



UNITED STATES
ATOMIC ENERGY COMMISSION

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REGION II - SUITE 818
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ATLANTA, GEORGIA 30303

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DIRECTORATE OF REGULATORY OPERATIONS

RO Inspection Report No. 50-313/72-10

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: A3/B1

Location: Russellville, Arkansas

Type of Licensee: B&W, PWR, 880 Mwe

Type of Inspection: Routine, Unannounced

Dates of Inspection: October 16-19, 1972

Dates of Previous Inspection: September 13-15, 1972

Principal Inspector: Robert F Warnick 12/1/72
R. F. Warnick, Reactor Inspector Date
Facilities Test and Startup Branch
(October 18-19, 1972 only)

Accompanying Inspectors: M. S. Kidd 12/4/72
M. S. Kidd, Reactor Inspector Date
Facilities Test and Startup Branch

C. M. Campbell 12/1/72
C. M. Campbell, Radiation Specialist Date
Radiological and Environmental Protection
Branch

Other Accompanying Personnel: A. F. Gibson, Radiation Specialist
Radiological and Environmental Protection Branch

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Reviewed By: *C. E. Murphy* 12/1/72
C. E. Murphy, Acting Chief Date
Facilities Test and Startup Branch

SUMMARY OF FINDINGS

Enforcement Action

A. Violations

The environmental sampling program, as implemented, was not in total agreement with the requirements specified in Section 2.8.2 and table 2-10 of the FSAR. Program changes had been implemented prior to submitting a proposed FSAR change to Licensing. (See Details II, paragraph 14.)

B. Safety Items

None

Licensee Action on Previously Identified Enforcement Matters

A. Procedure Containing Acceptance Criteria in Disagreement with the FSAR (See RO Report No. 50-313/72-9, Section III, paragraph 2)

The licensee intends to delete the acceptance criteria for core flooding tanks level alarms from the FSAR. (See Details I, paragraph 3.)

B. Development of Test Procedures by the Station Test Coordinator (STC) (See RO Report No. 50-313/72-9, Section II, paragraph 3)

The licensee will revise the FSAR to reflect the fact that the STC does not develop the test procedure. (See Details I, paragraph 4.)

Unusual Occurrences

None

New Unresolved Items

A. Review of Test Procedures for Compliance with FSAR Requirements

The licensee has not determined who is to be responsible for the review of test procedures to assure inclusion of FSAR requirements. (See Details I, paragraph 5.)

Status of Previously Reported Unresolved ItemsA. Coordination of Test Activities (See RO Report No. 50-313/72-9, Section III, paragraph 3.c)

The FSAR is being revised to state that the station Test Administrator (TA) will coordinate test activities rather than the Test Working Group (TWG). (See Details I, paragraph 6.)

B. Changes to Test Procedures (See RO Report No. 50-313/72-9, Section III, paragraph 3.e)

The Plan For Preoperational Testing now includes additions to a test procedure as a major change. (See Details I, paragraph 7.)

C. Use of Jumpers and Bypasses (See RO Report No. 50-313/72-9, Section III, paragraph 3.d)

The Plan For Preoperational Testing (draft) now states that a separate bypass and jumper log will be maintained for each test. Also, the use of jumpers and bypasses will require the approval of the AP&L shift supervisor. These specific questions will be resolved upon approval of the latest draft of the plan. (See Details I, paragraph 8.)

D. Documentation of Prerequisite Duties For Preoperational Tests (See RO Report No. 50-313/72-9, Section III, paragraph 3.a)

The licensee plans to attach a form to each test procedure which will document the completion of certain of the STC's prerequisite duties for that test. (See Details I, paragraph 2.)

Other Significant FindingsA. Personnel

A new employee, P. C. Rogers, has been assigned as assistant to the station maintenance supervisor. He will be responsible for development of maintenance procedures and a program for control of spare parts.

Job positions for one auxiliary plant operator and four waste control operators are yet to be filled.

B. Status of Construction

Licensee personnel estimate the construction of Unit 1 to be 88% complete. Portions or all of the following systems had been turned over to AP&L from Bechtel construction since the previous inspection:

Auxiliary and Emergency Feedwater System
Condensate Demineralizer System
Chemical Addition System
Circulating Water System
Condenser Air Removal System
Condensate System
Feedwater System
Extraction Steam System
Feedwater Heater Vents and Drains
Core Flooding System
Makeup and Purification System
Reactor Coolant System
Startup Transformer Number 1

This brings the number of systems (total and partial) turned over to AP&L to 39 out of a possible 71.

Management Interview

A management interview was held October 19, 1972. The following licensee representatives attended.

J. W. Anderson - Plant Superintendent
G. H. Miller - Assistant Plant Superintendent
B. B. Boyett - Production Engineer
T. C. Baker - Chemical and Radiation Protection Engineer
C. A. Halbert - Technical Support Engineer

The following subjects were discussed:

A. Emergency Operating Procedures

The inspector stated that he had reviewed AP&L's list of emergency procedures and found that several needed to be added to their list. A licensee employee indicated that these would be studied and procedures written to cover the condition or justification provided as to why procedures are not needed for specific conditions. (See Details I, paragraph 9.)

B. Preparations for Receipt of Fuel

The inspector stated that review of AP&L's preparations for receipt of fuel revealed several areas of concern, including development of procedures, completion of construction, checkout of equipment, and personnel training. He asked if AP&L would consider assigning an individual or group to follow the preparations needed to assure they are completed in a timely fashion.

This comment was received favorably by licensee representatives, who indicated it would be considered. (See Details I, paragraph 10.)

C. Plan for Preoperational Testing

1. Development of Test Procedures

The inspector stated it was his understanding the FSAR will be revised to indicate the STC does not develop the test procedures but that he will be assigned to a test and be provided the procedure sufficiently ahead of the test date to become thoroughly familiar with the procedure and have the authority and opportunity to make any necessary input to the procedure if he feels it is inadequate.

Licensee representatives stated that this was their intention. (See Details I, paragraph 4.)

2. Coordination of Test Activities

The inspector stated that he understood the FSAR will be revised to state the TA is to perform this function rather than the TWG.

A licensee representative stated this was correct. (See Details I, paragraph 6.)

3. Major Changes to Test Procedures

The inspector acknowledged that the latest draft of the plan includes additions to a test procedure as a major change.

He stated that this item will be resolved upon approval of this revision to the plan. (See Details I, paragraph 7.)

4. Use of Jumpers and Bypasses

The inspector stated that it was his understanding that the TWG will review the use of jumpers and bypasses to ascertain that the jumper or bypass has not negated portions of the test.

Licensee representatives indicated that this understanding was correct.

The inspector stated that other aspects of the jumper and bypass control system discussed previously will continue to be studied. (See Details I, paragraph 8.)

5. Documentation of STC's Prerequisite Responsibilities for Preoperational Tests

The inspector stated that after review of the Plan for Preoperational Testing, it is unclear as to how certain of the STC's prerequisite duties listed in section 6.1.1 of the plan are to be documented. The inspector stated that Regulatory Operation's (RO) position is that documentation of completion of these duties is required.

AP&L personnel notified the inspector by telephone on October 25, 1972, that the duties in question would be documented on an attachment to the test procedure. The inspector indicated that the details of this plan would be reviewed during the next inspection. (See Details I, paragraph 2.)

D. Review of Test Procedures against FSAR Requirements

The inspector stated that it was his understanding that provisions for review of test procedures to assure that requirements of the FSAR and other applicable documents are met would be incorporated in the charter for the Plant Safety Committee.

A licensee representative stated that this review is currently being accomplished in several ways, but that a determination as to which individual or group will be ultimately responsible has not been determined.

The inspector stated that this subject would be reviewed further during subsequent inspections. (See Details I, paragraph 5.)

E. Environmental Monitoring Program

1. The inspector stated that the environmental monitoring program as implemented, particularly in areas of sample collection frequency and analyses, is not in total agreement with the FSAR and thus is in violation of current FSAR requirements. (See Details, Part II, paragraph 15.)
2. The inspector stated that the sample collection procedures for the environmental monitoring program are not yet finalized or approved. Management had no comment with respect to expediting completion of these procedures. (See Details II, paragraph 4.)

REPORTS DETAILS, I

Prepared By: M. K. L. L. 12/4/72Reviewed By: Robert F. W. W. W. 11-30-721. Persons Contacted

The following individuals were contacted by this inspector:

Arkansas Power and Light Company (AP&L)

J. W. Anderson - Plant Superintendent
C. A. Halbert - Technical Support Engineer
T. H. Cogburn - Test Administrator
R. H. Culp - Test Administrator
B. B. Boyett - Production Engineer

Babcock and Wilcox Company (B&W)

C. E. Alderson - Site Training Supervisor

Bechtel Corporation (Bechtel)

R. J. Glover - Supervising Startup Engineer

2. Documentation of STC's Test Prerequisite Duties

The matter of documentation of the STC's duties as listed in Section 6.1.1 of the Plan for Preoperational Testing was initially discussed during the September 13-15, 1972, inspection. ^{1/} The inspector was informed that those duties relating to construction activities are being accomplished but that AP&L feels that they do not need to be documented on the basis that a satisfactorily completed test will indicate that the STC had completed his duties. The inspector advised licensee personnel that RO's position is that those duties which assure that construction is complete, that equipment is properly tagged, and that all necessary quality assurance documentation is on file should be documented in order to satisfy the requirements of Criterion XI, "Test Control", and Criterion XVII, "Quality Assurance Records", of Appendix B to 10 CFR 50. Other duties listed in section 6.6.1 are normally included in the test procedures.

1/ See RO Report No. 50-313/72-9, Section III, paragraph 3.a.

The duties relating to completion of construction and verification of quality assurance documentation are performed by Bechtel startup engineers. (These individuals will also serve as STC's for most tests.) These activities are covered by the Bechtel Startup Manual (currently being revised) but completion of the activities apparently is not documented.

This previously identified unresolved item was discussed in the management interview.

AP&L notified the inspector by telephone on October 25, 1972, that the duties related to verification that construction on the system is complete and that equipment has been properly tagged will be signed off on a form which will be attached to the test procedures (one form for each test). The implementation of this plan will be reviewed during the next inspection.

3. Procedure for Functional Test of Core Flood System

This procedure contains acceptance criteria less restrictive than those given in the FSAR. (See RO Report No. 50-313/72-9, Section III, paragraph 2.) The inspector was informed that AP&L is revising the FSAR to eliminate the specific acceptance limits pertaining to core flood tank level alarms. Licensee personnel indicated that this solution was chosen because this test description in the FSAR (Section 13) is the only one which contains specific numeric acceptance limits.

This previously identified unresolved item was discussed during the management interview and will be reviewed again during subsequent inspections.

4. Development of Test Procedures

The inspector was informed that AP&L intends to revise the FSAR to reflect the fact that the STC does not write the test procedure. The inspector stated that he was concerned that the STC may not have an adequate input to a test procedure unless he is provided the procedure well ahead of the test date to allow time for his comments to be reviewed by the process established in the Plan for Preoperational Testing. Licensee personnel stated that it was their desire that the STC get the procedure in time to become thoroughly familiar with it and determine if it is adequate. This item is treated in the Plan for Preoperational Testing. Step 6.1.1.H states that the STC is to "Determine if the approved test procedure can be followed without any major changes."

The majority of test procedures are being written by B&W and Bechtel home office personnel. A select few are being written by AP&L personnel.

This previously identified enforcement item was discussed in the management interview and will be reviewed again during future inspections.

5. Review of Test Procedures for Compliance with FSAR Requirements

During discussions concerning review of test procedures to assure that requirements and acceptance limits specified in the FSAR and other applicable documents are covered the inspector was informed that the review is accomplished in several ways. Licensee personnel stated that B&W procedure writers verify that this review has been performed for procedures which they write. AP&L's TA uses a form, entitled "FSAR Compliance Check," which states that "This procedure has been examined to assure compliance with the ANO Final Safety Analysis Report and Technical Specification." This form is signed and retained in the test procedure package. In addition, the inspector was informed that this review is accomplished by the Plant Safety Committee as it reviews procedures.

The inspector expressed concern that AP&L's system appeared to be disjointed and that the responsibility for the specific review is not delineated in the Plan for Preoperational Testing or the FSAR. A licensee representative stated that AP&L was considering various options, such as inclusion of this responsibility in the charter for the Plant Safety Committee or assigning it to the STC.

This unresolved item was discussed during the management interview. It will be pursued during the next inspection.

6. Coordination of Test Activities

The discrepancy between the FSAR and the Plan for Preoperational Testing concerning coordination of test activities was identified as an unresolved item and discussed during the September 13-15, 1972, inspection. ^{1/} The inspector was informed that AP&L will revise the FSAR to state that this function is performed by the TA rather than the TWG as it presently states. In actual practice, these duties have been performed by the TA. This item will be resolved upon revision of the FSAR.

This subject was discussed at the management interview.

^{1/} Report No. 50-313/72-9, Section III, paragraph 3.c

7. Changes to Test Procedures

The inspector had expressed concern during a previous inspection ^{1/} that the Plan for Preoperational Testing did not include changes in scope as a major change. The latest draft of the Plan for Preoperational Testing states, in Appendix H, "Major modifications include changes to a procedure that enlarge the scope of the test." Approval of this draft will resolve RO's questions concerning additions to test procedures.

This subject was discussed in the management interview.

8. Use of Jumpers and Bypasses

During discussions concerning the use of jumpers and bypasses during preoperational testing, the inspector asked how AP&L will assure that the use of jumpers or bypasses has not negated portions of a test or has not adversely affected other systems. He was informed that the TWG would include this function as part of their review of the completed test data package. In addition, the inspector was informed that the use of jumpers and bypasses will require the approval of the AP&L shift supervisor and that a separate jumper and bypass log will be maintained for each test. Inclusion of these provisions in the Plan for Preoperational Testing was in response to questions by RO during the September 13-15, 1972, inspection. These specific items will be resolved with the approval of the latest draft of the plan.

Other aspects of the jumper and bypass control system, such as overall workability, will be studied during future inspections.

9. Emergency Operating Procedures

The inspector reviewed AP&L's list of emergency operating procedures and compared it to a list of emergency and abnormal conditions for which procedures are normally required. Procedures for the following conditions have not been identified by AP&L or it has not been determined by AP&L that they will be covered in procedures already identified:

- a. Loss of Instrument Air
- b. Loss of Condenser Vacuum
- c. Loss of Containment Integrity
- d. Loss of Service Water

^{1/} RO Report No. 50-313/72-9, Section III, paragraph 3.e.

- e. Loss of Flux Indication
- f. Emergency Shutdown
- g. Reactor Scram
- h. Operation of Emergency Core Cooling Systems

The inspector provided licensee personnel a brief explanation of the desired content of each procedure for those conditions which are not self explanatory. He stated that RO's position is that procedures should be written to cover these conditions unless the licensee can logically justify why the condition does not represent an emergency or abnormal operating condition.

The need for these procedures was discussed at the management interview.

10. Preparations for Receipt of Fuel

The inspectors reviewed AP&L preparations for receipt of new fuel (scheduled for January 1973) with attention directed toward the areas of procedures, construction and checkout of equipment, and personnel training. The following paragraphs summarize the status in these areas.

Four test procedures and five operating procedures are identified in AP&L's application for a special nuclear materials license as being needed for receipt, checkout, and storage of new fuel. Of these nine procedures, eight have been written and two approved. The remaining six already written are in various stages of review. The inspector was informed that the remaining procedures in this group will be approved as soon as possible. The inspector reminded licensee personnel that procedures would also be needed to accomplish checkouts of the ventilation and radiation monitoring systems in the fuel storage areas. These procedures have not been written.

Much work remains to be completed on equipment construction. Storage racks for the spent fuel pool are not yet installed. Racks are in the new fuel storage pool, but will need to be cleaned. The fuel handling bridge was scheduled to be turned over from construction for checkout within a week or two. Also, a dummy fuel element was to be delivered from B&W within the same time period. The railroad tracks and flooring in the fuel receiving area have been taken up for installation of a solid waste handling system and must be replaced before fuel can be received. The ventilation system for the fuel storage area is estimated to be 90% complete by licensee personnel. Installation of radiation monitors for this area is only partially complete.

Training for fuel handlers was discussed. The inspector was informed that instruction in control logic for the fuel handling equipment, and practice in operating the equipment after checkout is being planned. The inspector commented that classroom-type training in the content of fuel handling procedures as they are approved would be beneficial.

The need for continual attention to the necessary preparations by AP&L personnel was discussed during the management interview. This item will be reviewed further during the next inspection.

11. Status of Procedures

Licensee personnel provided the inspector with the following information regarding the status of preoperational testing, emergency, and operating procedures.

TEST PROCEDURES

	<u>No. Identified</u>	<u>No. Written</u>	<u>No. Approved</u>
AP&L	3	0	0
B&W	91	51	12
Bechtel	40	4	0
Total	<u>134</u>	<u>55</u>	<u>12</u>

OTHER PROCEDURES

Most of the following procedures are being written by AP&L:

<u>TYPE</u>	<u>No. Identified</u>	<u>No. Written</u>	<u>No. Approved</u>
Operating	82	64	11
Emergency			
Operating	29	10	0
Calibration	36	31	31
Maintenance	9	7	0
Refueling	19	10	0
Health Physics	32	2	0
Chemical Control	57	16	14
	<u>264</u>	<u>140</u>	<u>56</u>

REPORT DETAILS II

Prepared By: *[Signature]*Reviewed By: *[Signature]*1. Persons Contacted

The following individuals were contacted by this inspector:

AP&L

C. Halbert - Technical Support Engineer
B. B. Boyett - Production Engineer
T. C. Baker - Chemistry and Radiation Control Engineer
R. Carroll - Chemist and Health Physicist
G. Birdwhistell - Clerk/Chemist
J. Bates Clerk/Chemist

2. Organization

T. C. Baker, Chemistry and Radiation Control Engineer, is responsible for the chemistry and health physics programs. Baker reports directly to C. Halbert, Technical Support Engineer, who reports to the plant superintendent through the assistant plant superintendent. Reporting to Baker are two chemist/health physicists and two clerk/chemists. Attempts are being made to obtain a third clerk/chemist. The plant superintendent has the overall responsibility for the environmental monitoring program while the chemistry and radiation control engineer has the responsibility for the day-to-day operation of the program.

3. Overview of the Environmental Monitoring Program

The program has been implemented and sampling includes air particulates, precipitation, surface and ground water, bottom sediment, aquatic biota, milk, vegetation, and soil samples as well as measurements of direct radiation. External radiation and air sampling stations are established and observed to be in operation. Samples of aquatic biota, bottom sediment, and surface water from the Dandanelle Reservoir are collected by representatives of the University of Arkansas at Little Rock (UALR). Milk samples are collected by the Arkansas State Health Department. All other samples are collected by AP&L personnel. At present, all radiological analyses are performed by the Arkansas State Radiological Health Division. Thermoluminescent dosimeters (TLD's) are read out onsite by AP&L personnel. Routine reporting of data is on a semiannual basis with prompt reporting of anomalous or significant results.

4. Procedures

The inspector requested that any existing health physics procedures be provided for review. The following procedures dealing with the environmental monitoring program, all in longhand draft status dated October 12, 1972, were reviewed: Environmental Soil Sampling, Environmental Ground and City Water Sampling, Environmental Vegetation Sampling, Environmental Direct Radiation, Environmental Air Sampling, and Environmental Precipitation Sampling. None of the procedures for the collection of the preoperational environmental monitoring program samples are yet finalized or approved. One of the FSAR objectives for the preoperational phase of this program is the establishment of procedures. The inspector pointed out that in view of this objective and the operational status of the program, the finalization and approval of these procedures should be expedited. Review of the health physics procedure book and discussions with licensee representatives indicated the following status of other existing health physics procedures:

- 1202.35 - Radiation and/or Contamination (combined procedure written)
- 1202.36 - High Air Activity (combined procedure written)
- 1204.1 - Emergency Plan (written and typed)
- 1204.2 - Security Plan (written and typed)
- 1602.2 - Pocket Dosimeter Procedure (written)
- 1602.3 - Personnel Monitoring Badge (written)
- 1602.4 - Health Physics Work Permit and Standing Radiation Work Permit (written)
- 1602.15 - Health Physics Log Book (written and typed)
- 1602.35 - Health Physics Manual (written and typed)

5. Sampling Stations

An array of seven sampling stations has been established and is currently operational. There are four onsite stations, two offsite stations within a ten mile radius of the site (one at Knoxville, Arkansas, and one at Russellville, Arkansas), and one reference or control location at Danville, Arkansas, about twenty air miles from the site. All stations were visited by the inspectors. Each station is equipped with an air sampling unit with particulate filter and a TLD packet for measurement of direct radiation. All air samplers were operational and TLD packets were present at all stations except station No. 1. Two stations were provided with precipitation collectors. All stations were equipped with top opening locked wooden weather shelters which contained the air sampling units. Sampler exhausts were vented outside the shelter. The TLD packets were taped to the underside of the top of the shelter in a manner such that they were exposed to the outside environment and still protected from weather and inconspicuous.

6. Direct Radiation Measurement

The TLD's used for these measurements include both lithium fluoride and calcium fluoride types. Each environmental sampling station is provided with a packet containing both types of TLD chips. The chips are contained in a sealed plastic packet which is taped to the sampling station.

The initial TLD placement was made during February 1972. To date the only TLD loss was the one (at station No. 1) observed by the inspectors on October 19, 1972. TLD's are exchanged on a quarterly basis and read out onsite. AP&L currently has about 200 sets of TLD's onsite. Contrary to the FSAR (Table 2-10 and Section 2.8.2), the licensee has not included ion chamber dosimeters at selected stations for weekly readout and has changed from film badges to TLD's.

7. Air Sampling

The seven sampling stations are equipped with Eberline Instrument Corporation (EIC) RAP-1 sampling units. These units consist of Gast pumps equipped with particulate filters. The samplers are continuously operated at a rated flow of 1 cfm. An AP&L representative stated that they anticipated adding charcoal filters to the sampling units at about the time of fuel loading for Unit 1. The filters are collected weekly for gross beta analysis. Gamma spectral analysis will also be performed if the results of the gross beta analysis is above a preset screening level. All sampling stations are now on a weekly collection frequency rather than the weekly for onsite stations and every two weeks for off-site locations indicated in the FSAR Table 2-10.

8. Precipitation Sampling

Two precipitation sample collectors are established. One is located at an onsite station and the other, which is a reference or control station, at Danville, Arkansas. The collectors are metal funnels which drain into five gallon plastic carboys. Samples are collected on a "weekly, as-available" basis, rather than the each two weeks as indicated in the FSAR Table 2-10, for gross beta analysis.

9. Water Sampling

a. Surface Water

Samples are collected from the mouth of the discharge bay and several points in the Dardenelle Reservoir. These samples are collected quarterly for gross beta, tritium and gamma spectral analyses. The

number of sample collection points has been changed from three (indicated in Figure 2-33 of the FSAR) to five. Samples of Russellville city water are collected quarterly from the system intake on the Illinois Bayou for gross alpha, gross beta, and tritium analyses. The semiannual frequency for tritium analyses (FSAR Table 2-10) of the reservoir samples has been changed to quarterly. The licensee has deleted the semiannual specific nuclide analysis for I-131, Cs-137, Zn-65, Mn-54, and Ba-La-140 (FSAR Table 2-10) from the program and obtains this data from the quarterly gamma spectral analysis.

b. Ground Water

Ground water samples are collected quarterly from one onsite and two offsite wells. One of the offsite samples is from the London (Arkansas) Water Company well off Highway 64 and the other is from the Ouita Lake area. Gross alpha, gross beta, and tritium analyses are performed on all samples.

10. Bottom Sediment

Samples of the reservoir bottom sediments are collected quarterly from the mouth of the discharge bay and various locations in the reservoir for gross alpha, gross beta and gamma spectral analyses.

11. Aquatic Biota

Samples of fish and underwater plants are collected semiannually from points within the reservoir and discharge bay for gross beta and gamma spectral analyses. The licensee has deleted the specific nuclide analysis for Zn-65, I-131, and Cs-137 (FSAR Table 2-10) from the program and is obtaining this data from the gamma spectral analysis. Following discussion, the licensee representative said that he believes the gamma spectral analyses data is sufficient.

12. Milk Sampling

Milk samples from local herds are collected quarterly for gamma spectral analysis and specific nuclide analyses for Sr-89 and Sr-90. The licensee has deleted the gross beta analyses (FSAR Table 2-10) and the specific analyses for I-131, Cs-137, and Ba-La-140 from the program. Arkansas State Health representatives do both the collection and analyses of the milk samples.

13. Vegetation and Soil Sampling

Grass and soil samples are collected semiannually from seven locations (same as air and TLD stations) for gross alpha, gross beta, and gamma spectral analyses. The licensee has not implemented the specific analysis for I-131 for vegetation samples (FSAR Table 2-10) and obtains this data from the gamma spectral analysis.

14. Comparison of Existing Program with FSAR Commitments

In several instances, primarily in the areas of sample collection frequency and analysis, the implemented sampling program differs from the program commitments as stated in Section 2.8 and Table 2-10 of the FSAR. A licensee representative stated these revisions were done to improve the program. The program was revised prior to submitting a proposed FSAR change to Licensing. A licensee representative stated the proposed changes were submitted about two months ago to AP&L headquarters for processing to Licensing and will be reflected in the forthcoming Amendment No. 31 to the Unit 1 FSAR. Data showed that the environmental monitoring program has been fully implemented for at least five months and partially implemented for three years.

Specific differences between the implemented program and the FSAR were:

- a. Direct radiation measurements - TLD's used rather than film badge and ion chamber dosimeters.
- b. Air samples - All collected weekly rather than weekly from onsite stations and each two weeks for offsite stations.
- c. Precipitation samples - Collected on a "weekly as-available" basis rather than each two weeks.
- d. Surface water samples - Collected at five locations rather than three, tritium analyses made quarterly rather than semiannually, and quarterly gamma spectral analyses made rather than semiannual specific nuclide analyses for I-131, Cs-137, Zn-65, Mn-54, and Ba-La-140.
- e. Aquatic biota samples - Gamma spectral analyses made rather than specific nuclide analyses for Zn-65, I-131, and Cs-137.

- f. Milk samples - Gamma spectral analyses and specific nuclide analyses for Sr-89 and Sr-90 made but gross beta analyses and specific nuclide analyses for I-131, Cs-137, and Ba-La-140 deleted and not made.
- g. Vegetation and soil samples - Gamma spectral analysis made rather than specific nuclide analysis for I-131 on vegetation samples.

15. Preparations for Receipt of Fuel

In view of the licensee's application for a special nuclear material license with a requested effective date of November 1, 1972, the licensee's preparations for receipt of fuel were reviewed. Filter installation and preop testing of the ventilation system for the fuel handling area is not yet complete. Licensee representative said they knew that completion of installation, calibration, and testing of the radiation area monitor in the fuel handling area need to be accomplished and appropriate health physics procedures should be finalized and approved prior to receipt of fuel.

16. Operational Experience - Environmental Monitoring Program

Discussion with licensee representatives indicates essentially no problems with equipment or otherwise. Some failures of air samplers were encountered early in the program but only one TLD packet has been lost to date. No problems have been encountered with excessive dust loading of air filters or from tampering with the stations.