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RO Inspection Report No. 50-313/74-1

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

Facility Name: Arkansas Nuclear One, Unit 1
Docket No.: 50-313
License No.: CPPR-57
Category: B1

Location: Russellville, Arkansas

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

Type of Inspection: Routine, Unannounced

Dates of Inspection: January 15-18, 1974

Dates of Previous Inspection: December 18-21, 1973

Principal Inspector: M. S. Kidd, Reactor Inspector
Facilities Test and Startup Branch

Accompanying Personnel: None

Principal Inspector: M S Kidd 1-25-74
M. S. Kidd, Reactor Inspector, Facilities Test and Startup Branch — Date

Reviewed by: C E Murphy 1/28/74
C. E. Murphy, Chief — Date
Facilities Test and Startup Branch

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SUMMARY OF FINDINGS

I. Enforcement Action

A. Violations

None

B. Safety Items

None

II. Licensee Action on Previously Identified Enforcement Matters

A. Violations

There were no previously identified violations open at the time of this inspection.

B. Safety Items

There were no previously identified safety items.

III. New Unresolved Items

74-1/1 Valve Deficiencies (Regulatory Operations Bulletin 74-1)

Regulatory Operations Bulletin (ROB) 74-1 identifies deficiencies in certain Walworth and Darling valves. The licensee is in the process of determining whether such valves are installed at Arkansas Nuclear One (ANO). (Details I, paragraph 2)

IV. Status of Previously Reported Unresolved Items

72-9/1 Incorporation of Safety Related Equipment in the FSAR Q List

Not inspected.

72-12/2 Valve Wall Thickness Verification Program

Not inspected.

73-3/1 Completion of Radiological Waste Disposal System

No change in status. The FSAR is to be amended to identify the solid waste system as a Unit 2 system. This item remains open. (Details I, paragraph 3)

73-5/2 Core Flood System Flow Rate Test

No change in status. See RO Report No. 50-313/73-19, Details I, paragraph 10.

73-8/1 Procedural Coverage Per Safety Guide 33

Procedure development continues, but several are not yet written. (Details I, paragraph 4)

73-10/5 Clean Radwaste System Test Procedure

Not inspected.

73-10/6 Respiratory Protection Program and Procedures

Not inspected.

73-10/7 Representative Sampling of Gaseous Wastes

Not inspected.

73-12/2 Diesel Generator Trips

Not inspected.

73-12/3 Control Rod Trip Test

No change in status. Comments on TP 330.05 remain open. (Details I, paragraph 5)

73-14/2 Initial Core Load Procedure

The procedure is still in draft form. One additional comment regarding response checks of excore instruments was given. This item remains open. (Details I, paragraph 6)

73-14/3 Leak Testing of the Personnel Hatch

No change in status. The Unit 1 Technical Specifications are to be changed to agree with Appendix J to 10 CFR 50. (Details I, paragraph 7)

73-16/1 Radiography Review

Not inspected.

73-17/1 Pressurizer Electromatic Relief Valve

No change in status. This item remains open. (Details I, paragraph 8)

73-17/2 Emergency Operating Procedures

These procedures are being reviewed and revised to incorporate RO comments. This item remains open. (Details I, paragraph 9)

73-17/3 Operational Test Program

Approximately half of the operational test procedures have not been written. This item remains open. (Details I, paragraph 10)

73-18/1 Emergency Planning

Not inspected.

73-18/2 Location of Radiation Monitor Readouts

Hourly readings are to be taken on the recorders for plant radiation monitors. This matter is considered resolved. (Details I, paragraph 11)

73-18/3 Calibration of Radiation Monitors

Not inspected.

73-19/1 Inverter Malfunction

Not inspected.

73-19/2 Reactor Building Ventilation System Ductwork

No additional information was available at the time of the inspection. A licensee report per 10 CFR 50.55(e) is due January 20, 1974. (Details I, paragraph 12)

73-19/3 Makeup and Purification ES Test

Licensee personnel have agreed to take action to upgrade the quality of chronological test logs. This item is considered resolved. (Details I, paragraph 13)

V. Unusual Occurrences

Fuel Assembly Orifice Rods

During a pre-loading inspection of fuel assemblies and related components, it was found that seven of the forty assemblies which contain orifice (flow limiting) rods (OR) exerted more friction than normal on the OR's when they were inserted and removed. The licensee is investigating the problem. (Details I, paragraph 14)

VI. Other Significant Findings

Project Status

AP&L has estimated core loading to start March 25, 1974, as compared to the previous estimate of March 2, 1974. The slippage is due to delay of hot functional testing due to problems in the cleanup of feedwater in the secondary plant.

VII. Management Interview

A management interview was conducted January 18, 1974, to discuss findings of the inspection. The following licensee representatives attended:

Arkansas Power and Light Company (AP&L)

J. W. Anderson - Plant Superintendent
R. R. Culp - Test Administrator
N. A. Moore - Chief Quality Assurance Coordinator
J. L. Orlicek - Quality Control Engineer
M. H. Shanbhag - Procedure Administrator
B. A. Terwilliger - Operations Supervisor

The new unresolved item regarding valve deficiencies outlined in ROB 74-1 was discussed. More information is given in Details I, paragraph 2.

The status of previously identified unresolved items listed in Section IV were discussed. The inspector stated that the items regarding location of radiation monitor readouts and the makeup and purification test log were considered resolved and that all others would remain open. Information on the previously identified unresolved items is given in Details I, paragraphs 3 through 13.

The availability of procedures needed for fuel loading was discussed. The inspector stated that unless RO were supplied with approved copies of those procedures required for operations by Safety Guide 33 and these required for zero power physics and power ascension testing by Regulatory Guide 1.68 by February 25, 1974, he could not give assurance

that RO's review of those procedures would be complete by the estimated core loading date of March 25, 1974.

The subjects of Details I, paragraphs 14 through 17, were discussed. The inspector stated that he had no significant questions outstanding on them.

DETAILS I

Prepared by: M. S. Kidd, Reactor Inspector
Facilities Test and Startup Branch
1-25-74 Date

Dates of Inspection: January 15-18, 1974

Reviewed by: C. E. Murphy, Chief, Facilities
Test and Startup Branch
1/25/74 Date

1. Persons Contacted

In addition to those listed in the Management Interview section, the following persons were contacted.

Arkansas Power and Light Company (AP&L)

P. Almond - Reactor Technician
W. Cavanaugh - Production Project Manager
T. H. Cogburn - Nuclear Engineer
T. Holcomb - Assistant Plant Operator
J. McWilliams - Assistant Plant Operator

Bechtel Corporation (Bechtel)

R. Sreekakula - Startup Engineer

2. Valve Deficiencies (ROB 74-1)

ROB 74-1 discusses weld failures between the valve yoke and motor operator mounting plate in certain Walworth Company valves and a backseating disc mislocation problem on certain Darling valves. Preliminary investigation indicates that some of the Darling valves may be installed in Unit 1. Licensee personnel stated that Bechtel had been requested to determine the status for the valves. A written report will be submitted by AP&L in response to the ROB. The inspector stated that this matter would be carried as an unresolved item.

3. Completion of Radiological Waste Disposal Systems

This unresolved item was initially discussed in RO Report No. 50-313/73-3, Details I, paragraph 4. Licensee personnel maintain that the solid radwaste system described in Section 11.1.3.3 of the FSAR is a Unit 2 system and was not intended to be operational for Unit 1 startup. During the previous inspection (73-19), licensee personnel stated that the FSAR would be amended to reflect the status of this system. This has not yet been done, therefore, the inspector stated that this item would remain open.

4. Procedural Coverage per SG 33

This unresolved item was first discussed in RO Report No. 50-313/73-8, Details II, paragraph 4. The following represents the status of procedures needed for operations and not yet completed based on information provided the inspector during the current inspection:

a. General Plant Operating Procedures

All of these have been written and most approved. RO has reviewed those that have been approved and AP&L is rewriting them as needed.

b. Alarm and Abnormal Procedures

Approximately 500 alarm procedures will be required. Licensee personnel have gathered basic information such as alarm sources, but have not yet written any of the procedures.

c. Emergency Operating Procedures

Of 49 procedures needed, 46 have been written and 36 approved. RO:II has reviewed those that have been approved and AP&L is rewriting the procedures where necessary.

d. Chemical and Radiation Control Procedures

AP&L lists 27 of these as being needed and 20 have been written and approved.

e. Operational Test Procedures

There are 71 procedures required to implement 1004.12, "Operational Test Control." Of those, 44 have been written and 38 approved. Other test and inspection procedures are to be written to cover testing other than Technical Specification requirements, covered by 1004.12.

A few miscellaneous procedures are yet to be written, but do not represent the workload of those enumerated above.

The inspector informed licensee personnel during the management interview that the procedures required for operations by SG 33 would be needed by February 25, 1974, in order that his reviews be completed by the estimated fuel loading date of March 25, 1974. He also stated that this item would remain open.

5. Control Rod Trip Test

Comments on TP 330.05 were initially discussed in RO Report No. 50-313/73-12, Details I, paragraph 5. These comments were reviewed

with a licensee representative who indicated that the procedure would be revised prior to being used during power ascension testing. This item remains open.

6. Initial Core Loading Procedure

This unresolved item was initially discussed in RO Report No. 50-313/73-14, Details I, paragraph 4. The procedure has not yet been written in final form for review and approval. The inspector gave an additional comment regarding response checks on the source range instrumentation. He stated that they should be checked for response to a neutron source within eight hours of the start of fuel loading and prior to restarting the loading if delayed for eight hours or more. A licensee representative stated that this would be incorporated into the procedure. The inspector stated that approval of the procedure and resolution of RO comments would remain open.

7. Leak Testing of the Personnel Hatch

This unresolved item was initially discussed in RO Report No. 50-313/73-14, Details I, paragraph 5. The inspector was informed that Technical Specification 4.4.1.2.5(b) would be revised in Amendment 43 to the FSAR in February to make testing requirements comparable to Appendix J to 10 CFR 50. This item remains open.

8. Pressurizer Electromatic Relief Valve

Information concerning possible deficiencies in this valve were discussed in RO Report No. 50-313/73-17, Details I, paragraph 4. No additional information on this valve was available during the current inspection. This item remains open.

9. Emergency Operating Procedures

RO comments on emergency procedures, the basis of this unresolved item, were discussed in RO Report No. 50-313/73-17, Details III, paragraph 2. The inspector was informed that some of these procedures have been revised and are undergoing review. The inspector stated that this item will remain open until review of the procedures reveals that comments and concerns have been resolved.

10. Operational Test Program

This unresolved item was initially discussed in RO Report No. 50-313/73-17, Details III, paragraph 3. Procedure 1004.12, "Operational Test Control," has been revised to indicate the procedures which are to be used to perform and document testing requirements. This revision (No. 1) is currently under review by AP&L. As discussed in paragraph 4.e of this Details section, slightly over half of the procedures required by 1004.12 have been written. The inspector stated that this item would remain open.

11. Location of Radiation Monitor Readouts

This unresolved item was initially discussed in RO Report No. 50-313/73-18, Details I, paragraph 3. The recorders and meters used for indicating the status of radiation monitoring instrumentation are not located in the control room. The inspector asked what monitoring frequency would be used to assure that trends in radiation and activity levels would be detected in a timely manner. Licensee personnel stated that these instrument readings would be observed and recorded once each hour. This position was reaffirmed during the management interview at which time the inspector stated that this item was considered closed.

12. Reactor Building Ventilation System Ductwork

The probability that the discharge ductwork of the reactor building ventilation system would not withstand the differential pressure expected during a loss of coolant accident was discussed in RO Report No. 50-313/73-19, Details I, paragraph 5. A licensee report per 10 CFR 50.55(e) was due January 20, 1974. This item remains open.

13. Makeup and Purification System ES Test

Concerns over the adequacy of the chronological log for TP 202.07 were discussed in RO Report No. 50-313/73-19, Details II, paragraph 4.a. A second review of the test results revealed that the procedure does call for recording various data on Brush recorders, thus these charts are acceptable for demonstrating compliance with acceptance criteria regarding flows and pressures. The inspector was informed that a second run was made on the first test because it was noted that this run exhibited the lowest flow data and might be marginal.

The inspector reviewed the chronological logs for several other tests, some of which were still being run and noted that all other logs contained more information than the one for TP 202.07. It was also noted that there seemed to be a lack of consistency in the types of information entered. In discussing this problem, licensee representatives stated that a letter to the station test coordinators would be issued to define the information needed in the logs. This position was reaffirmed during the management interview, at which time the inspector stated that the matter was considered resolved.

14. Fuel Assembly Orifice Rods

While inspecting fuel assemblies and associated components in preparation for fuel loading, AP&L personnel found that some of the orifice rods (OR) used in certain locations to limit flow through assemblies did not move freely within their assemblies. All forty assemblies containing OR's were inspected and it was

found that seven demonstrated higher than normal resistance to free movement upon insertion and removal of the OR. These seven assemblies and OR's are being shipped back to B&W's plant in Lynchburg, Virginia, for detailed examination. The inspector witnessed a portion of the loading operation for these components and had no questions.

Licensee personnel stated that records show that all assemblies were checked for proper movement of control rods (CR) but not all were checked with OR's. It was noted that the OR's are approximately forty mils larger in diameter than CR's. The inspector stated that he had no questions on this matter at that time. Licensee personnel stated that he would be kept informed of results of B&W's inspection.

15. Test Procedure Reviews

The inspector discussed findings of his review of four test procedures with licensee personnel. These procedures were:

TP 600.10, "RCS Hot Leakage Test",
TP 600.14, "Pipe/Component Hanger Hot Deflection Test",
TP 800.02, "Nuclear Instrumentation Calibration at Power," and
TP 800.23, "Unit Load Transient Tests."

The first two are hot functional tests and the latter two power ascension tests. The following comments were discussed:

a. TP 600.10

The inspector asked if the ability of leakage detection within the time frames of Section 4.2.3.8 of the FSAR would be demonstrated and documented.

A licensee representative stated that this would be done.

b. TP 600.14

The inspector asked if deflection measurements would be taken after cooldown.

A licensee representative stated that such readings would be taken and indicated that provisions would be made for documenting these readings.

c. TP 800.02

The inspector noted that Table 1 on page 12 needed to be updated to agree with the latest FSAR amendment.

A licensee representative stated that this would be done.

d. TP 800.23

The inspector had no questions on this procedure.

In that agreement on action needed was gained in all cases, the inspector stated that he had no further questions on those procedures.

16. Test Results Review

In addition to the test results package for TP 202.07 discussed in paragraph 13, results of TP 203.01, "Decay Heat Hydro," and TP 330.02, "CRD Control System Operational Test," were reviewed. TP 203.01 had received a final endorsement and review indicated that acceptance criteria had been met. TP 330.02 had received an interim endorsement with one deficiency open, which AP&L is working with Diamond Power Corporation to resolve. Acceptance criteria for the procedure had been met. The inspector had no questions regarding these two test results packages.

17. Maintenance Program for Instrument and Service Air Systems

The preventive maintenance program for the instrument and service air systems was discussed with station personnel. These systems are described in Section 9.9 of the Unit 1 FSAR. The program includes a monthly inspection of the compressors and motors and quarterly inspections of the compressors. These inspections include such items as bearings, flywheels and belts, pressure control, safety valves (for leakage), foundations, etc. The quarterly inspection also involves tearing down the compressors and overhauling them as needed. Checklists are used by mechanics to perform the inspections. These are signed by the mechanic and reviewed and approved by the maintenance supervisor.

The equipment will be periodically rotated for operations. The results engineer checks the moisture content of the air as it leaves the dryer periodically.

The only question the inspector had involved periodic checks of the instrument air receiver tank relief valves. Licensee personnel stated that it was their practice not to test these valves for setpoint unless they had actually relieved in service. It was noted that Arkansas has no code requirements regarding such valves. The inspector asked if any problem in corrosion or buildup on the valve seat faces which might prevent them from opening had been considered in that there were no provisions for exercising them. Licensee personnel stated that they expected no problems. The inspector stated he had no further questions.

RD

Ltr to Arkansas Power and Light fm N. C. Moseley
dtd JAN 3 0 1974

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