraphs 1, 2, 3, 4, 5, 6, 7) — Date: 11/10/83

J. E. Cummins, Resident Reactor Inspector (Paragraphs 1, 2, 4, 5, 6, 7, 8, 9, 10) — Date: 11-10-83

C. Abigail Evans, Physical Protection Specialist (Paragraph 8) — Date: 11-22-83

J. P. Jaudon, Reactor Inspector, Reactor Project Section C (Paragraph 8) — Date: 11/22/83

J.A.F. Kelly, Chief, Physical Security Section (Paragraph 8) — Date: 22Nov83

Approved: W D Johnson 11/22/83
W. D. Johnson, Chief, Reactor Project Section C Date

Inspection Summary

Inspection Conducted October 1 - November 4, 1983 (Report: 50-313/83-27)

Areas Inspected: Routine, announced inspection of operational safety verification, surveillance, maintenance, security guard force strike, and followup on previously identified items. The inspection involved 117 inspector-hours by five NRC inspectors.

Results: Within the five areas inspected, one violation was identified (failure to complete job order form in accordance with procedural requirements, paragraph 7).

Inspection Summary

Inspection Conducted October 1 - November 4, 1983 (Report: 50-368/83-27)

Areas Inspected: Routine, announced inspection of station battery surveillance, IAEA inspection program, operational safety verification, surveillance, maintenance, security guard force strike, preparation for refueling, refueling activities, and followup on previously identified items. The inspection involved 124 inspector-hours onsite by five NRC inspectors.

Results: Within the nine areas inspected, one violation was identified (failure to maintain station battery operable as required by Technical Specifications, paragraph 3).

DETAILS SECTION

1. Persons Contacted

*J. M. Levine, ANO General Manager
*E. C. Ewing, Engineering & Technical Support Manager
B. A. Baker, Operations Manager
L. Sanders, Maintenance Manager
J. McWilliams, Unit 1 Operations Superintendent
M. J. Bolanis, Health Physics Superintendent
R. Tucker, Electrical Maintenance Superintendent
R. Wewers, Unit 2 Operations Superintendent
D. Wagner, Health Physics Supervisor
*D. Moeggenberg, Acting Special Projects Manager
*L. Humphrey, Administrative Manager
J. Lamb, Safety and Fire Prevention Coordinator
T. Baker, Technical Analysis Superintendent
C. Fellhauer, Radwaste Supervisor
*H. Hollis, Security Coordinator
T. Enos, Licensing Supervisor
L. Parscale, Licensing Engineer
G. Storey, Safety and Fire Prevention Coordinator
J. Montgomery, Human Relations Supervisor
D. Lomax, Nuclear Support Supervisor
M. Konya, Nuclear Engineer

*Present at exit interviews.

The inspectors also contacted other plant personnel, including operators, technicians, and administrative personnel.

2. Followup On Previously Identified Items (Units 1 and 2)

(Closed) Open Item 313/8302-03: Installed halon system gas bottle pressure less than surveillance procedure minimum requirement.

The licensee recharged the halon gas bottle to an acceptable pressure. A subsequent performance of the semiannual surveillance on the halon fire system indicated that the gas bottles appear to be maintaining the required pressure.

(Closed) Severity Level V Violation 313/8232-01: Storage of combustibles.

The licensee has completed a walkdown of the Unit 1 and 2 auxiliary buildings to ensure that all unnecessary transient lumber has been removed. The licensee has also implemented a

program to treat all transient lumber with a colored (green) fire retardant. In addition, the licensee has implemented a revision to Administrative Procedure 1053.01, "Control of Combustibles," which establishes new limits for transient combustibles. The new revision now permits small amounts of transient (stored) combustibles in many fire zones that previously were allowed no combustibles.

(Closed) Open Item 313/8230-01; 368/8229-01: Inadequate documentation of causally-linked events in licensee event reports (LERs).

The NRC inspector's review of recent LERs indicates that the licensee now appears to be adequately documenting causally-linked events.

(Closed) Severity Level V Violation 313/8233-01; 368/8233-01: Plant Safety Committee (PSC) review of Technical Specification violations.

Currently, the PSC reviews all nonconformance reports (NCRs) and reports of abnormal occurrences (RACs). Since NCRs and RACs are the two means by which Technical Specification violations are documented by the licensee, the PSC should be assured of having the opportunity to review all Technical Specification violations as required by Technical Specification 6.5.1.b.e.

(Closed) Open Item 313/8215-06; 368/8212-08: Programmatic problems relative to implementing surveillance requirements.

Plant Administrative Procedure 1000.09, "Surveillance Test Program Control," Revision 8, appears to provide an effective means of ensuring that surveillance requirements are implemented. During the past twelve months, the NRC inspectors have noted a significant decrease in the number of problems that relate to the implementation of surveillance requirements. It appears that new Technical Specification surveillance requirements are being promptly incorporated into the licensee's surveillance program, and no new instances of failure to perform a surveillance requirement have been identified by the NRC inspectors.

(Closed) Severity Level V Violation 368/8314-02: Category E valve not locked.

Following the identification of this item, the licensee reverified the status of all Category E valves in accordance with Plant

Operating Procedures 1102.01 and 2102.01, "Category E Valve Position Verification Checklists." The licensee has revised Plant Operating Procedure 1015.01, "Conduct of Operations," to clarify the methods used for locking "T-handled" valves and has advised operations personnel of the change.

(Closed) Severity Level IV Violation 368/8310-01: Penetration fire barrier not functional.

Following identification of the open penetration in wall 23-S-7, the licensee took action to repair the reported fire barrier penetration; to reinspect all of the walls, the floor, and the ceiling in the affected fire zone (2024-JJ); and to repair all additional inoperable penetration fire barriers identified by the reinspection.

(Closed) Open Item 368/8310-03: Discarded material on electrical wireway.

Licensee personnel performed a walkdown of Units 1 and 2 to remove any unidentified accumulation of potentially combustible material. Additionally, licensee personnel now periodically perform fire protection and housekeeping walkdowns to ensure that combustibles are controlled and that they do not accumulate in quantities greater than the allowable limits.

No violations or deviations were identified.

3. Station Battery Surveillance - Unit 2

On September 26, 1983, the licensee reported to the NRC resident inspectors that the Unit 2 'A' train DC bus battery bank 2D11 was inoperable. The battery was determined to be inoperable as a result of a quarterly surveillance test performed on September 22, 1983. However, licensee management did not recognize that the results of the quarterly test rendered the battery inoperable until September 26, 1983. Consequently, the action requirements of Technical Specification 3.8.2.3(b) were not taken within the time allowed by the limiting condition for operation. Further details of this event are provided by Licensee Event Report (LER) 83-044/0IT-0. The NRC inspector reviewed the recent surveillance history for the Unit 2 station batteries (2D11 and 2D12) and identified four other instances where the licensee failed the meet the action requirements of Technical Specification 3.8.2.3(b) when the batteries were rendered technically inoperable as a result of surveillance test results. This is an apparent violation (368/8327-01).

On October 3, 1983, an enforcement conference was held at the NRC Region IV office. The conference was attended by Mr. J. M. Griffin of Arkansas Power and Light Company and members of his staff, and Mr. J. T. Collins, NRC

Region IV Administrator, and members of his staff. The primary purpose of the conference was to discuss the cause of the licensee's failure to recognize the out-of-specification conditions that resulted from the Unit 2 station battery surveillances and to discuss corrective actions to preclude recurrence. Other topics discussed included fire barrier controls, Unit 1 control rod 7-10 inoperability (LER 83-024/03L-0), recent enforcement experience, repetitive failures reported in licensee event reports, and the results of a recent NRC audit of Unit 2 licensed operator requalification exams.

4. International Atomic Energy Agency (IAEA) Inspection Program (Unit 2)

ANO-2 has been selected by the IAEA to participate in the IAEA safeguards inspection program. This inspection program is part of the United States/ IAEA Safeguards Agreement, and it is implemented in accordance with 10 CFR Part 75.

The initial meeting between the licensee and representatives from the IAEA was held at the licensee's corporate office on October 17, 1983. This meeting was also attended by the NRC resident inspector, representatives from the Offices of Nuclear Reactor Regulation (NRR) and Nuclear Material Safety and Safeguards (NMSS), and a NRC Region IV safeguards inspector. The purpose of the meeting was to discuss technical and schedular issues relating to the IAEA safeguards inspection program. A followup meeting was held at the plant site on October 18, 1983, to discuss technical and schedular issues in greater detail and to allow the IAEA representatives an opportunity to tour the ANO-2 facility. It was established at these meetings that the IAEA inspection program will commence during the current ANO-2 refueling outage and will continue through the next ANO-2 refueling outage.

No violations or deviations were identified.

5. Operational Safety Verification (Units 1 and 2)

The NRC inspectors observed control room operations, reviewed applicable logs, and conducted discussions with control room operators. The inspectors verified the operability of selected emergency systems, reviewed tagout records, and verified proper return-to-service of affected components. Tours of accessible areas of the units were conducted to observe plant equipment conditons, including potential fire hazards, fluid leaks, and excessive vibration. In addition, the inspectors ensured that maintenance requests nad been initiated for equipment in need of maintenance. The inspectors, by observations and direct interview, verified that the physical plan was being implemented in accordance with the station security plan.

The NRC inspectors observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. The NRC inspectors walked down the accessible portions of the Unit 2 emergency diesel

generator (2DG1) automatic start systems, the Unit 1 safety-related 125 VDC system, the Unit 1 engineered safeguards 480 VAC system, the Unit 1 decay heat removal system, the Unit 1 containment spray system and the Unit 1 emergency feedwater system to verify operability. The inspectors also witnessed portions of the radioactive waste system controls associated with radwaste shipments and barreling.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under Technical Specifications, 10 CFR, and administrative procedures.

No violations or deviations were identified.

6. Monthly Surveillance Observation (Units 1 and 2)

The NRC inspector observed the Technical Specification required surveillance testing on Unit 1 reactor protection system channel 'A' (Procedure 1304.37) and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with Technical Specifications and procedure requirements, that test results were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The inspector also witnessed portions of the following test activities:

- Engineered safeguards actuation system digital subsystem number 2 monthly test, Unit 1 (Procedure 1304.46)
- Weekly fire pump test, Unit 1 (Procedure 1104.32, Supplement VIII)
- Diesel generator number 2 monthly test, Unit 1 (Procedure 1104.36, Supplement II)
- Station battery, D07, quarterly inspection, Unit 1 (Procedure 1307.05)

No violations or deviations were identified.

7. Monthly Maintenance Observation (Units 1 and 2)

Station maintenance activities of the safety-related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, Regulatory Guides, and industry codes or standards; and in conformance with Technical Specifications.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and fire prevention controls were implemented.

Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety-related equipment maintenance which may affect system performance.

The following maintenance activities were observed/reviewed:

- Replacement of Unit 2 station battery, 2D11, cells (J.O. 56951 and Design Change Package 83-2174)
- Repair of Unit 1 reactor protection system panel voltage meter (J.O. 56222)
- Troubleshooting of Unit 1 'B' core flood tank panel indicator (J.O. 56209)
- Repair of Unit 1 Y24 electrical inverter ground (J.O. 56841)
- Maintenance on Unit 1 station battery, D07 (Procedure 1307.05)

While observing maintenance activities, the NRC inspector noted that Section 5 of the ANO job order form frequently was not filled in. This section of the job order form is used to identify and document post maintenance testing that is performed on repaired equipment to verify that the equipment is operable. Step 7.8 of Plant Administrative Procedure 1000.24, "Control of Maintenance," requires that either the test procedure number or a description of the specific post maintenance checkouts performed be noted in Section 5 of the job order form. Job Order 56841 (repairs made to Unit 1 Y24 inverter) is an example where Section 5 was not filled in as required by Procedure 1000.24. Failure to complete Job Order 56841 in accordance with Procedure 1000.24 is an apparent violation (313/8327-01). The NRC inspector discussed with licensee management representatives the importance of performing and documenting adequate post maintenance inspections and/or tests to verify that affected equipment is returned to a fully operable status. The NRC inspector further noted to licensee management representatives

that Section 5.2.6 of ANSI 18.7-1976 requires that operational personnel shall place equipment back in operation after maintenance, and they shall also verify and document its functional acceptability.

8. Security Guard Force Strike (Units 1 and 2)

a. Plans For Coping With Anticipated Strike

On October 29 and 30, 1983, the NRC inspector held discussions with appropriate licensee management representatives concerning an anticipated strike of the ANO security guard force which was scheduled to start at midnight on October 30, 1983. The NRC inspector determined from these discussions that the licensee had prepared adequate contingency plans for coping with the strike. The following areas of concern were addressed in these discussions:

- The licensee, in conjunction with the security guard force contractor, had taken steps to ensure that an adequate number of trained individuals would be available to maintain security at the plant. This would be accomplished by using onsite security force supervisory personnel, nonstriking security guards, and security guards brought in from other nuclear sites.

- Arrangements had been made to ensure that the replacement security force would have access to the plant.

- It was anticipated by the licensee that some contract workers presently engaged in Unit 2 outage work would honor the strike. However, the nature of the work being done by these contractors was such that it was not expected to affect the operation of Unit 1 (at 100% power at the time) or the ongoing refueling activities of Unit 2. Members of the licensee's plant staff were not expected to honor the strike.

- The state police and local law enforcement agencies had been advised of the anticipated strike and provisions had been made for their assistance, if it was required.

NRC Region IV management, through close contact with the NRC resident inspector, was kept informed of the licensee plans and preparations for coping with the anticipated strike. On October 30, 1983, the region dispatched two NRC security inspectors and an additional reactor inspector to the ANO site. These additional NRC inspectors were sent to the site to monitor security activities and to augment the NRC resident inspector's capabilities during the strike.

The inspector reviewed the licensee's prepared and approved Contingency Plan covering an imminent or impending strike of the security force and the specific functions of personnel as outlined in the licensee's approved Guard Training and Qualification (T&Q) Plan. Both the Contingency Plan and the T&Q plan are consistent with regulatory requirements.

b. Implementation of Strike Contingency Plan

At midnight on October 30, 1983, the ANO security guard force went on strike. The licensee's security guard force contractor, Burns, Inc., relieved the striking security guards at shift turnover with replacement security guards that had been assembled in anticipation of the strike.

Burns, Inc., had made prior arrangements with personnel from other nuclear sites to replace those guards striking and security did not appear to the inspector to be compromised. Security personnel were brought in by Burns, Inc., from Dresden and LaSalle in Illinois, Callaway in Missouri, and Comanche Peak in Texas. Refresher training, familiarization with the Arkansas plant site, and weapons requalification training had been conducted prior to these personnel assuming any responsibility. Permits had also been obtained for these security personnel to carry firearms in the state of Arkansas. The inspector reviewed all training and qualification records for these personnel from other nuclear sites and found all regulatory requirements to have been met. Provisions had also been made by the licensee with local law enforcement agencies should their assistance be necessary. The transition from striking to replacement personnel was accomplished in an orderly manner without incident. The striking security force guards established picket lines at the entrances to the ANO site. The picket lines were orderly and caused only a slight slowdown in traffic entering the site. As anticipated, some contract workers involved in the Unit 2 outage honored the picket lines.

The status of the Burns, Inc.'s security force at Arkansas Nuclear One on November 1, 1983, the first full day of the strike, was as follows:

	TOTAL BURNS PERSONNEL	REPORTED FOR WORK	CALLED IN SICK	RESIGNED	LOA*	ON STRIKE
CAS/SAS Operators (armed)	35	15	1			19
Security Officers (armed)	35	11	1	1	1	21
Watchmen	30	13	1	4	2	10

*LOA Leave of Absence - approved prior to the strike

The NRC resident inspector and a region based NRC reactor inspector monitored licensee activities in the areas of reactor operation, health physics, and maintenance to ensure that an adequate number of qualified personnel were on each shift to meet manning requirements.

The NRC inspectors verified that manning requirements were met by monitoring each shift turnover from the initiation of the security guard strike until the morning of November 2, 1983. So far, the security guard strike has not affected the operation of the plant. Plant personnel have reported to work as normal with the exception of the striking security guards and some contract workers involved in the Unit 2 outage. Communications equipment, including emergency equipment, both onsite and offsite remained operable. Access to plant personnel and emergency vehicles was not impeded.

No violations or deviations were identified.

9. Preparation For Refueling (Unit 2)

a. New Fuel Receipt

The NRC inspector observed the handling, receipt inspection, and storage of two of the 56 new fuel assemblies received by the licensee. The handling, receipt inspection, and storage of these assemblies was conducted in accordance with Operating Procedures 2503.01, "Fresh Fuel Inspection and Storage," and 2506.03, "Fresh Fuel Shipping Container Operations." The NRC inspector reviewed these procedures for technical adequacy and required approvals.

The NRC inspector reviewed the receipt inspection and storage records for the other 54 new fuel assemblies.

No violations or deviations were identified.

b. Refueling Preparations

The NRC inspector reviewed licensee procedures to verify that approved, technically adequate procedures were available for the following refueling activities:

- Fuel handling and transfer
- Fuel inspection
- Core internals inspection
- Fuel assembly modifications
- Core verification following refueling

The following procedures were reviewed:

Number	Revision	Title
2502.01	5	Refueling Shuffle
2502.03	6	Preparation for Refueling
2503.03	6	Operation of Fuel Handling Equipment
2409.40	3	Reactor Vessel Internals Inspection
2409.41	1	Irradiated Fuel Assembly Bow Measurements
2409.43	2	CEA Movement Utilizing CE Equipment
2409.68	0	Guide Tube Shim Installation

At this time, the licensee does not intend to submit a proposed core reload Technical Specification change. A safety evaluation is being performed in accordance with with 10 CFR 50.59.

No violations or deviations were identified.

10. Refueling Operations (Unit 2)

The NRC inspector observed fuel handling operations in both the reactor building and the spent fuel pool area during the transfer of the fuel assemblies from the reactor vessel to the spent fuel pool. The fuel assemblies were transferred in accordance with Procedure 2502.01, "Refueling Shuffle."

By observation and review of completed (signed off) procedure steps, the NRC inspector verified the following:

- Fuel handling equipment had been tested and verified to be operable.
- Fuel handling equipment operators were qualified (licensed where required) and had been checked out on the equipment.
- Technical Specification requirements were being met.
- Required radiation monitoring equipment was operable.
- Activities were performed in accordance with approved procedures and under the supervision of appropriate licensed personnel.

No violations or deviations were identified.

11. Exit Interview

The NRC inspectors met with Mr. J. M. Levine (Plant General Manager) and other members of the AP&L staff at the end of various segments of this inspection. At these meetings, the inspectors summarized the scope of the inspection and the findings.