

APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-313/88-27  
50-368/88-27

Operating Licenses: DPR-51  
NPF-6

Dockets: 50-313  
50-368


Licensee: Arkansas Power & Light Company (AP&L)  
P.O. Box 551  
Little Rock, Arkansas 72203

Facility Name: Arkansas Nuclear One (ANO)

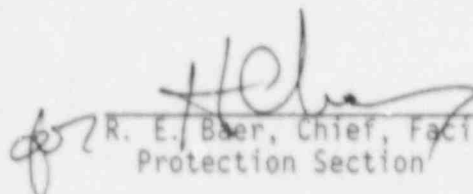
Inspection At: ANO Site, Russellville, Pope County, Arkansas

Inspection Conducted: August 22-26, 1988

Inspectors:

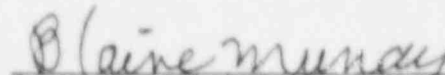
  
\_\_\_\_\_  
L. T. Ricketson, Radiation Specialist  
Facilities Radiological Protection Section

9-22-88  
Date

  
\_\_\_\_\_  
R. E. Boer, Chief, Facilities Radiological  
Protection Section

9/22/88  
Date

Approved:

  
\_\_\_\_\_  
B. Murray, Chief, Reactor Programs Branch

9/26/88  
Date

Inspection Summary

Inspection Conducted August 22-26, 1988 (Report 50-313/88-2, 50-368/88-27)

Areas Inspected: Routine, unannounced inspection of the licensee's radiation protection program including organization and management controls, training and qualifications, and maintaining occupational exposures ALARA.

Results: Within the areas inspected, no violations and one deviation were identified (responsibilities were not as committed to, paragraph 4).

DETAILS

1. Persons Contacted

ANO

- \*E. C. Ewing, General Manager, Plant Support
- D. W. Akins, Radioactive Waste Superintendent
- \*T. C. Baker, Technical Support Manager
- E. E. Bickel, Health Physics (HP) Superintendent
- M. J. Bolanis, HP Specialist
- R. E. Green, HP Dosimetry Supervisor
- \*D. L. Helm, HP Specialist
- \*D. R. Howard, Licensing Manager
- M. R. McIntosh, HP Supervisor
- \*P. L. Michalk, Licensing Engineer
- \*G. D. Provencher, Quality Assurance (QA) Supervisor
- J. T. Pugh, Lead Trainer, General Employee Training
- T. M. Rolniak, Lead Trainer, HP/Radwaste
- \*T. R. Smith, HP Supervisor
- \*J. L. Taylor-Brown, Quality Control/Quality Equipment Superintendent
- D. L. Wagner, QA Engineer

Other

- \*W. D. Allen, Consultant Health Physics

The NRC inspectors also interviewed several other licensee and contractor employees including HP, administrative, and training personnel.

2. Licensee Action on Previous Inspection Findings

(Closed) Open Item (313/8706-09; 368/8706-04): Radiation Protection Organization - This item was discussed in NRC Inspection Report 50-313/87-06; 50-368/87-06 and involved the lack of changes to organizational charts contained in the Updated Safety Analysis Reports and Technical Specifications (TS) for both units. The licensee had amendments to the facility operating license for both units which deleted the requirement for a "Functional Organization for Plant Operations" in the TS. This open item is considered closed.

3. Open Items Identified During This Inspection

An open item is a matter that requires further review and evaluation by the NRC inspectors. Open items are used to document, track, and ensure

adequate followup on matters of concern to the NRC inspectors. The following open item was identified:

<u>Open Item</u>	<u>Title</u>	<u>Paragraph</u>
313/8827-02; 368/8827-02	Health Physics Supervisor Training	5

4. Organization and Management Controls (83522/83722)

The NRC inspectors reviewed the licensee's organization, staffing, program for identification and correction of program weaknesses, audits and appraisals, communication to employees, and program documentation and implementation to determine adherence to commitments in Chapters 12 and 13 of the Updated Safety Analysis Report (USAR); and the requirements of Section 6.0 of TS.

The NRC inspectors reviewed the organizational structure of the HP group and noted that, functionally, there was no designated backup to the Radiation Protection Manager to act in his absence or to help in the daily, routine operations.

The NRC inspectors determined that the organizational responsibilities as defined in "Organization and Responsibilities" (Chapter 12.1.2.1 for Unit 1 and 13.1.2.1 for Unit 2) in the USAR were not in agreement with those of the current organization which has been in effect since August 1986. Specifically, the Radioactive Waste group does not report to the superintendent of HP, but rather reports directly to the manager of Technical Support. This is considered an apparent deviation from commitments made in the USAR. (313/8827-02; 368/8827-01)

Staffing was reviewed and it was noted that there were 15 contract technicians working in HP and 1 in the ALARA program. Licensee representatives stated that 15 staff technicians were going to be hired to work in HP and a staff technician would be assigned to the ALARA program in the future.

The NRC inspectors reviewed the QAP-3-87 audit of the radiation protection program conducted in 1987 and select surveillances conducted in 1988 and found them to be adequate. The NRC inspectors noted that the audit for the current year is in progress.

The NRC inspectors reviewed, for Radiation Protection, the current Management Directives and the drafts of the ANO Nuclear Directives which will replace them. All were found to be adequate.

No violations were identified.

5. Training and Qualifications (83723/83523)

The NRC inspectors reviewed the licensee's training and qualification program for the HP staff including contractors, general employees, and radiation workers. The training and qualification review included verification of education and experience, adequacy and quality of training, employee knowledge, qualification requirements, new employees, Institute of Nuclear Power Operation (INPO) training program accreditation, and audits and appraisals to determine agreement with commitments in Chapters 12 and 13 of the USAR.

The NRC inspectors verified that all radiation workers are routinely instructed on the recommendations of Regulatory Guide (RG) 8.13, "Instruction Concerning Prenatal Radiation Exposure," and the potential presence of hot particles in the facility, including precautionary measures that are necessary to control the spread of these particles.

The NRC inspectors reviewed the INPO accredited training program for HP personnel. This included the program objectives and lesson plans for inexperienced new employees being qualified as radwaste/decon technicians. The NRC inspectors discussed, with licensee representatives, training being afforded to HP supervisors. The licensee acknowledged that some of the HP supervisors had not received any specialized training in the past 2 to 3 years and stated that training would be made available for these individuals. This item will be considered an open item pending further NRC review. (313/8827-02; 368/8827-02)

The licensee routinely screens contractor HP technicians by administering an entrance examination which demonstrates the individuals knowledge of basic HP skills. The licensee presently only tests these individuals once, when they first accept an assignment at ANO, and does not retest them during future assignments. The NRC inspectors discussed with licensee representatives the possibility of establishing a time limit such as 5 years between testing.

No violations or deviations were identified.

6. Maintaining Occupational Exposure ALARA

The NRC inspectors reviewed the licensee's program for maintaining occupational exposures ALARA, including: changes in ALARA policy and procedures, worker awareness and involvement in the ALARA program, and establishment of goals and objectives and effectiveness of meeting them. Also reviewed were management techniques used to implement the program and experience concerning self-identification and correction of implementation weaknesses.

The collective exposure from 1987 was 351 person-rem for both reactors, compared to the goal of 176 person-rem. Additional exposures were attributed to a forced outage of Unit 2, Unit 1 midcycle outage, and 33 person-rem received during normal operations from work performed that was beyond the scope of the 1987 exposure goal. The 1988 goal is 850 person-rem and the licensee had recorded exposures of 661 person-rem through the end of July. Attachment 1 depicts those work activities for 1987 and 1988 which involved greater than 5 person-rem exposures.

The licensee also exceeded the 1987 goal of 290 incidents for skin and clothing contamination. The licensee recorded 425 incidents of which 131 were attributed to the Unit 1 midcycle outage.

No violations or deviations were identified.

7. Exit Interview

The NRC inspectors met with licensee representatives denoted in paragraph 1 at the conclusion of the inspection to discuss the scope and findings of the inspections.

ATTACHMENT 1

1987 RWPs GREATER THAN 5 PERSON-REM

<u>Description</u>	<u>Dose (Rem)</u>
U/1 Ops Tours & Inspection	5.456
U/2 Ops Tours & Inspection	8.509
Routine Radwaste & Shipping Act.	10.937
Routine & Special Surveys by HP	6.304
Routine Decontamination Activities	7.231
Support PZR Heater Repair U/2	6.490
Remove/Replace Heater Elements U/2 PZR	23.995
Repair Heater Welds Bottom of PZR	16.991
Decontamination Activities U/1 RX Building	5.837
Scaffold Support in N/CAU U/1 RX	9.675
Inspection/Walkdowns by Engineering U/1 RX	6.262
Shielding Installation & Evaluations	5.124
HP Surveys, Inspection, RX Rovers	5.395
Install Fire Proofing Material	9.685
Remove Inspection Port for Inspection Cladding B S/6	5.512
Remove Inspection Port for Inspection Cladding A S/6	9.085

1988 RWPs GREATER THAN 5 PERSON-REM

<u>Description</u>	<u>Dose (Rem)</u>
U2 Operations Tours & Walkdowns	10.744
Routine Radwaste & Ship Act.	6.073
Routine & Special Surveys by HP	6.696
Routine Decontamination Activities	6.799
Routine Insulation Support	7.595
Inspections & Walkdowns by Engineering	7.102
Inspections & Walkdowns by QC/QA	5.075
HP Surveys, Inspections, RX Building Kover	15.614
In Service Inspection of Hangers	10.009
Electrical Support for Relocation/I	7.963
Movats on Control Valves, Elect.	5.150
Changeout Motor/Actuator & Movat	13.137
Changeout Valve Motors & Actuator	14.398
Determ Cables, Remove/Replace D	5.077
Support Eddy Current in Containment	5.640
C/O & Replace Carbon Steel Lines	6.487
Remove Old Pressurizer Spray Line	15.545
Prefab, Install Pipe, Valves & Hangers - PRZR	102.894
Need UST to Provide NDE on Weld	10.695
Cut & Weld (8) 6" Flanges Around RX Head	15.970
Hanger Installation & Removal	6.350
Work on PAR Tool in Support	7.185
Removal & Replacement of PZR Heaters	7.976
Drill Out Old Plugs & Reweld	50.603
Move Tensioning Equipment Inside Containment	5.515