

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

Report Nos. 50-313/78-10  
50-368/78-12

Docket Nos. 50-313  
50-368

License No. DPR-51  
Construction Permit No. CPPR-89

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

Facility Name: Arkansas Nuclear One (ANO), Unit Nos. 1 and 2

Inspection at: ANO Site, Russellville, Arkansas  
and AP&L Corporate Offices, Little Rock, Arkansas

Inspection Conducted: May 2-5, 8-12, 16-19, and 23-26, 1978

Inspectors: *T. F. Westerman for* *6/19/78*  
M. W. Dickerson, Reactor Inspector Date

*T. F. Westerman* *6/19/78*  
T. F. Westerman, Reactor Inspector Date

*E. H. Johnson* *6/20/78*  
E. H. Johnson, Reactor Inspector Date

*W. D. Johnson for* *6/20/78*  
W. D. Johnson, Reactor Inspector Date

*R. G. Spangler* *6/19/78*  
R. G. Spangler, Reactor Inspector (Intern) Date

Accompanying  
Personnel: N. C. Boyter, Reactor Inspector (Training)

8004230 562

Approved by: G. L. Madsen  
G. L. Madsen, Chief, Reactor Operations &  
Nuclear Support Branch

6/20/78  
Date

Inspection Summary

Inspection on May 2-5, 8-12, 16-19, and 23-26, 1978 (Report No. 50-313/78-10)

Areas Inspected: Routine, unannounced inspection involving the review of cleanliness program, QA program, training program, requalification program, and startup operations following refueling. The inspection involved 50 inspector-hours on site by six NRC inspectors.

Results: Within the five areas inspected, two infractions and one deficiency were identified relating to the Requalification Program (Details, paragraph 16).

Inspection on May 2-5, 8-12, 16-19, and 23-26, 1978 (Report No. 50-368/78-12)

Areas Inspected: Routine, unannounced inspection involving the review of test program status, evaluation of test results, verification of the applicant's review of test results, review of reportable deficiencies, review of punchlist items, follow-up of applicant commitments, review of power ascension procedures, and follow-up on previously identified matters. The inspection involved 196 inspector-hours on site by six NRC inspectors.

Results: No items of noncompliance or deviations were identified in the thirteen (13) areas inspected.

DETAILS

1. Persons Contacted

Arkansas Power & Light Company Employees

L. Alexander, QC Engineer  
J. W. Anderson, ANO Plant Manager  
J. R. Anderson, Assistant Production Startup Supervisor  
B. A. Baker, ANO-2 Operations Supervisor  
R. L. Bata, QA Engineer  
T. N. Cogburn, Nuclear Engineer  
T. Ennos, Licensing Engineer  
E. C. Ewing, Production Startup Supervisor  
D. R. Hamblin, QC Engineer  
T. Holcomb, Scheduler  
L. W. Humphrey, Manager QA  
B. Ideker, Licensing Engineer  
P. Jones, Maintenance Supervisor  
J. Lowman, ANO-2 I&C Supervisor  
G. H. Miller, Assistant ANO Plant Manager  
S. M. Strasner, QC Engineer  
B. A. Terwilliger, Supervisor Plant Operations  
D. Trimble, Training Coordinator  
D. Williams, Licensing Manager

Bechtel Employees

D. L. Harris, Startup Engineer Group Leader  
J. R. Zimmerschied, PQAE  
A. Nispeling, PFQCE

CE Employees

R. Ahrens, Startup Engineer  
L. Arnold, Startup Engineering Group Leader

2. Status of Preoperational Test Program

The applicant's test program contains 186 test procedures which are classed as preoperational tests. In addition, the test program contains 25 startup tests which must be completed prior to fuel loading (OL issuance). The applicant's post fuel load startup testing program contains 71 test procedures. The table below summarizes the status of the applicant's test program.

	<u>Preop Tests</u>	<u>Pre-Core SU Tests</u>	<u>Post-Core SU Tests</u>
Number of test procedures	186	25	70
Procedures approved/issued	182	25	54
Tests completed	160	20	0
Test results reviewed	149	20	0
Test results-final approval	58	6	0

3. Inspector Follow-up on Previously Identified Items

(Closed) Open Item (Inspection Report No. 50-368/78-08, paragraph 3.)

Procedure 2105.01, CPC/CEAC Operations, has been revised to include controls on addressable CPC contracts.

(Closed) Open Item (Inspection Report 78-09, paragraph 14.)

The licensee has obtained copies of the Unit 2 fuel DCR's (Deviation from Contract Requirements). The inspector reviewed the DCR's and had no further questions in this area.

(Closed) Open Item (Inspection Report 50-368/77-16, paragraph 3.)  
Revision 1 to Test Procedure 2.800.09 has resolved the channel numbering discrepancy between this test procedure and Test Procedure 2.062.02.

(Closed) Open Item (Inspection Report 50-368/77-29, paragraph 6.a.)

The inspector found that the functional checks deleted by addenda 4 and 7 to Test Procedure 2.048.02 had been completed by SWR1746(5-1-4).

(Closed) Infraction 77-12 (Inspection Report No. 50-368/77-12)

Failure to provide or implement surveillance procedures for fire protection systems. On October 27, 1977, the licensee responded in writing to the Region IV office and after review of this response, RIV requested further information. This information was sent to the RIV office on April 19, 1978.

During this inspection the inspector reviewed the response with the licensee's representative. The inspector also reviewed the records which implemented corrective action taken by the licensee. The inspector has no further questions regarding this matter. This item is considered closed.

4. Inspector Follow-up on Noninspection Related Items

(Closed) FSAR Commitment (FSAR Question and Answer 322.16, 222.86 and 413.21):

The licensee committed to do response time testing for the RPS and ESFAS systems. This test was done under Startup Test Procedure 2.400.14 and 2.400.16.

(Open) Licensee Commitment (CEN-63A CPC/CEAC System Startup Test Requirements): As a result of the inspectors review of those appendicies to the power ascension procedure, 2.800.01, implementing the requirements of CEN-63A the following comments where discussed with the licensee:

a. Appendix J-RCS Colorimetric Flow Measurement

- (1) Acceptance criteria J.8.1 does not specifically reference a flow rate variable.
- (2) Calculation Sheet J-6, step 2, should reference BMEAS 1, not BMEAS.

b. Appendix T-CEA Shadowing Factor Verification

Step B, Reactor Power Source should be specifically stated.

These items will remain open pending the correction of the procedures.

5. Verification of the Applicant's Review of Test Results

The inspector reviewed the results of the following completed test procedures:

<u>Procedure Number</u>	<u>Procedure Title</u>	<u>Review/Approval Status</u>
2.007.02	Emergency DC Lighting	Final
2.078.03	Movable Incore Detector Drive	Final

The review included a verification that:

- a. The test results have been reviewed and evaluated by the individuals required by the SAP's and that the results were compared with the established acceptance criteria.

- b. The test results have been approved by the committees and individuals charged with approval responsibilities.

The inspector identified no discrepancies in this area.

6. Review of Test Results

The inspector reviewed the results of the following preoperational tests:

<u>Procedure Number</u>	<u>Procedure Title</u>	<u>Review/Approval Status</u>
2.002.01	125V DC Battery Charges & Distribution	Final
2.013.03	Sprinkler System	Final
2.013.06	Fire-Smoke Detection & Alarm	Final
2.048.02	ESFAS Actuation	Final
2.059.03	Integrated Leak Rate Test	Final
2.064.08	Reactor Water Makeup Storage & Transfer	Final

The review included a verification that:

- a. All procedure changes were made and documented in accordance with the applicable startup administrative procedures (SAP's).
- b. All test deficiencies have been identified, documented and reviewed in accordance with the applicable SAP's.
- c. The "Official Copy" of the test procedure has all the required data and procedural steps properly documented and that all data are within acceptance tolerances.
- d. The QA organization has audited the results of the test.
- e. The test results have been reviewed and evaluated by the required individuals and the appropriate individuals have compared the test results with the established acceptance criteria.
- f. The test results have been approved by the individuals and committees charged with approval responsibilities.

The inspector also reviewed the test records for the calibration and functional checks of selected instruments and components associated with each system to verify that the tests were performed and documented in conformance with the applicable Startup Technical Procedures.

The applicant's QA organization has not, and does not plan to, review the result of all tests or all safety related tests. Under their audit program they will audit the results of selected tests.

No citable items were identified by the inspector.

7. Review of Preoperational Test Deficiencies

The inspector and a licensee representative (the Assistant Production Startup Supervisor) reviewed the outstanding preoperational test deficiencies for the impact on fuel load. These deficiencies are carried as startup punchlist items. As a result of the review it was agreed that of the current 182 deficiencies, 120 of them should be cleared prior to fuel load, 49 of them should be closed prior to post core hot functional testing and the remaining 13 cleared prior to initial criticality.

8. Inspector Witnessing of Preoperational Test

The inspector witnessed the performance of startup test 2.048.08, Integrated ESF Actuation, Section 7.4.2 through 7.4.4. The crew performance was found acceptable and those test deficiencies noted will be tracked during the evaluation of the licensee's test results review for proper resolution.

9. Review of Plant Procedures

The inspectors reviewed for technical content approximately 50 unit two procedures in the areas of operations, emergencies and maintenance. Discrepancies discovered during this review were discussed with the operations supervisor. Many of these discrepancies were resolved and the licensee has initiated a permanent change to correct the procedures in question. The following is a list of some of the more significant items that are still open for resolution.

- a. 1005.01 does not contain procedural steps for the call-in of shift personnel.
- b. 2102.02 begins dilution of RCS boron concentration without having A and B shutdown groups withdrawn as committed to in FSAR 9.3.4.2.2.
- c. 2102.04 does not contain the Fuel Preconditioning Guidelines.

- d. 2102.08 does not agree with the technical specifications for shutdown margin (steps 4.4 and 6.1.4).
- e. 2102.10 does not maintain the A and B shutdown groups withdrawn until the cooldown is complete and the Boron concentration is verified by sample analysis as committed to in FSAR 9.3.4.2.3.
- f. 2105.15 does not agree with the technical specification for the high logarithmic and high linear power trip setpoints.
- g. 2104.03 does not agree with the technical specifications for minimum Boric Acid Storage Tank Volume and Temperature as a function of concentration (Figure 3.1-1). In addition, numerous valves are to be added to the valve lists labeled attachment A and B.
- h. 2104.05 does not agree with the technical specifications for the NaOH system (3.6.2.2). In addition, the valve lineup lists need to be revised to include all necessary valves.
- i. 2104.01 does not agree with the technical specifications for Boron concentration and SIT outlet valve position versus RCS pressure.
- j. 2202.02 does not specify the RCS delta T to be observed as a verification of flow.
- k. 2202.03 and 2202.04 do not specify the primary parameters that are to be maintained.
- l. 2202.17 does not agree with the technical specifications for action time limit on failure of more than one linear or logarithmic power channel of nuclear instrumentation (3.0.3).
- m. 2203.01 does not provide instructions for the failure of all system inputs.
- n. 2502.03 does not agree with the technical specification for the load test of the refueling machine (3.9.6.a).
- o. 2503.03 does not agree with the technical specifications for Boron concentration (3.9.1.b), for audible indication for source range instrumentation (3.9.2) and for decay heat removal minimum flow rate (3.9.8).

- p. 2504.02 does not include steps detailing actions for a failure to meet elongation tolerances versus stud tensioning. In addition, a sign-off is needed at the step verifying stud tension, and the comparison of current to previous measurements committed to in FSAR 5.4.6.2 must be provided for and documented.

All discrepancies found as a result of this inspection will be reviewed during future inspections. The inspector identified no items of noncompliance or deviation in this area.

10. Construction Deficiency Reports (50.55e Reports)

The following reports were verified by the inspector to be closed:

a. Ground in the Diesel Generator Field Flashing Circuit

All work has been completed to resolve this deficiency (Design Change Package 665/Job Order 2735).

b. LPSI Pump Impeller Retainer Design Deficiency

Modification to the LPSI and Spray Pump impeller retainer design has been completed, CE Change No. 27/Job Orders 2701, 2646, 2690 and 2691.

c. Reactor Vessel Head Nozzle Guide Cone Modification

Modification to tack weld the nozzle guide cones has been completed (CE Change No. 32/Vendor Warranty Service Authorization W-367-433).

d. High Pressure Safety Injection Valve Plug Deformation

Modifications to repair the damaged seats have been completed (CE Change No. 28/Job Order 2703).

e. Failure to Properly Swagged Check Valve Seats in the CVCS

Inspection replacement and proper swagging of the affected valves have been completed (Job Orders 2654, 2719, 2711, and 2730).

11. Fuel Load and Startup Schedule

Several new issues were identified during this inspection which will have a direct affect on the schedule for fuel load and startup of Unit 2. These include the following:

a. CPC Response Time Testing

To comply with the present surveillance test requirement of the draft technical specifications, a procedure for testing the CPC Response Times is required and this testing will be required to be complete before Mode 2 operation. The testing performed during the preoperational test program did not test all the CPC inputs.

b. CPC Auxiliary Trips

There are auxiliary Reactor Trips associated with the CPC. Inclusion of these trips in the Technical Specification is still under review between NRR and the licensee.

c. Modification of the Steam Generators

Modification of the Steam Generators is in progress to reduce the effects of tube denting. This involved cutting the upper support plates free and expanding selected tubes to hold the support plate in place. These tubes were in turn plugged.

d. Modification of the Fuel

In response to the control rod guide tube wear problem experienced at Millstone, the licensee is evaluating several different proposed modifications. Prototype testing is presently in progress. A decision is to be made prior to fuel load.

e. Operational Readiness Program (ASME, Section XI)

Commission approval to the exceptions to the Section XI will be necessary in order to meet the operational surveillance requirements of the Technical Specifications.

f. Plant Turnover

Plant turnover from Startup to Operations is still in progress. All but two systems have been turned over from Bechtel Construction to AP&L Startup. These systems do not fall under the surveillance and maintenance programs of operations until they have been turned over.

g. 480 Volt Differential Relays Seismic Qualifications

The applicant is experiencing difficulty in obtaining properly qualified (seismically) differential relays for the 480 Volt Emergency Diesel Generator busses.

h. Emergency Feedwater Pump Root Steam Valves Alarms

Although other portions of the Emergency Feedwater System have alarms which indicate the system is not properly aligned for automatic operation (Regulatory Guide 1.47/IEEE 279), the root steam valves to the steam driven Emergency Feedwater Pump are not alarmed when they are in the closed position. This issue is under review by the applicant.

i. Surveillance Testing

The inspector did discuss with the applicant the evaluation of the testing conducted during the preoperational test program to determine what parts of this testing will satisfy the initial Technical Specifications Surveillance Test requirements.

j. Operational Punch List

In addition to the startup punch list, a punch list is under development by the operations organization to identify outstanding items that must be resolved during the various modes of startup. The applicant was informed that the inspector will be following up on this list.

12. Review of Design Change Packages for Incorporation into the FSAR

The inspector randomly selected 12 Design Change Packages (DCPs) and reviewed the content to determine if proper FSAR changes were being made. These included DCPs 21, 28, 47, 165, 172, 187, 230, 248, 573, and 579; and CE change packages 21 and 31. The inspector found that the FSAR did accurately reflect these design changes where appropriate. Two FSAR changes were outstanding, but these had been identified by Bechtel as SAR Change Nos. 448 (DCP 172) and 455 (DCP 298).

There were no items of noncompliance or deviations identified during this review.

13. Cleanliness

a. Scope

The inspector verified:

- (1) That written administrative controls had been established to assure adequate housekeeping and cleanliness controls as defined in ANSI N45.2.3 and Regulatory Guide 39.

- (2) That appropriate procedures contain requirements for material accountability in critical areas such as openings in the primary system, for cleaning and decontamination of primary system components, and for control of combustible materials.
- (3) That the above procedures are used and that the condition of the plant reflects their use.

b. Findings

The following procedures were reviewed and found to meet the requirements of 1 and 2 above:

1406.01	Housekeeping
1406.02	Cleanliness Standards and Methods for Maintenance

The inspector also reviewed the following procedures:

1401.04	OTSG Tube Plugging
1401.05	RCP Shaft Seal Removal/ Installation
1401.06	Pressurize Code Safety Removal and Replacement
1504.01	Reactor Vessel Closure Head Removal and Replacement
1004.07	Control of Special Processes.

During this review the inspector noted that 1401.04, OTSG Tube Plugging, contains, as an attachment, a tool accountability log for equipment taken into and out of the steam generators. On the other hand, the procedures directing the refueling evolution (1500 series) do not appear to include such a log for equipment and tools taken into the Reactor Cavity area. This is an open item.

Several minor housekeeping deficiencies were noted during the plant tour of the turbine building, auxiliary building, and reactor auxiliary building. The licensee's representative indicated that these would be corrected. The inspector had no additional findings in this area.

14. Training

The inspector reviewed the Arkansas Nuclear One Training Plan, reviewed training records, and interviewed licensee personnel to verify that the licensee's training program requirements were being

fulfilled. The licensee's Training Coordinator informed the inspector that the training plan was being revised. The revised plan will include a new method of documentation of training accomplished and extensive on-the-job training programs for instrument and control technicians and maintenance personnel. The licensee has recently initiated a series of plant systems lectures for all plant personnel.

No items of noncompliance or deviations were identified.

15. Review of Quality Assurance Program

The inspector reviewed the licensee's QA program for changes that had been made since the previous QA inspection and verified that any changes made were in conformance with 10 CFR 50, Appendix B, applicable codes, standards and regulatory guides. Any changes were reviewed with personnel having responsibilities for implementing the changes and procedures which required changes were also reviewed.

Specifically reviewed were those changes to the QA program contained in Revision 4 of the Quality Assurance Manual Operations which was accepted by NRR on September 8, 1977. The majority of changes within Revision 4 were AP&L corporate organization changes. A review of implementing procedures relative to the changes resulted in the following:

- a. A number of Quality Control procedures require revision to conform to the new organizational structure and corresponding responsibilities. The licensee indicated that an internal memorandum outlined these changes for the interim period until procedures can be changed. However, a copy of this memo could not be located during the inspection.
- b. Administrative procedure 1005.01, Revision 3, PC-3, requires revision relative to the changes in organization and responsibilities. Additionally, Section 4.1.9.B (Authority) is in conflict with Section 1.6.2.6.1 (Authority) in the QA Manual and Section 6.5.1.7.1 of the T/S. Each contains requirements for the Plant Safety Committee to recommend approval or disapproval to the Plant Superintendent relative to specific areas of review. However, Section 1.6.7.6.1 contains a requirement to consider five additional areas as follows: 1) Reportable occurrence requiring 24 hour notification; 2) facility operations to detect potential nuclear safety hazards; 3) performance of special reviews and investigations and reports as requested by the Plant Manager; 4) plant security plan and implementing procedures; and 5) Emergency plan and implementing procedures.

No items of noncompliance or deviations were identified in this area.

16. Unit Number One Requalification Training

The purpose of this inspection effort was to ascertain whether the licensed operator requalification training program was in conformance with regulatory requirements and the requalification program approved by NRR.

The inspector reviewed the following records for approximately 25 licensed operators (RO) and senior operators (SRO):

- Annual requalification exam and grades - January 1977 exam
- Records of lecture attendance for all requalification lectures
- Records of reactivity manipulations for individual operators
- Records of self study of requalification program topics by individual operators
- Annual operator evaluations, including the evaluation of actions taken or to be taken during actual or simulated abnormal and emergency conditions.

The following resulted from this review:

- a. The inspector reviewed the results of the 1977 Annual Requalification Examination for licensed operators and senior operators to determine if subsequent requalification program lectures had been conducted for weak areas noted in the examination. The requalification program requirements are contained in Appendix A to 10 CFR 55. Section 2 of this Appendix states in part:

"The requalification program shall include preplanned lectures on a regular and continuing basis throughout the license period in those areas where annual operator and senior operator written examinations indicate that emphasis in scope and depth of coverage is needed . . . ."

This above requirement is further amplified by Section V.A of the licensee's approved Operator Requalification Program. The licensee's requalification program exempts an operator or senior operator from required attendance at requalification lectures pertinent to any examination section where a grade of eighty (80) per cent correct or better was achieved. An overall examination grade of less than seventy (70) per cent correct requires removal from watchstanding duties and intensive upgrading.

The examination of ten licensed operators and twelve senior operators were reviewed. All licensed personnel received better than the seventy (70) per cent correct overall examination grade. The inspector noted, however, the following specific examination sections for which a portion of the operators received less than eighty (80) per cent correct for the section.

<u>REACTOR OPERATOR EXAM SECTION</u>	<u>NUMBER OF OPERATORS RECEIVING LESS THAN 80%</u>
Safety and Emergency Systems	7
Standard and Emergency Operating Procedures	4
General Operating Characteristics	4
Instrumentation and Control	4
Radiation Safety and Control	4

<u>SENIOR OPERATOR EXAM SECTION</u>	<u>NUMBER OF OPERATORS RECEIVING LESS THAN 80%</u>
Radioactive Materials Handling	4
Administrative Procedures, Conditions & Limits	3

The inspector reviewed the licensee's records of requalification lecture attendance and determined that the following lectures had been conducted since the January 1977 examination.

<u>LECTURE TITLE</u>	<u>ATTENDEES +</u>	<u>LENGTH *</u>
Engineered Safeguards Actuation System	10 RO	1 hr
Intermediate Cooling Water	3 SRO, 10 RO	1-1.5 hrs
Feed Pump Turbine Control	3 SRO, 3 RO	1-2 hrs
Feed Water Control	2 RO	1 hr
Control Rod Drive & Diamond Control System	1 SRO, 11 RO	1-2 hrs

+ SRO - Senior Operator RO - Licensed Operator

\* Lectures given on more than one occasion with a different length for each.

The licensee's training staff indicated to the inspector that the above lectures were the only ones determined to be necessary based on the results of the annual examination.

The inspector determined that two licensed operators who scored less than eighty (80) per cent on the Annual Requalification Examination section entitled, "Safety and Emergency Systems," did not attend the requalification lecture on the Engineered Safeguards Actuation System. The licenses for these operators were renewed in June and November 1977, respectively.

The failure to provide required additional training of these two operators in an area identified by annual examination test results, by requiring attendance at the requalification lecture covering this area, is an item of noncompliance with the requalification program requirements stated above.

The inspector discussed this item with members of the licensee's staff who asked what action should be taken for the situation where only one operator should receive less than 80% on a particular examination section. The inspector indicated that a lecture for one person might not be practical; however, individual study and testing should be required in that particular area. The inspector noted from a review of the licensee's records of individual study by operators (an operator performing individual study completes a lecture attendance sheet noting the lesson plan from the licensee's lecture program that was reviewed) and several additional operators and senior operators performed no individual study in areas on the annual examination where a grade of less than 80% was received.

The licensee acknowledged these findings and indicated that the annual examination for 1978 is more closely matched to the subject areas specified in Appendix A to 10 CFR 50 to ensure that any areas where additional review is necessary will be more clearly identified.

- b. During the review of the training records for Unit No. 1 licensed ROs and SROs, the inspector noted that three SROs had not received an annual evaluation of actions taken or to be taken during actual or simulated abnormal and emergency conditions for 1977. This evaluation is required by 10 CFR 55, Appendix A, Section 4.c. The licensee's approved Operator Requalification Program, Section V.C, requires that the evaluation be performed annually. The failure to perform an annual evaluation of licensed personnel is an item of noncompliance with requirements specified above.

In the review of the records of the evaluations of shift personnel, the inspector noted that the annual evaluation of ROs was done by their respective shift supervisors (SROs) using actual abnormal events

that had occurred while on watch during the previous year. The annual evaluations of the shift supervisors referenced these same actual events. These annual evaluations had been signed off by the Operations Supervisor. The inspector discussed the methods employed in performing the above evaluation with him and was informed that the evaluation sheets were sent to shift supervisors who filled in those actual abnormal events that had occurred during their shifts. The inspector indicated that the use of actual operational events to evaluate the performance of shift supervisors is satisfactory only if the performance of the shift supervisor is actually observed by the evaluator, or a timely discussion of the event and actions taken is conducted between the shift supervisor and the evaluator.

- c. The inspector noted that the annual Operator Requalification Examination, which was scheduled for each January, had not yet been completed for 1978. Although the licensee's training staff started giving this examination in January, eight of 28 examinations remained to be given. This was sixteen months since the 1977 annual exam was administered.

10 CFR 50.54.i-1 states in part, ". . . the licensee shall not except as specifically authorized by the Commission, make a change in an approved operator requalification program by which the scope, time allotted for the program or the frequency in conducting different parts of the program is decreased . . . ." The failure to complete the Annual Requalification Examination in the twelve month period without a specific exemption from the operator licensing branch of NRR is contrary to this requirement and is considered an item of noncompliance.

- d. In reviewing requalification program records, the inspector noted that the licenses for two of the SRO's not receiving an annual evaluation discussed in paragraph b. above had been recently renewed (March 20, 1978). The renewal of these licenses was requested by the licensee in a letter to the Operator Licensing Branch (OLB), dated February 7, 1978. For the past year these two SRO's have been actively engaged in the training program for cold licensing on Unit Number Two and were recently successfully examined for Unit Two SRO cold licenses. The licensee intends for these persons to maintain their dual license status. The licensee's application for license renewal does not clearly indicate that these individuals did not complete all Unit One requalification program requirements or those portions of the Unit Two cold license training program that were considered alternatives to the Unit One requalification program. Such

information would have been necessary to OLB in determining the status for license renewal as Unit One SROs should these individuals have failed the Unit Two cold license exam. This item has been forwarded to NRC headquarters so that OLB may communicate to the licensee what specific information it needs for renewal of a license.

17. Startup Operations Following Refueling

The inspector verified that the Refueling Outage Startup Testing was conducted in accordance with technically adequate procedures and that the facility is being operated within licensed limits.

The following test results were reviewed:

a. 1304.35, "Control Rod Drive Trip Test" (Rev. 0., PC-2)

(1) All rods were well within the 1.46 second acceptance criteria (with flow) on the first test except for rod #61, which failed to have a time printed by the computer on the first trip.

(2) Rod 61 was tested a second time and found to be acceptable.

b. 1304.36, "Control Rod Drive System Post Refueling Integrated Test"

All tests results were within the specification.

c. 1302.13, "Sequence for Physics Testing" (Rev. 1, Tc-1, Pc-3)  
Sections 4.15-1 and 4.22

These sections of 1302.13 detailed the evaluation of core thermal power. The inspector did note that there is an approximate 6% differential between the primary and secondary heat balances. The licensee stated this appears to be due to instrument error. No further action is planned at this time.

d. 1302.08, "Control Rod Reactivity Worth Measurement" (Rev. 1, TC-1)

The inspector found that measure rod worths were within predicted results. The following table summarizes this testing:

Measured (% $\rho$ )    Predicted (% $\rho$ )    Acceptance Limits

CRA Group 5	1.0195	1.02	+ 15%
CRA Group 6	1.034	0.97	+ 15%
CRA Group 7	0.691	0.7	+ 15%
CRA Groups 5-7	2.7445	2.69	+ 10%
Boron Worth	1.102/100ppm	0.998/100ppm	+ 10%

e. 1302.10, Ejected Rod Worth Measurements (Rev. 0, Tc-1)

A measured worth of 0.780 % $\rho$  was determined for the most reactive rod. Including uncertainty corrections, this equates to a worth of 0.819 % $\rho$ . The maximum allowable worth (corrected) is 1% $\rho$  bases the FSAR.

No items of noncompliance or deviations were identified during this review.

18. Exit Meeting

Exit Meetings were conducted on May 5, 11, 12, 19 and 26, 1978, with J. W. Anderson and other members of the plant staff. The inspectors discussed the scope of the inspection and summarized the inspection findings which are detailed in this report.