



UNITED STATES  
ATOMIC ENERGY COMMISSION  
DIRECTORATE OF REGULATORY OPERATIONS  
REGION II - SUITE 216  
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RO Inspection Report No. 50-313/73-1

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, 880 MWe

Type of Inspection: Routine, Unannounced

Dates of Inspection: January 2-5, 1973

Dates of Previous Inspection: November 28 - December 1, 1972

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

2/2/73  
Date

Accompanying Inspectors: None

Other Accompanying Personnel: None

Reviewed by: *C. E. Murphy*  
C. E. Murphy, Acting Chief  
Facilities Test and Startup Branch

2/5/73  
Date

8004140652

## SUMMARY OF FINDINGS

I. Enforcement ActionA. Violations

None

B. Safety Items

None

II. Licensee Action on Previously Identified Enforcement MattersA. Violations

1. Failure to Maintain Documentation Which Accurately Reflects the Construction and Test Status of Equipment (See RO letter of October 19, 1972, Enclosure 1, Item 3)

The deficiencies in the data packages for Startup Systems 56 and 80 described in RO Report No. 50-313/72-9, Section III, paragraph 1, have been corrected and measures taken to prevent recurrence.

This matter is considered resolved. (Details, paragraph 3)

2. Environmental Monitoring Program Differing From FSAR Description (See RO letter of December 8, 1972, Item 1)

Amendment 31 to the FSAR, dated November 15, 1972, accurately describes the preoperational environmental monitoring program.

This matter has been resolved. (Details, paragraph 4)

3. Lack of Review and Approval of a Preoperational Test Procedure by the Test Working Group (TWG) (See RO letter of January 12, 1973, Item I.A.1 of Enclosure)

Test procedure 400-03, "A-C Power Systems Energization Procedure," was reviewed and approved by the TWG December 8, 1972. Resolution of this matter awaits receipt and evaluation of the licensee's reply to the notice of violation on this item. (Details, paragraph 5)

B. Safety Items

There are no previously identified safety items.

III. New Unresolved Items73-1/1 Implementing Procedures For Use of Jumpers and Bypasses

The licensee has no implementing procedures covering the use of jumpers and bypasses and has not yet determined whether they will be written. (Details, paragraph 6)

73-1/2 Comments on Core Flood System Functional Test Procedure

This procedure, as written, cannot be followed to perform the desired test. Numerous comments were given by the inspector. Licensee personnel are to consider the comments and inform the inspector of their plans on this procedure during the next inspection. (Details, paragraph 15)

IV. Status of Previously Reported Unresolved ItemsA. Administrative Control Procedures Coverage

Comments on the Bechtel Startup Manual and flushing procedures documented in RO Report No. 50-313/72-5, Section II, paragraph 3, were discussed. The Startup Manual has been rewritten but not approved. Flushing procedures have not yet been developed for some systems. (Details, paragraphs 7 and 8)

B. Onsite Training Program

A revised training program is to be initiated January 8, 1973. (Details, paragraph 9)

C. Staffing Commitments

An additional waste control operator has been hired. Two more waste control operators are needed to fulfill FSAR commitments. (Details, paragraph 10)

D. Incorporation of all Safety Related Equipment in the FSAR Q-List

This subject was not discussed during this inspection.

E. Lack of Documentation of the Station Test Coordinator's (STC) Prerequisite Duties in the Conduct of Tests

This item was initially discussed in RO Report No. 50-313/72-9, Section III, paragraph 3.a. A method for documenting the performance of these duties has been developed and is described in the

latest revision to the Plan For Preoperational Testing (PLAN). This matter will be resolved upon approval of the Plan and implementation of the documentation. (Details, paragraph 11)

F. Preparation of Test Procedures to Cover Tests in Guide For Planning of Preoperational Test Programs

Most of the tests procedures needed for the systems discussed in RO Report No. 50-313/72-9, Section IV, paragraph 4, have been identified. Further discussions are needed on the remaining systems. (Details, paragraph 12)

G. Review of Test Procedures for Inclusion of FSAR Requirements

This item, initially discussed in RO Report No. 50-313/72-10, Details I, paragraph 4, has been resolved. A form is attached to each test procedure signed by the procedure writer which indicates that he has checked the accuracy of all quantitative values. Also, the STC performs a more extensive review of the procedure to assure it incorporates all requirements of the FSAR and Technical Specifications. (Details, paragraph 13)

V. Unusual Occurrences

None

VI. Other Significant Findings

A. Project Status

Licensee personnel estimate construction of Unit 1 to be 93% complete. The total number of systems which are considered completely released (60% or greater)<sup>1/</sup> from construction for testing now equals 31. Those which have been partially released (greater than 2% but less than 60%)<sup>1/</sup> number 24. No releases have been made on the remaining 14 systems.

VII. Management Interview

- A. A management interview was held at the end of the inspection January 5, 1973. The following persons attended:

Arkansas Power and Light Company (AP&L)

J. W. Anderson - Plant Superintendent

<sup>1/</sup> Definitions used by Bechtel Startup Group.

N. A. Moore - Chief Quality Assurance Coordinator  
R. R. Culp - Test Administrator  
D. N. Bennett - Quality Control Engineer  
B. A. Terwilliger - Supervisor of Operations  
T. H. Cogburn - Procedure Administrator

Bechtel Corporation (Bechtel)

R. G. Glover - Supervising Startup Engineer

B. Off-Site Safety Committee Review of Procedures

The inspector stated that RO's position is that the offsite committee need not review all procedures on a routine basis but should be free to devote their attention to review of abnormal occurrences, investigation of special problem areas, consideration of major modifications, audit of operations, etc., as discussed in paragraph 4.3 of ANS 3.2.

Licensee personnel indicated concurrence in this viewpoint.

C. Previously Identified Enforcement Matters

1. Conflicts in Documentation in System Release Packages

The inspector stated that his review of packages for Startup Systems 56 and 80 revealed that the problems identified previously had been corrected. Also the preventive measures taken should preclude recurrence of these problems if applied diligently. He stated that he had no further questions or comments on this subject. (Details, paragraph 3)

2. Environmental Monitoring Program

The inspector stated that review of Amendment 31 to the FSAR indicates the FSAR now accurately describes the preoperational environmental monitoring program and that he had no further comments on this matter. (Details, paragraph 4)

3. Lack of Approval of a Test Procedure by the TWG

The inspector stated that TWG minutes indicate that test procedure 400-03, "A-C Power Systems Energization Procedure," was reviewed and approved December 8, 1972, and that he had no further comments on this matter. (Details, paragraph 5)

D. Bechtel Startup Manual

The inspector offered two comments on the rewritten manual. First, the responsibility for the preoperational test program discussed in Section 2.1 of Tab 2 should be clarified to agree with Section 13.1.2 of the FSAR. Also, Figure 2-1 of the manual showing test program organization should be updated to agree with Figure 13-1 of the FSAR. Licensee management indicated that this would be done.

The inspector stated that the subject would remain open. (Details, paragraph 7)

E. Flushing Procedures

The inspector requested that flushing procedures to be used for safety related systems be made available for his review. Licensee management asked whether the inspector expected these procedures to have the same review and approval as test procedures. They stated that these were not viewed as formal procedures. The inspector responded that the purpose for his review was to determine the basis for cleanliness standards, water quality standards, etc.

Licensee management stated that these procedures were being developed by Babcock and Wilcox Company (B&W) personnel assigned to the site and that they should be available during the inspector's next visit to the site. (Details, paragraph 8)

F. Onsite Training Program

The inspector stated that he had reviewed AP&L's latest plans for training and that he had no questions concerning them. Licensee management stated that the revised program would be started January 8, 1973. (Details, paragraph 9)

G. Documentation of the STC's Prerequisite Duties in the Conduct of Tests

The inspector acknowledged that provisions for this documentation are being incorporated into the Plan. He stated that this subject would remain open until the Plan is approved and implementation demonstrated. Licensee management indicated that the Plan is currently in the review process. (Details, paragraph 11)

H. Preparation of Test Procedures to Cover Tests in the Guide For Planning of Preoperational Test Programs

The inspector stated that he had been informed that tests on

containment and auxiliary filter systems being planned include flow balancing, DOP, and freon tests by a vendor subcontractor as well as functional tests on the complete systems during preoperational testing.

A licensee representative stated that this information was correct and that the subcontractor had been requested to provide the procedures that would be used as soon as possible such that they can be reviewed by AP&L.

The inspector acknowledged that he had been provided additional information on equipment served by the instrument air system and stated that it will be discussed further after his review of the new information. (Details, paragraph 12)

I. Review of Test Procedures For Inclusion of FSAR Requirements

The inspector stated that it was his understanding that the procedure writer and the STC for a given procedure perform certain reviews of the procedure to assure it is in agreement with and contains requirements of the FSAR. Licensee representatives stated that most test procedures have been reviewed by the procedure writers to assure accuracy of quantitative values and that all test procedures are being reviewed by the STC to verify full compliance with the FSAR and Technical Specifications.

The inspector stated that this item was resolved. (Details, paragraph 13)

J. Request For Procedures

The inspector stated that he had been informed that the status of the procedures requested for review December 1, 1972, was as follows:

1. Procedure for initial core loading - identified as OP 1502.04 and being written,
2. Preop test procedure for system(s) which measure primary system leakage - identified as TP 600.10 and being written,
3. Remote shutdown (from outside control room) during power ascension - identified as TP 402.01, and
4. Loss of offsite power during power ascension - not identified, but will be run.

A member of licensee management stated that this information was correct. (Details, paragraph 14)

K. Need For Detailed Implementing Procedures for Use of Jumpers and Bypasses

The inspector stated that discussions with station personnel had revealed that AP&L has no approved detailed implementing procedures for use of jumpers and bypasses. There was much discussion between the inspector and licensee representatives on the merits of such a procedure. It became apparent that licensee representatives had differing opinions among themselves on this matter. Therefore, the inspector stated that this subject would be regarded as an unresolved item and will be discussed during the next inspection. (Details, paragraph 6)

L. Comments on Procedures

1. Fuel Handling System Operational Test and Dry Fuel Handling Test

The inspector stated that Section 5 of each of these procedures should be expanded to provide more control over personnel effects such as pencils, cigarettes, etc., to assure that these would not be dropped into fuel storage areas, the transfer canal or the reactor vessel during testing activities.

Licensee representatives stated that stringent control over such items would be in effect during actual fuel loading operations, but that it was not considered to be as important during the testing phase. (Details, paragraphs 15.a and b)

2. Pressurizer Relief Valve Test

The inspector asked if AP&L personnel thought the procedure would not be more understandable and make evaluation of results easier if the acceptance criterion which now involves the hydroset (hydraulic assist device) pressure was changed to the true design pressure which is the system pressure plus the hydroset pressure converted to equivalent system pressure.

Licensee personnel stated that the procedure was quite understandable and did not think it needed to be changed.

The inspector asked if the test could be run with system pressure exactly at 1500 psig as step 7.2.2 requires.

Licensee personnel indicated that the procedure would be revised to stipulate a system pressure of approximately 1500 psig. (Details, paragraph 15.c)

3. Core Flooding System Hydro Test

The inspector asked if any problems were anticipated in the use of the form "Addendum To Test Procedure" as a means of revising procedures, noting that two pages of addenda were part of this procedure.

Licensee personnel stated that they were confident that the addenda would cause no problems even though they are set apart from the body of the procedure as attachments. It was also stated that this method is used to revise procedures because there are too many changes to make and not enough time to make them otherwise. (Details, paragraph 15.d)

4. Core Flood Electrical Test

The inspector stated that this procedure should refer to Bechtel Startup (SU) Forms 6 and 21 as the means of recording certain data since data is to be taken on them according to discussions with station personnel. He also stated that this comment would apply to any procedure using similar forms as a means of data documentation.

Licensee personnel stated that the procedure would be revised to indicate where all data is to be recorded and that the comment would be considered in other procedures. (Details, paragraph 15.e)

5. Core Flood System Functional Test

The inspector stated that he was particularly concerned about this procedure in that several potential deficiencies commented on in June of 1972 <sup>1/</sup> had not been corrected. The comments given in June were reiterated and additional comments were given. The inspector stated that due to the

<sup>1/</sup> See RO Report No. 50-313/72-5, Section IV, paragraph 1.

fact that he had numerous comments on this procedure, it would be regarded as an unresolved item and discussed further after AP&L has studied the procedure and comments on it in detail.

Licensee representatives stated that they thought the procedure was clearly written, but they agreed to study the comments and act upon them if they felt they were valid. (Details, paragraph 15.f)

6. Plan for Preoperational Testing and Procedure for Handling of Administrative, Operating, and Maintenance Procedures

The inspector stated that he had given comments on these procedures to the Procedure Administrator and asked that AP&L consider them. Licensee personnel agreed to do this. (Details, paragraphs 15.g and h)

7. Request for a Revised Test Schedule

The inspector requested that an updated, realistic schedule for the preop test program be loaned to him for use in predicting efforts required for review of test procedures. He stated that this schedule would also enable him to schedule his review of procedures to coordinate it with AP&L's plans for performing the tests.

A member of licensee management stated that a letter of request would be forwarded to AP&L corporate offices shortly and that the inspector would be advised as to whether the request would be approved or not. (Details, paragraph 16)

## DETAILS

Prepared by: M. S. Kidd 2/2/73  
 M. S. Kidd  
 Reactor Inspector  
 Facilities Test and  
 Startup Branch  
 Date

Dates of Inspection: January 2-5, 1973

Reviewed by: C. E. Murphy 2/5/73  
 C. E. Murphy  
 Acting Chief  
 Facilities Test and  
 Startup Branch  
 Date

1. Individuals Contacteda. Arkansas Power and Light Company (AP&L)

J. W. Anderson - Plant Superintendent  
 D. N. Bennett - Quality Control Engineer  
 R. R. Culp - Test Administrator  
 T. H. Cogburn - Procedure Administrator  
 B. A. Terwilliger - Supervisor of Operations

b. Bechtel Corporation (Bechtel)

R. G. Glover - Supervising Startup Engineer  
 P. Ryan - Startup Engineer - Electrical

2. Organizational Change

T. H. Cogburn, now serving as Procedure Administrator, will be promoted to Nuclear Engineer in the near future. Plans are to replace him with another individual who will assume the responsibilities of Procedure Administrator.

3. Failure to Maintain Documentation Which Accurately Reflects the Construction and Test Status of Equipment

Corrective action taken for deficiencies in data packages for Startup Systems 56 and 80 initially discussed in RO Report No. 50-313/72-9, Section III, paragraph 1, were reviewed. The review revealed that deficiencies had been corrected. Examples:

a. Startup System No. 56 - Integrated Control System

The letter from W. J. Stubblefield to J. W. Anderson of May 17, 1972, which served as a transmittal mechanism for the Startup Form 1A dated May 15, 1972, has been removed

from the package, thus eliminating conflicts regarding exceptions to the release. The inspector was informed that all such transmittal letters which are redundant to the Form 1A will be removed as they are found.

b. Startup System No. 80 - Non-Nuclear Instrumentation

The errors in marked up Drawing E-23 had been corrected.

The inspector was informed that other release packages were being reviewed by Bechtel personnel to verify that errors similar to those discussed herein are not present.

The inspector reviewed an audit report by AP&L's Chief Quality Assurance Coordinator concerning a reaudit of the release package system performed November 28, 1972. His original audit was performed September 18, 1972. The re-audit revealed fewer errors in packages studied and indicated general improvement.

A reply (dated December 15, 1972) to RO's notice of violation on this matter defines corrective and preventive measures taken by AP&L.

This subject was discussed during the management interview at which time the inspector stated that he had no further questions.

4. Preoperational Environmental Monitoring Program

The inspector reviewed changes in the description of the preoperational environmental monitoring program per Amendment 31 to the FSAR dated November 15, 1972. Amendment 31 resolves all of the differences between the implemented program and the FSAR before revision delineated in RO Report No. 50-313/72-10, Details II, paragraph 14.

AP&L's reply of December 20, 1972, to RO's notice of violation discusses corrective actions taken, which include that discussed in the previous paragraph, and preventive measures taken.

This subject was discussed during the management interview at which time the inspector informed licensee personnel that he had no further questions on this item.

5. Lack of Review and Approval of a Test Procedure by the TWG

This enforcement matter was initially discussed in RO Report No. 50-313/72-13, Details, paragraph 3. Minutes of a TWG meeting

held December 8, 1972, reveal that TP 400-03, "AC Power Systems Energization Procedure," was reviewed and approved on that date. The minutes also indicate that Bechtel personnel have been requested to provide documentation of data taken during the test and to establish acceptance criteria for the procedure. This action is in response to comments on the procedure given by the inspector.

This matter was discussed during the management interview at which time the inspector stated that the enforcement matter would be resolved upon receipt of an adequate reply to the notice of violation.

#### 6. Implementing Procedures for Use of Jumpers and Bypasses

Discussions with licensee personnel revealed that AP&L has no detailed implementing procedure for use of jumpers and bypasses during testing or operational programs. Basic guidelines are given in OP 1004.09, Plan, for the testing phase and OP 1005.01, "Administrative Controls Manual," to be used during operations.

The inspector apprised licensee personnel that RO's position is that implementing procedures should be made available for such activities. He commented that the "Bypass and Jumper Log," Appendix I of the Plan, should be revised to provide more information regarding the use of jumpers and bypasses including the individual who installed the device, the individual who approved its use, and the purpose. Licensee personnel indicated agreement that this additional information is desirable and that provisions for recording it will be factored into the log.

This subject was discussed during the management interview. Some of the licensee personnel indicated agreement that the implementing procedure should be written, while others felt that the guidelines mentioned above were sufficient. The inspector stated that since licensee personnel could not reach a conclusion during the interview, he would treat this matter as an unresolved item.

#### 7. Bechtel Startup Manual

This unresolved item was initially discussed in RO Report No. 50-313/72-5, Section II, paragraph 3.b. RO was informed at that time (June 1972) that the Bechtel Startup Manual was being rewritten. The inspector was informed during this inspection that the manual had been retyped but not approved. Review of the manual resulted in the following comments:

- a. The first paragraph of Section 2.1 of Tab 2 dealing with overall responsibility for the preoperational test program should be rewritten and clarified to agree with Section 13.1.2 of the FSAR. As presently written, it can be interpreted to assign all responsi-

bility for the program to the Supervising Startup Engineer rather than the Plant Superintendent.

- b. Figure 2-1 of the manual depicting the testing program organization should be updated to agree with Figure 13-1 of the FSAR.

These comments were discussed at the management interview. Licensee personnel stated that these changes would be made. The inspector stated that this item would continue to be carried as an unresolved item.

#### 8. Flushing Procedures

This unresolved item was initially discussed in RO Report No. 50-313/72-5, Section II, paragraph 3.c. RO was informed that AP&L intended to have a flushing procedure for each system.

During this inspection, the inspector asked if flushing procedures for safety related systems were available for his review. Licensee personnel stated that these procedures were being developed by B&W personnel at the site and were not yet finalized. They expressed concern with the possibility that the inspector might expect these procedures to be as formal as test procedures and get the same review and approval as them. They also stated that they did not view them as formal procedures. The inspector responded that his purpose in reviewing flushing procedures was to determine the basis for cleanliness standards, water quality standards, etc.

The inspector was informed that procedures for secondary systems were contained in the Bechtel Startup Manual. A cursory review of this procedure was performed. It covers flushing of the main steam, feedwater, condensate, and related systems. The inspector had no comments on this procedure.

Availability of flushing procedures was discussed during the management interview. The inspector was informed that these should be available for his use at the time of his next visit to the site. The inspector stated that this item would continue to be carried as an unresolved item.

#### 9. Onsite Training Program

Plans for the training program as discussed in RO Report No. 50-313/72-13, Details, paragraph 5, have been revised. The information herein is that given to the inspector during the current inspection.

A four-section shift schedule to run for approximately six weeks was to be started January 8, 1973. Each shift works twelve hours with four hours devoted entirely to training.

Training will cover forty-four lessons, each of which consists of instruction, walk-through and formal examinations on one or more plant systems or other subject area. Instructors include the B&W Training Coordinator, the Operations Supervisor, shift supervisors, station operators, and other station personnel. One or more examiners are assigned to each system to be studied. These persons will conduct walk-throughs of the systems involved. Plans are for B&W personnel to give simulated cold examinations at the end of the training program.

10. Staffing

The inspector was informed that an additional waste control operator had been hired since the previous inspection. This is the second hired, leaving two more needed to fulfill FSAR staffing commitments. As discussed in paragraph 2, the Procedure Administrator will be assigned as Nuclear Engineer. This will fill all positions listed on Figure 12-2, organization chart for operations, except for the two waste control operators.

11. Documentation of STC's Prerequisite Duties in the Conduct of Tests

Licensee personnel informed the inspector that documentation of those duties initially discussed in RO Report No. 50-313/72-9, Section III, paragraph 3, would be accomplished by having the STC sign a form entitled "Station Test Coordinator's Checkoff Sheet" which states that he has verified that ". . . 1. Construction is complete to the extent necessary for accomplishing this test. 2. Items of equipment within the boundaries of the system and necessary for completion of this test are identified with a green 'Equipment Turnover' tag as per Bechtel Startup Manual, Table 6 . . . ."

In addition, the Plan has been revised to provide explanation and direction for use of this form and is currently in the review and approval process.

This matter was discussed at the management interview at which time the inspector stated that it would remain open until the Plan is approved again and implementation of the form is underway.

12. Procedures to Cover Tests in Guide for Planning of Preop Test Programs

As discussed in RO Report No. 50-313/72-9, Section IV, paragraph 4, there were nine tests or systems for which test procedures had not been identified. The following is a compendium of information provided the inspector during the previous and current inspections and in licensee letters to RO:II dated November 17 and December 22, 1972.

- a. Emergency Core Cooling Systems - Demonstration That Boron Concentration Can Be Maintained, Adequate Sampling Techniques, Etc.

These functions will be demonstrated by TP 600-05, "Chemical Addition and Sampling System Operational Test."

- b. Incore Monitor System - Preinstallation Tests

Integrity of monitor cables is checked per TP 302.02, "Incore Monitoring System Post-Installation Electrical Test," prior to installation. As the title infers, the majority of testing done comes after the monitors are installed.

- c. Steam Generators Relief Valves

These valves will be tested per TP 600.30, "Steam Generator Relief Valve Test."

- d. Loss of Instrument Air

AP&L feels that instrument air is not necessary for safe shutdown of the plant and, therefore, this test need not be run. Information to support this viewpoint was provided the inspector during this inspection. This test was discussed briefly during the management interview at which time the inspector stated that he would evaluate the new information and discuss his findings during his next visit to the site.

- e. Turbine Control and Bypass Valves

Test Procedure 320.02, "ICS Open Loop Calibration," will test the ability of the Integrated Control System to control the turbine bypass valves. TP 280.93, "Main Turbine EH Control Acceptance Test," will test turbine control valves.

- f. Vital Bus Full Load Test

Licensee personnel feel that these buses will be tested using normal and emergency power sources per TP 410.24, "Emergency Diesel Generator System Preop Test." This procedure has not been written as yet.

- g. Evacuation Signal Test

Licensee personnel stated that a test procedure which will demonstrate the adequacy of their communication system for this purpose will be written and run.

- h. Hydrogen Removal System

Licensee personnel stated that a procedure for testing

this system will be written and completed.

i. Containment and Auxiliary Ventilation Filter Tests

The inspector was informed that tests will be performed on the installed filter/ventilation systems using approval procedures per the Plan. Certain tests including DOP and Freon tests on the filters and flow balancing will be performed by a vendor subcontractor using procedures approved by AP&L. A licensee representative stated that procedures had been requested from the vendor but had not been received yet. In addition, tests for such items as flow directions and magnitudes, pressure drops, etc., will be run by AP&L.

This subject was discussed at the management interview, with licensee personnel confirming the above information.

13. Review of Test Procedures to Assure Inclusion of FSAR Requirements

This unresolved item was initially discussed in RO Report No. 50-313/72-10, Details I, paragraph 4. The inspector was informed that there were two levels of review performed for this purpose. The first is performed by B&W and Bechtel procedure writers who sign a form which states, "To the best of my knowledge this document is in agreement with all quantitative values (instrument set points, tank volumes, etc.) and limitations listed in the Arkansas Nuclear One FSAR. Exceptions and corrective action, if any, are listed below." This review was instituted primarily for the benefit of the various review committees.

The second review is performed by the STC after the procedure is approved. He signs another form which states, "This procedure has been examined to assure compliance with the ANO Final Safety Analysis Report and Technical Specifications."

This subject was discussed at the management interview. The inspector was informed that not all procedures have received the first review described above since it was instituted after some procedures had already been written. The second review, however, has been, and will be performed for all test procedures.

This previously identified unresolved item is considered resolved.

14. Request For Procedures

The following information given to the inspector provides a status of procedures which the inspector requested be loaned to him for review in December of 1972.<sup>1/</sup>

<sup>1/</sup> See RO Report No. 50-313/72-13, Details, paragraph 6.

a. Core Loading Procedure

This procedure has been assigned a number of OP 1502.04 and is being written.

b. Preop Test Procedure for Systems Which Measure Primary System Leakage

This test is to be performed by TP 600.10, "RCS Hot Leakage Test." This will be run during the hot functional test period and is currently being written.

c. Remote Shutdown During Power Ascension Testing

This test procedure has been assigned a number of TP 402.01 and will be written by B&W personnel.

d. Loss of Offsite Power During Power Ascension

This procedure has not been identified, but will be run.

These procedures were discussed at the management interview. Licensee personnel verified the accuracy of the information and confirmed their intentions to run the tests.

15. Detailed Comments on Approved Procedures

The following comments were given to licensee personnel during the inspection and some of them were discussed again during the management interview.

a. TP 120.01, "Fuel Handling System Operational Test"

- (1) Comment: The inspector noted that spaces for signatures and dates that had been added in Sections 6 and 7 and encouraged this for all procedures which do not have such provisions.

Response: Licensee personnel stated that these spaces are added to procedures which are sent back to B&W for rewriting, but that all procedures could not be sent back due to lack of time and manpower.

- (2) Comment: Step 5.03 should be expanded to provide more control over personal effects such as pencils, cigarettes, etc., to assure that these would not be dropped into fuel storage areas, transfer canal or the reactor vessel.

Response: Licensee personnel felt that the precautions given in the procedure as written were sufficient for control during the testing phase. They stated that more stringent controls over such items will be in effect during actual loading operations. This will include the establishment of "clean" areas wherein only necessary foreign objects can be taken and these will be taped to protective clothing where possible. This response was reiterated during the management interview.

b. TP 120.02, "Dry Fuel Handling Test"

The second comment and response for TP 120.01 apply to this procedure also.

c. TP 200.08, "Pressurizer Relief Valve Test"

- (1) Comment: Spaces should be provided in Sections 3.1.1, 6.1, 6.2, and 7 for signatures and dates.

Response: Thought is being given to the idea of having the STC initial and date all action-type steps within procedures whether space is provided or not. This matter was discussed with licensee management who stated that it would not be required but would be acceptable if done.

- (2) Comment: The inspector asked licensee personnel if they did not think it was unusual to use an intermediate set of data, in this case the hydroset (pressure assist device) pressure, as an acceptance criterion rather than the true valve relief set point.

Response: Licensee personnel acknowledged in the management interview that the true valve pressure (system pressure plus relative system pressure, which is hydroset pressure times a conversion factor) would normally be the acceptance criterion used.

- (3) Comment: The inspector asked if the additional details relating to paragraph 8.0 of the "Plan For Preoperational Testing" given in Appendix H of that document did not apply here. The reference states, in part, ". . . Results of the test will be summarized and reduced to meaningful and understandable form . . ." Specifically, the inspector asked if the "true" valve lift pressure should not be computed in the procedure and compared to the design set point of the valve.

Response: Licensee personnel felt that the procedure was adequate and that if any summarization of data were

needed, the TWG would do this at the time the test results were reviewed.

- (4) Comment: The inspector asked if any problem was anticipated in holding system pressure exactly at 1500 psig as step 7.2.2 requires.

Response: Licensee personnel felt that no problem would be encountered but stated that the procedure would be amended to allow some variance if needed.

d. TP 201.01, "Core Flooding System Hydrostatic Test"

- (1) Comment: The inspector expressed concern over the numerous changes being made to test procedures by use of the form "Addendum to Test Procedures." He noted that changes to this procedure totaled almost two pages.

Response: Licensee personnel felt that the use of the form attached to the procedure with notes to check the addendum form written in margins would present no problems. They stated that this method is the only one which can be used since there is not enough time to send procedures back through the review process. This viewpoint was expressed again during the management interview.

- (2) See comment and response regarding signatures and dates within procedures for TP 200.08.

e. TP 201.02, "Core Flood Electrical Test Procedure"

- (1) Comment: The inspector asked where electrical valve full loading amperage readings discussed on page 13-15 of the FSAR would be recorded.

Response: These readings will be recorded on Bechtel SU Form No. 6.

- (2) Comment: The inspector stated that the procedure does not explicitly direct the operator to record data on SU forms and should be revised to do this. In addition, he stated that this comment would apply to all procedures which use such forms or data sheets as a means of recording data.

Response: Licensee personnel agreed to revise the procedure to include instructions for recording all data.

f. TP 201.03, "Core Flooding System Functional Test"

The inspector stated that he was particularly concerned about this procedure in that comments regarding potential deficiencies and weaknesses in the procedure given to licensee personnel in June of 1972 <sup>1/</sup> still apply with the exception of acceptance criteria in disagreement with FSAR values. This deficiency was corrected by Amendment 31 to the FSAR.

The following specific comments were discussed during the inspection and again during the management interview:

- (1) The writer evidently intended to give the option of demonstrating flow paths either by use of temporary piping or through permanent piping to the reactor vessel. However, purpose 1.1 speaks only of the temporary piping.
- (2) Steps 2.2.6 and 2.2.7 should provide the number of the procedure referenced. (Steps 2.2.4 and 2.2.5 do give numbers.)
- (3) Step 4.3 contains a note which describes the temporary piping as being optional. This is in disagreement with a step 1.1 discussed above in (1).
- (4) Step 5.6 states that the reactor coolant system must be vented if the core flood tank level is lost. How is this to be done?
- (5) A step should be added to Section 5 directing the user of the procedure to notify the shift supervisor before starting test.
- (6) Step 6.2.1, giving special conditions required for section 7 of the procedure, indicates that the reactor coolant system is to be filled and vented. Steps 7.4.2 and 7.4.9 require the reactor coolant system to be pressurized. These directions are conflicting.
- (7) If flow is directly to the reactor vessel, a step should be added to Section 7.5 to provide for removal of incore monitor caps which were installed per step 6.1.5.

<sup>1/</sup> See RO Report No. 50-313/72-5, Section IV, paragraph 1.

These comments were discussed during the management interview. The inspector stated that due to the numerous comments and questions regarding this procedure, it would be considered as an unresolved item. Licensee representatives stated that the comments would be studied, although there was some question as to the need for clarifying the procedure.

g. OP 1004.09, "Plan For Preoperational Testing," Revision 1

- (1) Comment: In discussing the need for a detailed implementing procedure for jumpers and bypasses (See paragraph 6), the inspector stated that this procedure should refer to the detailed procedure when it is developed.

Response: Licensee personnel were in agreement to use of the reference if a detailed procedure is developed.

- (2) Comment: Appendix I, "Bypass and Jumper Log," should be expanded to provide information relating to who approved the use of the device, who installed it, and the purpose.

Response: Licensee personnel agreed that this information should be recorded and indicated that the log would probably be revised.

- (3) Comment: Appendix E, "Test Deficiency Record," should be revised to allow space to indicate whether the test of portion thereof needs to be rerun, and if so, the date the test was satisfactorily rerun.

- (4) Comment: This form should relate to the mechanism by which equipment deficiencies are being corrected, for example, the Interim Field Report (IFR) number if the corrective action is due to a design problem or a work request number if the corrective action is of the normal maintenance type.

Responses: For comments (3) and (4), licensee personnel stated that this information probably would be helpful, but did not feel that it was necessary. The inspector was informed that the comments would be considered and he would be informed of AP&L's position on them at a later date.

h. OP 1005.02, "Handling of Administrative, Operating and Maintenance Procedures"

- (1) Comment: The inspector asked if the author assigned per step 4.2 would be knowledgeable in the subject area of the procedure he is to write.

Response: Licensee personnel stated that this was their intention.

- (2) Comment: Step 5.3 describes the use of addenda in revising procedures. How soon will these be incorporated into the procedure?

Response: A licensee representative stated that the maximum allowable time period for use of addenda would be defined in the procedure.

16. Request for Revised Test Schedule

The inspector requested that he be loaned a copy of an up-to-date test schedule for use in scheduling his reviews of AP&L test procedures, noting that the schedule originally issued in the Bechtel Startup Manual was out of date.

A member of station management explained that this request would have to be approved by corporate management since station personnel only had authority to loan approved procedures and procedure indices for use by the inspector at his office.

This subject was discussed during the management interview. Licensee personnel stated that a letter of request would be forwarded to corporate headquarters and that the inspector would be informed of action taken on the request.

17. Barton D/P Cells

Problems encountered with certain Barton differential-pressure (D/P) cells at other facilities was discussed with AP&L in December 1972.<sup>1/</sup> Licensee personnel informed the inspector during the current inspection that no Barton cells have been purchased directly by AP&L. Vendors have been contacted to determine if any of the models in question have been used by them in equipment sold to AP&L. Information obtained from vendors will be given the inspector at a later date.

18. Potential Design Deficiencies

As discussed in RO Report No. 50-313/72-13, Details, paragraph

<sup>1/</sup> See RO Report No. 50-313/72-13, Details, paragraph 8.

9, AP&L was asked if the possibility of design deficiencies such as inability to operate an engineered safeguards pump with a redundant pump racked out existed at Arkansas Nuclear One (ANO).

The inspector was informed during the current inspection that AP&L and Bechtel personnel were confident that such design problems do not exist at ANO.

19. Test Procedure Status

The following information regarding the development and approval of test procedures was given to the inspector.

	<u>No. Identified</u>	<u>No. Written</u>	<u>No. Approved</u>
AP&L	5	0	0
B&W	88	60	42
Bechtel	42	29	8
Totals	<u>135</u>	<u>89</u>	<u>50</u>