

U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
REGION IV

IE Inspection Report No. 50-313/75-04

Docket No. 50-313

Licensee: Arkansas Power and Light Company  
Sixth and Pine Streets  
Pine Bluff, Arkansas 71601

License No.: DPR-51

Category C

Facility: Arkansas Nuclear One, Unit 1

Location: Russellville, Arkansas

Type of License: B&W, PWR, 2568 Mwt

Type of Inspection: Routine, Unannounced

Dates of Inspection: May 5-9, 1975

Dates of Previous Inspection: April 23-25, 1975

Principal Inspector: D. G. Anderson  
D. G. Anderson, Reactor Inspector

5/19/75  
Date

Other Accompanying Personnel: None

Reviewed By: G. L. Madsen  
G. L. Madsen, Chief, Reactor Construction and  
Operations Branch

5/21/75  
Date

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SUMMARY OF FINDINGS

I. Enforcement Action

A. Violations

None identified by the inspector.

B. Infractions

None identified by the inspector.

C. Deficiencies

Records

The inspector identified that contrary to Section IV.B.2, V.C, and VI of the Requalification Program for Arkansas Nuclear One - Unit 1, the following records were not being maintained:

- (1) Review of changes in station design, procedures, and the facility license by each licensed operator or senior operator.
- (2) Evaluation of the performance of licensed operators and senior operators by supervisors and/or training staff members.
- (3) Lecture series and attendance for all operators and senior operators.

II. Licensee Action on Previously Identified Enforcement Actions

Not inspected.

III. Design Changes

The inspector visually noted that the cross connect line for the building spray pump suction lines has been removed and stubbed off. (DETAILS, section 2)

IV. Unusual Occurrences

Not inspected.

V. Other Significant Findings

A. 7504-1 - Deviation in the Design Requirements for Iodine Precipitation During a LOCA

The licensee reported on May 8, 1975 that a Babcock and Wilcox analysis of valve actuation and tank volume for building spray concentration

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during a LOCA will not provide the necessary precipitation of iodine in the building containment atmosphere. The licensee stated that an unusual event report would be made concerning this item.

B. 7504-2 - Fire Stop Inspection

The inspector inspected fire stops in various critical areas through the plant. It appears that although the fire stops do not meet the exact requirements of Bechtel Design Drawings, fire stops were observed to be in place in cable tray and conduit penetrations in critical plant locations. (DETAILS, section 3)

C. 7504-3 - Seismic Hydraulic Shock and Sway Suppressors

The licensee previously reported leaking reservoirs of seismic snubbers on the pressurizer. This loss of fluid in the reservoir did not prevent the shock suppressor from functioning in the event of a seismic event. (Details, section 4)

D. Reactor Startup and Operation

The inspector observed portions of reactor startup to 75% power. The control room instrumentation and staffing requirements met selected Technical Specification requirements during these operations. (DETAILS, section 5)

E. Requalification Program

The inspector performed the annual evaluation of the licensee's operator and senior operator training and requalification programs. The inspector noted deficiencies in the maintenance of records of the requalification program. (DETAILS, section 6)

VI. Management Exit Interview

The inspection findings of May 5-9, 1975 were discussed with Mr. J. W. Anderson, Plant Superintendent, and members of his staff at the conclusion of the inspection. The noncompliance item associated with failure to maintain the proper records for the requalification program was addressed by the inspector. The licensee assured the inspector that henceforth these records would be maintained. The inspector inquired as to the status of licensee replies to IE Bulletins No. 75-04 and 75-05. The licensee stated that these replies were in the process of being either written or completed. The inspector discussed the fire stops installed throughout the plant and the apparent deviations from the design drawings. The inspector indicated that further review of this item will be forthcoming.

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DETAILS

1. Persons Contacted

Arkansas Power and Light Company (AP&L)

J. W. Anderson, Plant Superintendent  
B. A. Terwilliger, Supervisor of Plant Operations  
T. Martin, Maintenance Supervisor  
J. Orlicek, Quality Control Engineer  
G. DuPriest, Shift Supervisor  
T. Templeman, Assistant Plant Operator  
R. Simmons, Plant Operator  
R. Fischencord, Health Physicist  
T. Cogburn, Nuclear Engineer  
G. Wolf, Waste Control Operator  
T. Green, Assistant Training Coordinator  
A. Russell, Assistant Maintenance Supervisor  
D. Trimble, Training Coordinator

Bechtel Power and Industrial Division

B. Matthews, Field Supervisor Engineer - Electrical

2. Reactor Building Spray Line Cracks (74/14-7)

The inspector observed that the licensee's suggested action 1/ has been completed. The reactor building spray system cross-connect line has been removed and a foot long welded stub now exists at each point on the suction lines where the cross-connect line once was attached. In addition, a sample line has been welded to the stub in order that the licensee may take spray solution samples to test for chloride concentrations. A hand valve exists on each of these lines for this purpose. The licensee indicated that sampling of the sodium thiosulfate solution yielded chloride concentrations of approximately 275 ppm. The inspector also observed that the TREPAN samples had been removed and similar sections rewelded in their place. The licensee indicated that these samples would be available for inspection and analysis at the Southwest Research Institute (San Antonio, Texas) beginning the week of May 12, 1975.

3. Fire Stop Inspection

a. Scope of Inspection

In response to pending action control format, an inspection was performed of the installation of fire stops on electrical cables and penetration seals at ANO-1. The inspector reviewed design drawings and specifications, visually examined cable penetrations

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1/ Letter dated March 25, 1975, Cavanaugh, AP&L, to Giambusso, USNRC.

to determine the extent of conformance with design drawings and specifications, and conducted discussions with the licensee representative to determine whether or not the licensee has initiated and promulgated the actions requested in IE Bulletins 75-04 and 75-04A.

b. Areas Inspected

The physical areas which the inspector visually examined were the:

1. Instrument compartments in the Reactor Control Room.
2. The Cable Spreading Room.
3. Emergency Diesel Generator Rooms.
4. Battery Rooms (Room 100).
5. Main Switchgear Rooms (Room 99).
6. Auxiliary Building (Reactor Protection Systems).

The inspector reviewed design drawings and specifications prepared by Bechtel Power and Industrial Division titled, "Conduit and Cable Trays Notes and Details", Job No. 6600, Drawing No. E-59, Sheets 1 through 52. The following drawings relate to fire stops:

1. "Fire Stop for Cable Trays through Floor Openings" - Sheet 36.
2. "Fire Stop for Cable Tray through Wall Openings" - Sheet 37.
3. "Fire Stop for Cables through Wall Sleeves" - Sheet 38.
4. "Fire Stop for Cable Trays Running Vertically without Floor Fire Stops" - Sheet 39.
5. "Fire Stop for Cable Trays through Floor or Wall Openings" - Sheet 40.
6. "Fire Stop for Cable Tray and Conduit through Floor and Wall Openings" - Sheet 52.

Sheets 36 through 40 require a combination 2/ of one-half inch Marinite-36 and one-fourth inch Flamemastic-71A and inorganic thermal insulating wool.

Sheet 52 requires only cellular concrete on cable tray and conduit floor and wall penetrations.

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2/ Letter dated April 8, 1975, Cavanaugh, AP&L, to Moseley, IE-II USNRC, Item 2.



C. Findings

Only one fire stop was noted during the inspection which conformed to the details of 1-5 above. Approximately 20% of the fire stops met the requirements of 6 above. The remainder of the fire stops inspected did not conform exactly to the details of 1-6 above. Most of the fire stops consisted of Flamemastic and inorganic thermal insulating wool plastered by hand into cable tray penetrations and the ends of conduits, but did not include the Marinite-36 as required. At one location in the auxiliary building, a fire stop containing reactor protection system cable trays, was coated with GERTV Silicone rubber RTV 102 sealant which was found by the inspector to be combustible. The licensee indicated that he would consider removal of this material and replacement with a non-combustible sealant. The licensee also indicated that details of this sealant installation and details of the existing fire stop installation were available. The licensee had not produced this information at the conclusion of the inspection. This installation information will be reviewed at the next scheduled inspection. It appeared, from visual inspection, that all cables for safety related systems in the cable spreading room are enclosed in steel conduit. The inspector noted that panels had been removed from terminal boxes in the cable spreading room and had not been refastened. The inspector noted that these panels had been refastened in a subsequent inspection of the cable spreading room.

The inspector visually inspected the following safety related systems in the auxiliary building:

1. High pressure injection pumps
2. Low pressure injection pumps
3. Reactor building spray pumps

The inspector noted that power and control cabling for these systems are enclosed in steel conduit.

4. Seismic Snubbers

In response to IE Bulletin No. 75-05, the inspector discussed hydraulic shock and sway suppressors with the licensee. The licensee had previously reported 3/ problems encountered during inspection of leaking hydraulic shock suppressors (Snubbers) on the pressurizer. Discussions with the licensee indicated that the seals on hydraulic oil reservoirs were leaking as well as a one-half inch connecting line to the shock suppressor itself. During the recent shutdown maintenance period, the gasket seals were

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3/ Telephone call, J. W. Anderson, Plant Superintendent, and IE:IV, 4/29/75.

replaced and the connecting tube tightened on four of these units on the pressurizer. The licensee indicated that loss of fluid level in the reservoir did not compromise the function of the shock suppressors, since fluid remained at all times in the shock absorber section of the unit. All shock suppressors at ANO-1 are ANKER-HOLTH 200K hydraulic suppressors. The inspector visually inspected the defective snubbers and found that the described maintenance had indeed been performed and that each reservoir was filled with hydraulic fluid and appeared to be leak tight.

5. Reactor Operation

The inspector was present in the control room during reactor startup on the afternoon of May 5, 1975. During startup on the source range, the reactor operator was observed to maintain a startup rate of less than one decade per minute. The reactor coolant temperature was 536°F during startup which is above the minimum temperature required for criticality (TS 3.1.3.1). Channel overlap between source range and intermediate range was observed by the inspector to be approximately one decade. This overlap meets the requirement of TS 3.5.1.5. The control room staffing requirements were observed to meet the restrictions imposed by TS 6.2.2.2, 6.2.2.3, and Table 6.2-1. The inspector also observed the licensee's technique for calculating the boron addition necessary to adjust the controlling bank while maintaining criticality. On May 8, 1975, the inspector noted reactor power at 76% and generator electrical output at 74%.

6. Training

a. Areas Inspected

The inspector reviewed training schedules, lecture items, lecture plans, examinations, and interviewed instructors to verify that:

1. A training program has been established.
2. Responsibility has been assigned to administer the program.
3. Lecture schedules have been established for required lecture items.
4. The program includes the use of training aids.

The inspector interviewed two licensed operators and one senior operator and reviewed records of program participation to verify that:

1. Training courses were completed and yearly examinations were administered.

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2. Manipulations required by Appendix A to 10 CFR 55 were performed and documented.
3. Individual study and use of training aids was accomplished and documented.
4. Indoctrination of new and existing employees to security practices was conducted.
5. Indoctrination of new and existing employees and construction personnel to health physics practices was conducted.
6. Indoctrination of new and existing employees to the emergency plan was conducted.

Areas in which the licensee appeared to be deficient were:

1. The lecture series for requalification of all operators and senior operators including subjects and duration is not being implemented or documented.
2. Individual review of design, procedure, and license changes is not being documented.
3. The results of supervisory evaluation of each individuals' qualifications, training, and examination are not being documented.