



UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION II - SUITE 818
230 PEACHTREE STREET, NORTHWEST
ATLANTA, GEORGIA 30303

TELEPHONE: (404) 826-4503

RO Inspection Report No. 50-313/73-14

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: September 11-14 and 25-28, 1973

Dates of Previous Inspection: September 5-7, 1973

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

Accompanying Inspectors: D. J. Burke, Reactor Inspector
Facilities Test and Startup Branch

W. W. Peery, Radiation Specialist
Radiological and Environmental
Protection Branch

Other Accompanying Personnel: None

Principal Inspector: M. S. Kidd 10/5/73
Date
M. S. Kidd, Reactor Inspector
Facilities Test and Startup Branch

Reviewed By: C. E. Murphy 10/1/73
Date
C. E. Murphy, Chief
Facilities Test and Startup Branch

8004140651

~~XXXXXXXXXX~~

SUMMARY OF FINDINGS

I. Enforcement Action

A. Violations

None

B. Safety Items

None

II. Licensee Action on Previously Identified Enforcement Matters

A. Violations

Documentation Within Test Procedures

The lack of documentation within certain test procedures discussed in RO Report No. 50-313/73-12, Details I, paragraph 2, is being resolved. This matter remains open. (Details I, paragraph 2)

B. Safety Items

There were no previously identified safety items.

III. New Unresolved Items

73-14/1 Integrated Engineered Safeguards Test

Comments were given on a draft of TP 310.03. The procedure, as written, does not appear to verify all design parameters. (Details I, paragraph 3)

73-14/2 Initial Core Load Procedure

Comments were given on a draft of OP 1502.04. (Details I, paragraph 4)

73-14/3 Leak Testing of Personnel Hatch

Leak testing requirements for the personnel hatch in the Unit 1 technical specifications are not in agreement with those of Appendix J to 10 CFR 50. (Details I, paragraph 5)

IV. Status of Previously Reported Unresolved Items72-9/1 Incorporation of Safety Related Equipment in the FSAR Q-List

Not inspected.

72-9/3 Preparation of Test Procedures to Cover Tests in "Guide For The Planning of Preoperational Test Programs"

Not all procedures which will test pneumatic valves under loss of air conditions have yet been written. (Details I, paragraph 9)

73-3/1 Completion of Radiological Waste Disposal Systems

Not inspected.

73-5/2 Core Flood System Flow Rate Test

No change in status. The licensee has not yet made plans for this test. (Details I, paragraph 10)

73-7/1 QA Program For Operation

Comments on QC 1004.15 have been incorporated into Revision 1, but this revision has not yet been approved. (Details I, paragraph 11)

73-8/1 Procedural Coverage Per Safety Guide 33

Development of procedures required by SG 33 is not yet complete. (Details I, paragraph 12)

73-10/1 Administrative Controls Manual

Comments on 1005.01 have been incorporated in a new revision which is not yet approved. (Details I, paragraph 13)

73-10/2 Primary and Secondary System Relief Valves

Not inspected.

73-10/3 Emergency Diesel Generator Test

No change in status. A full load test of vital a.c. buses has not been defined. (Details I, paragraph 14)

73-10/5 Gaseous and Clean Radwaste Systems Test Procedures

Not inspected.

73-10/6 Respiratory Protection Program and Procedures

Not inspected.

73-10/7 Representative Sampling of Gaseous Wastes

Not inspected.

73-12/1 Administrative Controls for Maintenance Activities

Procedures are being revised to better define controls for maintenance. (Details I, paragraph 15)

73-12/2 Diesel Generator Trips

An interim report on this subject has been received. The evaluation of the problem has not been completed. (Details I, paragraph 16)

73-12/3 Control Rod Trip Test

No action had been taken on previous comments on TP 330.05. (Details I, paragraph 17)

V. Unusual Occurrence

Damage to Reactor Coolant Pump (RCP) B Anti-Reversing Clutch

Damage to this clutch was discovered September 4, 1973. AP&L personnel believe it was damaged August 25, 1973, during testing of the RCP's. Pumps A, B, and D were being run when B was shut down. Apparently B rotated backward for a short time before the device engaged, causing damage. (Details I, paragraph 8)

VI. Management Interview

A management interview was held September 14, 1973, with J. W. Anderson, Plant Superintendent, and C. A. Halbert, Technical Support Engineer, to discuss items not yet accomplished in regards to emergency planning. Details on these matters, including management positions, are given in Details II, paragraph 2.

A second management interview was held September 28, 1973, with the following licensee personnel:

J. W. Anderson - Plant Superintendent
C. L. Bean - QA Engineer
T. H. Cogburn - Nuclear Engineer
R. R. Culp - Test Administrator
J. L. Orlicek - QC Engineer
M. H. Shanbhag - Procedure Administrator

The following subjects were discussed in the second management interview:

- A. The previously identified enforcement item in Section II of this summary was discussed. Details are given in Details I, paragraph 2.
- B. The unresolved items in Section III were also discussed. Details and management positions on these matters are given in Details I, paragraphs 3, 4, and 5.
- C. The previously identified unresolved items in Section IV were discussed. Information on these items is given in Details I, paragraphs 9 through 17. The inspector noted that little progress had been made on closing these items out since the previous inspection.

DETAILS I

Prepared by: M. S. KiddM. S. Kidd, Reactor Inspector
Facilities Test and Startup Branch10/5/73
Date

Dates of Inspection: September 25-28, 1973

Reviewed by: C. E. MurphyC. E. Murphy, Chief, Facilities
Test and Startup Branch10/5/73
Date1. Individuals ContactedArkansas Power and Light Company (AP&L)

J. W. Anderson - Plant Superintendent
 T. H. Cogburn - Nuclear Engineer
 R. R. Culp - Test Administrator
 C. A. Halbert - Technical Support Engineer
 G. H. Miller - Assistant Plant Superintendent
 N. A. Moore - Chief Quality Assurance Coordinator
 J. L. Orlicek - Quality Control Engineer
 M. L. Pendergrass - Assistant Engineer, Production Department

Bechtel Corporation (Bechtel)

M. Okey - Startup Engineer

2. Documentation Within Test Procedures

This enforcement item was initially discussed in RO Report No. 50-313/73-12, Details I, paragraph 2. Corrective actions on the specific examples of lack of documentation have been initiated, but not all completed. Preventive action includes providing spaces for initials and dates beside significant steps in test procedures released for testing on or after August 17, 1973. This item remains open.

3. Integrated Engineered Safeguards Test

Comments on a draft of TP 310.03, scheduled to be run in October 1973, were given to station personnel. The comments included:

- a. The procedure calls for actuating the 4 psig and 30 psig reactor building pressure ES channels by simulating pressures of 15 ± 5 psig and 40 ± 5 psig respectively. Why are these channels not actuated by pressure levels closer to the actual setpoints?

- b. What are the service factor settings for the ES equipment overload heaters?
- c. Part 2 of the test does not appear to verify that all ES equipment will continue to function in an ES mode after loss of normal power.
- d. Part 3 of the test does not appear to verify that all ES equipment will assume an ES mode upon an ES signal with concurrent loss of normal power.

Licensee personnel stated that answers to the above comments would be sought. The inspector stated during the management interview that this procedure would be carried as an unresolved item.

4. Initial Core Loading Procedure

Comments on a draft of OP 1502.04 were given to station personnel. Comments and questions included:

- a. Will the procedure be reviewed by Babcock and Wilcox (B&W)?
- b. A method of resolving any differences of opinion between organizations participating in the fuel loading should be described in the procedure.
- c. The requirements for monitoring of core flux while no changes in core geometry are being made should be defined.
- d. Response checks should be made on permanently installed and incore chambers before loading starts.
- e. The extent of fuel inspection before loading should be defined.

A licensee representative stated that items a, b, c, and e would be defined, but that a response check of the permanently installed instrumentation might not be possible prior to loading the first element, which contains a source. The inspector stated during the management interview that this item would be carried as an unresolved item.

5. Personnel Air Lock Leak Testing

Unit 1 Technical Specification 4.4.1.2.5(b) requires testing of the personnel hatch outer door seals at four-month intervals, except when the hatches are not opened, in which case the test interval could be as long as one fuel cycle. Appendix J to 10 CFR 50 requires leak testing of these seals after each door opening.

In discussing this matter with licensee personnel, the inspector was informed that it would be studied. The inspector stated during the management interview that it would be carried as an unresolved item.

6. Containment Integrated Leak Rate Test

Questions on TP 150.60 were discussed with the test administrator and station test coordinator for the test. Most questions were answered during these discussions. Questions and comments included the following:

- a. The procedure does not give provisions for documentation of completion of test steps.

Licensee personnel stated that initials and dates would be entered beside the more important steps as they are completed.

- b. The procedure does not provide directions for returning equipment to normal. For example, fan blade pitch is adjusted for the test. Also, the test equipment is not disconnected and the containment pressurization line is not blanked off.

Licensee personnel stated that a return to normal section would be added to the procedure.

- c. The approximate value of the allowable leakage rate for the reduced pressure test should be predefined.

Licensee personnel stated that this value would be available at the time of the test.

- d. The procedure lacks detail in initial conditions required including equipment and instrumentation status, required venting and dewatering of lines, and equipment protection requirements.

Licensee personnel stated that these items would be covered by use of valve lineups and marked up process and instrument drawings (P and ID's) which will be attached to the procedure.

7. Safety Review Committee (SRC) Audit

The inspector reviewed the report of an audit of preoperational testing activities at Unit One conducted by the SRC August 28, 1973. Subjects audited included plant records (station log), the preventive maintenance schedule, administrative controls manual, completed test results, status

of the preoperational test controlling document, plant security and visitor control, and changes to the emergency plan. No significant deficiencies were found during the audit.

The inspector discussed the report with the SRC secretary. There were no outstanding comments or questions at the close of the inspection.

8. RCP B Clutch Damage

The inspector was informed that the B RCP anti-reversing clutch was apparently damaged when B pump was shut down with two others running. AP&L believes the pump rotated backward for a short time before the clutch engaged. The resultant torque caused indentations in the races of the clutch and sheared a key which keeps the clutch assembly from rotating on the rotor shaft. A description of the clutch assembly is given in the response to AEC question 4.29 in the Unit 1 FSAR.

The motor and flywheel assembly have been disassembled and inspected. No damage was found other than that to the clutch assembly. The cause of the malfunction had not been determined. Licensee personnel stated that a report of the findings of further investigation and evaluation would be forwarded to the RO Region II office.

9. Preparation of Test Procedures

This unresolved item was initially discussed in RO Report No. 50-313/72-9, Section III, paragraph 3.b. Two items remain open. Not all procedures which will test pneumatic valves under loss of air conditions have been written, nor has a procedure for testing the evacuation alarm been written.

10. Core Flood System Flow Rate Test

This unresolved item was initially discussed in RO Report No. 50-313/73-5, Details I, paragraph 11. AP&L has not yet made plans for testing, thus this item remains open.

11. QA for Operations

Revision 1 of 1004.15, "Arkansas Nuclear One Quality Control Program," was written to incorporate previous RO comments on the document. Revision 1 had been reviewed by the SRC and PSC at the time of this inspection but had not yet been reviewed by the Quality Assurance Committee. This unresolved item remains open.

12. Procedural Coverage - Safety Guide 33

This unresolved item was initially discussed in RO Report No. 50-313/73-8, Details II, paragraph 4. Within those areas inspected, the following are ones in which more procedural coverage is needed:

a. Administrative Procedures

Recall of standby personnel to the plant is not covered for normal operations.

A licensee representative stated that this would be covered by use of special instructions.

b. Emergency Procedures

Partial loss of power and/or degraded power sources are not covered; also, it has not yet been verified that all expected transients are covered by emergency or abnormal procedures.

A licensee representative stated that work has begun in these areas.

c. Alarm Procedures

In discussing the status of procedures which will provide instructions for response to alarm annunciators, a licensee representative stated that most of the information needed for these procedures had been collected and development of the procedures started.

The inspector stated during the management interview that this item would remain open.

13. Administrative Controls Manual

This item was initially discussed in RO Report No. 50-313/73-10, Details I, paragraph 6. The manual has been revised to reflect RO comments, but has not been reapproved. The inspector stated that this unresolved item would remain open pending approval of the latest revision.

14. Emergency Diesel Generator Test

All of the comments on TP 410.24 discussed in RO Report No. 50-313/73-10, Details I, paragraph 10, have been resolved except one regarding full load testing of vital busses from normal and emergency power sources. The inspector was informed that definite plans for this testing will be finalized by his next visit. The inspector stated that this unresolved item would remain open.

15. Administrative Controls for Maintenance

This unresolved item, involving three comments on controls for maintenance activities, was initially discussed in RO Report No. 50-313/73-12, Details I, paragraph 3. During the current inspection, the inspector reviewed revisions to procedures 1004.13 and 1005.01 made to incorporate those comments. The inspector stated that this item would remain open pending approval of the revised procedures.

16. Diesel Generator Trips

Loss of power to vital busses due to a trip of DG No. 1 because of voltage and frequency spiking was described in RO Report No. 50-313/73-12, Summary of Findings, paragraph V. An interim licensee report per 10 CFR 50.55(e) dated September 10, 1973, and titled "Loss of Power to Vital Busses" has been received. A final report is expected by October 15, 1973.

The voltage regulator for the DG malfunctioned due to excessive heating of a potential transformer located in the DG excitation control cubicle. Plans are to relocate this transformer to a cooler area of the cubicle.

The inspector informed licensee personnel during the current inspection that the item would remain open.

17. Control Rod Trip Test

Comments on TP 330.05 were documented in RO Report No. 50-313/73-12, Details I, paragraph 5. Licensee personnel informed the inspector during the current inspection that no action had been taken on this procedure yet since it will not be used until startup testing. The inspector stated that the item would remain open.

18. Control Rod Drive System Procedure

Two comments on operating procedure 1105.09 were given in RO Report No. 50-313/73-12, Details I, paragraph 17. The inspector reviewed changes to this procedure made to incorporate the referenced comments. He stated that he had no further questions on 1105.09.

19. Minutes of Meetings of the SRC and PSC

The inspectors reviewed minutes of meetings held by the Safety Review Committee (SRC) and Plant Safety Committee (PSC) between January 10, 1973, and September 13, 1973. Typical items reviewed by the SRC included operating and test procedures, PSC reports, the minutes of previous meetings and design and purchase specifications. Review by the PSC con-

sisted mainly of operating and test procedures. The inspectors had no comments or questions on the documents reviewed. The committees appear to be reviewing items required by the FSAR and their charters.

20. Status of Procedures

The following information regarding procedure development was given the inspector during this inspection:

| | <u>Number Identified</u> | <u>Number Written</u> | <u>Number Approved</u> |
|---|------------------------------|---------------------------|----------------------------|
| Preoperational and Initial Startup Tests | 146 | 131 | 114 |
| Quality Control | 12 | 12 | 12 |
| Administrative | 10 | 9 | 5 |
| Operating | 84 | 79 | 77 |
| Emergency | 51 | 48 | 34 |
| Calibration and Surveillance Tests | 107 | 59 | 49 |
| Maintenance | 13 | 10 | 8 |
| Refueling | 20 | 16 | 13 |
| Chemistry and Radiation Protection | 26 | 19 | 17 |
| Totals | <u>469</u> | <u>383</u> | <u>329</u> |

DETAILS II

Prepared by: W. W. Peery

W. W. Peery

Radiation Specialist

Radiological and Environmental
Protection Branch10/1/73
Date

Dates of Inspection: September 11-14, 1973

Reviewed by: J. T. Sutherland

J. T. Sutherland

Acting Chief

Radiological and Environmental
Protection Branch10/1/73
Date1. Individuals Contacted

John W. Anderson, Plant Superintendent
Charles A. Halbert, Technical Support Engineer

2. Emergency Plan Outside Agency Visitsa. Millard-Henry Clinic, Russellville, Arkansas

This meeting was held with the Clinic Administrator and medical doctors who will provide medical coverage in the licensee's plan. The signed commitment between the clinic and the licensee states that the clinic will accept patients for treatment, whether or not they are radioactively contaminated. Those present stated that radioactively contaminated patients would not be brought to the clinic but would be delivered to the St. Mary's Hospital, Russellville, Arkansas. Licensee representatives stated that this point would be clarified in the agreement.

b. St. Mary's Hospital, Russellville, Arkansas

This meeting was held with the Hospital Administrator, and although he is leaving soon, his successor was also present. Construction of a decontamination facility was in progress and should be completed in about one week. Other items not accomplished in the hospital plan include: drills; additional training, particularly for nurses and technicians; and delivery by the licensee of emergency supplies to a closet in the decontamination facility as provided by the licensee's emergency plan.

c. Pope County Sheriff, Russellville, Arkansas

The licensed facility is located in this county and this Sheriff will coordinate activities of the Sheriff's of adjacent counties, if necessary. Drills or tests of the plan involving the Sheriff's office have not been accomplished. The Sheriff indicated willingness to participate in drills and the licensee plans a test some time in November, a more definite date to be decided.

d. Yell County Sheriff, Dardanelle, Arkansas

The Yell County Sheriff plans to coordinate his activities through the Pope County Sheriff. Participation in a drill had not been accomplished. He indicated willingness to participate in a drill and the licensee plans same some time in November.

e. Logan County Sheriff, Paris, Arkansas

The Logan County Sheriff plans to coordinate his activities through the Pope County Sheriff. Participation in a drill had not been accomplished. He indicated willingness to participate in a drill and the licensee plans same some time in November. This Sheriff is newly installed, therefore, the licensee plans to update the signed agreement.

f. Johnson County Sheriff, Clarksville, Arkansas

The Sheriff of Johnson County is newly installed. He was out of town during the week of this inspection visit and interview was not possible. He has not participated in a practice drill. The licensee plans to update the signed agreement with the new Sheriff and schedule his participation in a practice drill some time in November.

g. Arkansas State Department of Health, Little Rock, Arkansas

The Arkansas State Department of Health Radiological Response Plan was inspected in depth on May 12, 1971. The details of the results of that inspection are contained in CO:II Report No. 71-4. This visit was made to obtain any necessary updating of the state emergency plan. The State Health Department has an ANO annex to be added to its' Radiological Response Plan which has not been published yet. This annex is to be published and added within the next few weeks. The state plan contained in the ANO plan is actually

a plan drawn up by Civil Defense with State Health Department input. The licensee plans to include the current State Health Department Radiological Response Plan in the ANO plan. Practice drills of the ANO plan have not been accomplished. The State Health Department and ANO agreed to schedule a drill some time in November.

h. Other Outside Agencies Visited

Other outside agencies having some role in the licensee's emergency planning were also visited. They are as follows:

Pope County Ambulance Service
Russellville Fire Department
Pope County Civil Defense
Executive Office of Civil Defense - Emergency
Operations Center (Conway, Arkansas)

All of these agencies have been contacted by the licensee and arrangement made for their participation in the ANO Emergency Plan. None have participated in a drill of the plan. All indicated willingness to participate in such a drill, which the licensee plans to schedule in November.

Ltr to Arkansas Power and Light Company fm N. C. Moseley

dtd

OCT 9 1973

DISTRIBUTION:

→ D. Thornburg, RO
RO:HQ (4)
Directorate of Licensing (4)
DR Central Files
J. R. Lundy, L
*PDR
*Local PDR
*NSIC
*DTIE, OR
*State

*To be dispatched at a later date.