

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-313/84-18
50-368/84-18

Licenses: DPR-51
NPF-6

Dockets: 50-313
50-368

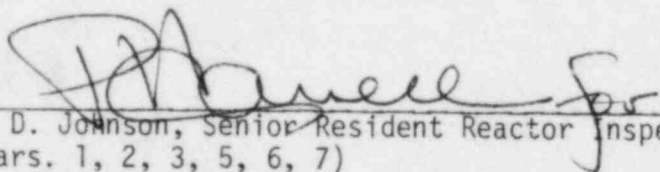
Licensee: Arkansas Power and Light Company
P. O. Box 551
Little Rock, Arkansas 72203

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

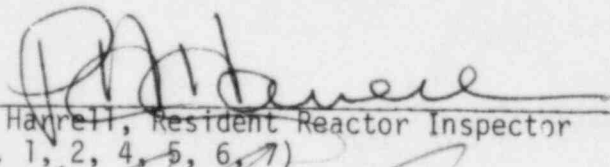
Inspection At: ANO Site, Russellville, Arkansas

Inspection Conducted: June 1-30, 1984

Inspectors:

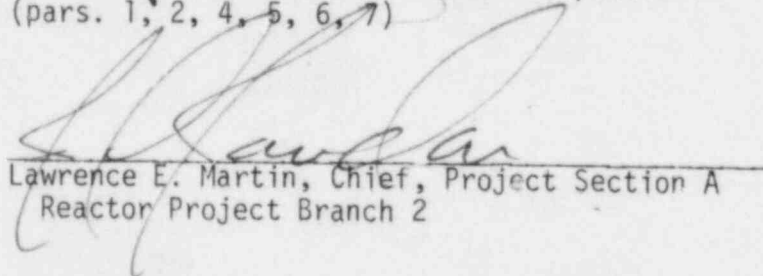

W. D. Johnson, Senior Resident Reactor Inspector
(pars. 1, 2, 3, 5, 6, 7)

7-2-84
Date


P. H. Hanrell, Resident Reactor Inspector
(pars. 1, 2, 4, 5, 6, 7)

7-2-84
Date

Approved:


Lawrence E. Martin, Chief, Project Section A
Reactor Project Branch 2

7/11/84
Date

Inspection Summary

Inspection Conducted June 1-30, 1984 (Report 50-313/84-18)

Areas Inspected: Routine, announced inspection of maintenance, surveillance, operational safety verification, and followup on previously identified items, IE Bulletins, and Generic Letter 83-28.

The inspection involved 93 inspector-hours onsite by two NRC inspectors.

Results: Within the six areas inspected, no violations were identified.

Inspection Summary

Inspection Conducted June 1-30, 1984 (Report 50-368/84-18)

Areas Inspected: Routine, announced inspection of operational safety verification, maintenance, surveillance, and followup on previously identified items, IE Bulletins, and Generic Letter 83-28.

The inspection involved 114 inspector-hours onsite by two NRC inspectors.

Results: Within the six areas inspected, no violations were identified.

DETAILS

1. Persons Contacted

- J. Levine, ANO General Manager
- E. Ewing, Engineering & Technical Support Manager
- *B. Baker, Operations Manager
- *L. Sanders, Maintenance Manager
- *J. McWilliams, Unit 1 Operations Superintendent
- M. Bolanis, Health Physics Superintendent
- R. Wewers, Unit 2 Operations Superintendent
- *T. Cogburn, Special Projects Manager
- L. Humphrey, Administrative Manager
- J. Lamb, Safety and Fire Prevention Coordinator
- T. Baker, Technical Analysis Superintendent
- C. Fellhauer, Radwaste Supervisor
- R. Gillespie, Chemical and Environmental Supervisor
- H. Hollis, Security Coordinator
- *L. Schempp, Nuclear Quality Control Manager
- G. Provencher, Quality Assurance Supervisor
- *D. Lomax, Plant Licensing Supervisor
- D. Moeggenberg, Plant Licensing Engineer
- S. Strasner, Quality Control Supervisor
- B. McCord, Quality Control Inspector
- G. Fiser, Radiochemistry Supervisor
- C. Shiveley, Plant Engineering Superintendent
- R. Turner, Electrical Engineering Supervisor
- C. Halbert, Mechanical Engineering Supervisor
- D. Coffman, Graphics Specialist
- R. Tucker, Electrical Maintenance Superintendent
- *R. French, Quality Assurance Inspector

*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 313/8304-05; 368/8304-05: Logs used to track design change packages.

The licensee now uses a computerized records management system for tracking design change packages. This computerized system replaces the previous handwritten tracking system.

- (Closed) Severity Level V Violation 313/8304-02; 368/8304-02: Failure to follow procedures regarding the forms used in the closeout of design change packages.

The licensee has included Form 1000.13E as part of Procedure 1000.13. This form is now being used as described by the procedure.

- (Closed) Open Item 313/8219-02; 368/8216-01: Handling of waste diesel fuel oil during sampling.

The licensee has made changes to the diesel fuel oil sampling procedures (1618.10 and 2618.05) to require spillage during sampling be collected and/or cleaned up.

- (Closed) Unresolved Item 313/8407-02; 368/8407-02: The frequency of audits specified in the Quality Assurance Manual - Operations did not agree with the Technical Specification requirements.

The licensee has revised the Quality Assurance Manual - Operations (APL-TOP-1A) in Revision 6 to reflect the correct audit frequencies as specified in the Technical Specifications.

- (Closed) Severity Level V Violation 313/8407-01; 368/8407-01: Delay of quality assurance audits without approval by the quality assurance manager.

The licensee has added an information section to the 1984 audit schedule which will provide continuously updated information for the quality assurance (QA) manager and the Safety Review Committee (SRC). The revised audit schedule was submitted to and approved by the QA manager and the SRC.

- (Closed) Severity Level V Violation 313/8304-01; 368/8304-01: Failure to conduct design change reviews by offsite engineering group.

The licensee has revised the Quality Assurance Manual - Operations (APL-TOP-1A) in Revision 6 to require each organization (i.e., Little Rock and site engineering) to ensure the adequacy of a design by performance of design reviews. This revision eliminated the requirement for Little Rock personnel to review designs and/or design changes initiated by site engineering. The licensee has also issued appropriate procedures to establish the requirements for performance of design and/or design changes by the site engineering organization.

(Closed) Severity Level V Violation 368/8412-01: Failure to control combustibles.

The licensee issued a memorandum to all ANO employees on April 25, 1984, to reemphasize each individual's duty and responsibility for the control of combustibles and flammable liquids. Subsequent to the issuance of the memorandum, the NRC inspectors have made numerous inspections and have found that combustibles are being effectively controlled and that housekeeping efforts by the licensee are being effectively implemented.

(Open) Unresolved Item 313/8118-02; 368/8116-03: Control room ventilation.

NRC Inspection Report 313/81-18; 368/81-16 stated:

"The NRC inspector observed on June 1, 1981, that the reserve air bottles for the outside air dampers on VSF-9 and 2VSF-9, the control room recirculation and filtration units, were empty and that one of the dampers (CV-7910) was in the failed open position. The result of the depressurized (empty) reserve air bottles would be an inability to close the outside air dampers, if desired, while the control room ventilation system was in the recirculation mode. The licensee repressurized the reserve air bottles. A design change will apparently be required to make damper CV-7910 operable.

"Station operations personnel were unable to state the conditions under which it would be desirable to close these dampers and their closing is not addressed in plant procedures. The NRC inspector requested that the licensee review the design basis for this system to determine whether the above observed conditions constituted a degradation of system operability and to provide operating guidance to station operations personnel. . . ."

During this inspection, the NRC inspector reviewed Operating Procedure 1104.034, Revision 7, dated 10/21/83. This procedure still does not address operation of the outside air dampers on VSF-9 and 2VSF-9. Discussions with licensee personnel indicated that the issue discussed above had been reviewed by various licensee personnel, but that a final answer or resolution has not yet been reached. Engineering Action Request 83-713 is

applicable. The current due date for resolution has been established as 9/1/84. The NRC inspector will review this item during a future inspection.

(Open) Open Item 313/8017-03: Reactor building purge alarm setpoint.

The alarm setpoint for the reactor building ventilation exhaust monitor (RE-7400) is calculated by the radiochemist prior to a reactor building purge. In response to the concern expressed in this open item, the licensee now calculates this setpoint so that an alarm is generated if the release rate reaches 80% of the Technical Specification (TS) limit rather than 100%. In addition, if the purge must be ran in segments to avoid reaching the TS limit, the run times are established so the release rate is no more than 80% of the TS limit. The alarm would still be of limited use to the operator in conditions where a segmented purge was required, since it would probably sound upon initiating the purge, even though the release limits were not exceeded. The utilization of the Gaseous Effluent Radiation Monitoring System (GERMS) for controlling and monitoring the release rate during a reactor building purge will probably satisfy this concern, but this system is not yet fully operational for this purpose. However, the concern is alleviated by the unit's current condition of having higher fuel integrity than in 1980, resulting in much lower levels of radioactivity in the reactor building atmosphere. During the last reactor building purge, a continuous purge was permissible initially without exceeding TS limits. Under this condition, the alarm would serve a useful function of alerting the operator to a release rate which was higher than expected or which approached TS limits.

(Closed) Unresolved Item 313/8118-03: Control room area radiation monitor setpoint.

The licensee has established an alarm setpoint of 7 mr/hr and a warning setpoint of 1 mr/hr for this instrument (RE-8001). These setpoints and their bases are given in Operating Procedure 1305.01, "Radiation Monitoring System Check and Test." Calibration Procedure 1304.028, "Area Radiation Monitoring System Calibration," is used to calibrate RE-8001. This procedure requires the instrument technician to obtain the setpoints for RE-8001 from Procedure 1305.01.

(Open) Open Item 368/8206-01: Reactor coolant pump seal pressure sensing line supports.

In response to repeated failures of sensing line supports and sensing line welds resulting in leakage inside containment during operation, the licensee performed DCP 83-2011 during the last refueling outage. This design change was performed under Job Order 55137 and was completed in December 1983. An additional failure during the current cycle indicates that the design change did not achieve its design objective of avoiding fatigue failure of reactor coolant pump seal pressure sensing lines. This matter is being reviewed again by the licensee and tracked by Plant Safety Committee Action (PSCA) Item 84-099-01 and Report of Abnormal Condition (RAC) 2-84-137. This item remains open pending further licensee action.

(Closed) Open Item 368/8024-01: Diesel generator exhaust entering control room.

The licensee has revised Operating Procedure 2104.36 to require that the control room ventilation system be placed in a recirculation mode prior to starting an emergency diesel generator.

3. Followup on IE Bulletins (Units 1 and 2)

IE Bulletin 79-15

This IE Bulletin, titled "Deep Draft Pump Deficiencies," was issued on July 11, 1979. It addressed manufacturing deficiencies identified on deep draft pumps at reactor facilities which were under construction. Licensees were required to provide information to the NRC about their installed deep draft pumps in safety-related applications. The information was provided by Arkansas Power and Light Company for ANO-1 and 2 by a letter dated September 6, 1979. This letter provided identifying data on the service water pumps and a summary of their startup, testing, maintenance, and operational history of the pumps. This information and similar information provided by other holders of power reactor licenses or construction permits was evaluated by NRC headquarters and contractor personnel. The results of this evaluation were published in NUREG/CR-3049 in April 1984. This report concluded that the deep draft pump issue and IE Bulletin 79-15 should be closed for ANO-1 and 2 based on the favorable operating history of the service water pumps at ANO.

IE Bulletin 84-02

This IE Bulletin, titled "Failures of General Electric Type HFA Relays in Use in Class IE Safety Systems," was issued on March 12, 1984. A written response is due from the licensee by July 19, 1984. During this inspection period, the NRC inspector observed the partial performance of a visual inspection of HFA relays by maintenance electricians. This inspection was controlled by Job Order 68233 and included noting coil spool color, cleanliness condition, presence of cracks, and whether it was normally energized or not. This bulletin remains open.

IE Bulletin 83-07

This IE Bulletin, titled "Apparently Fraudulent Products Sold by Ray Miller, Inc.," was issued on July 22, 1983. Supplements were issued on October 26, 1983, and December 9, 1983. The licensee provided a written response on March 26, 1984. This response provided a summary of the steps taken to determine whether any Ray Miller, Inc. material had been purchased for ANO and concluded that there is no evidence to indicate that Ray Miller, Inc. products had been purchased for use at ANO. The licensee's response also described actions taken or planned to upgrade its procurement quality assurance program. This bulletin is closed.

4. Generic Letter 83-28, Required Actions Based on Generic Implications of the Salem ATWS Event (Units 1 and 2)

Generic Letter 83-28, dated July 8, 1983, required licensees to respond to the generic implications of the Salem ATWS event. Specifically, the licensee was to address four areas related to reactor trip system reliability and general management capability. The four areas include: (1) post-trip review, (2) equipment classification and vendor interface, (3) post-maintenance testing, and (4) reactor trip system reliability improvements. The licensee provided the response to the four areas on November 5, 1983.

This portion of the inspection covered the area of post-trip review. The other three areas addressed in the licensee response will be reviewed during future inspections.

The NRC inspector reviewed the licensee's procedural requirements to verify that their post-trip review program complies with the requirements stated in Generic Letter 83-28 and the commitments contained in the licensee's response. With the exception of two minor discrepancies, it appears the licensee has established an appropriate post-test review

program. The licensee has made changes to the appropriate procedures to correct the two minor discrepancies. In addition, the NRC inspector also verified that the licensee routinely obtains and retains post-trip plant parameter data and information.

5. Monthly Surveillance Observation (Units 1 and 2)

The NRC inspector observed the Technical Specification required surveillance testing on the Unit 2 emergency diesel generator No. 2 (Procedure 2104.36, Supplement II) 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 surveillance test performed on Unit 2 emergency diesel generator No. 1 (Procedure 2104.36, Supplement I).

No violations or deviations were identified.

6. 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 conditions, including potential fire hazards, fluid leaks, and excessive vibration. In addition, the inspectors ensured that maintenance requests had been initiated for equipment in need of maintenance. The inspectors, by observation and direct interview, verified that the physical security 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 boric acid makeup system, Unit 1 emergency feedwater system, and Unit 2 high pressure injection system to verify operability. The inspectors 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.

The Unit 2 boric acid makeup system walkdown was performed using Procedure 2104.03. The Unit 1 emergency feedwater system walkdown was performed using Drawing M-204, Sheet 2. The Unit 2 high pressure injection system walkdown was performed using Drawing M-2232 and Procedure 2104.39. During preparation for the above walkdown inspection, the NRC inspectors identified minor errors on Attachment A of Procedure 2104.39 and on Drawing M-2232. These were pointed out to appropriate licensee personnel.

During plant tours, the NRC inspectors noted that the site evacuation alarm and/or public address (PA) system was not audible in all areas of the plant. The licensee was notified of the discrepancies and committed to perform a test of the evacuation alarm and PA system. This item will remain open pending completion of the test and resolution of the discrepancies by the licensee. (313/8418-01; 368/8418-01)

No violations or deviations were identified.

7. Monthly Maintenance Observation (Units 1 and 2)

Station maintenance activities of 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 ensure that priority is assigned to safety-related equipment maintenance which may affect system performance.

The following maintenance activities were observed/reviewed:

- Repair of a burnt field winding on Unit 2 emergency diesel generator No. 2 (J.O. 68707)

- . Adjustment of the Unit 1 average flux meters (J.O. 69915)
- . Replacement of an exhaust manifold gasket on Unit 2 emergency diesel generator No. 2 (J.O. 70210)
- . Repair of Unit 2 channel 2 reactor protective system (J.O. 70217)
- . Visual inspection of GE HFA relays in Units 1 and 2 (J.O. 68233)
- . Repair of position indication on CV-3806 (J.O. 69992)

No violations or deviations were identified.

8. Exit Interview

The NRC inspectors met with Mr. B. A. Baker 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.