

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

Report Nos. 50-313/79-08
50-368/79-08

Docket Nos. 50-313
50-368

NRC Operating Licenses: DPR-51
NPF-6

Facility: Arkansas Nuclear One, Units 1 and 2

Location: Russellville, Arkansas

Inspection Conducted: April 26-27, 1979

Inspector: Blaine Murray 5/16/79
Blaine Murray, Radiation Specialist Date
Fuel Facility and Material Safety Branch

Approved by: Blaine Murray 5/16/79
for G. D. Brown, Chief, Fuel Facility and Date
Material Safety Branch

Inspection Summary

Inspection on April 26-27, 1979 (Report Nos. 50-313/79-08 and 50-368/79-08)

Areas Inspected: Routine, unannounced inspection of the licensee's Radiation Protection Program during refueling activities including radiation protection procedures, advanced planning and preparation, radiological training, exposure control, respiratory protection program, posting and controls, radiological surveys, plant tours, independent measurements made by the inspector, control of contaminated and radioactive materials, and follow-up action on previously identified items. The inspection involved 16 on-site hours by one NRC inspector.

Results: No items of noncompliance or deviations were identified. High radiation levels associated with transfer of the incore detectors were identified. See paragraph 9.

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Details

1. Persons Contacted (AP&L)

- *J. P. O'Hanlon, Station General Manager
- *G. H. Miller, Engineering and Technical Support Manager
- B. A. Terwilliger, Operating and Maintenance Manager
- *D. D. Snellings, Technical Analysis Superintendent
- R. G. Carrol, Health Physics Supervisor
- J. L. Bates, Radiochemistry Supervisor
- D. J. Wagner, Assistant Health Physics Supervisor
- R. T. Elder, Instrument and Control Superintendent
- *S. Petzel, Licensing Staff
- S. J. McWilliams, Planning and Scheduling Coordinator

*Denotes those present during exit interview.

2. Scope of Inspection

The purpose of this inspection was to review the licensee's Radiation Protection Program during the refueling of ANO-1.

3. Status of Previously Reported Items

- a. (Open) Item of Noncompliance (50-368) 79/04-01: An item of non-compliance involving the failure to calibrate effluent monitors was identified in IE Inspection Report 50-368/79-04. The licensee's proposed corrective action has not been completed. This item remains open.
- b. (Open) Item of Noncompliance (50-313) 78,17-01: This item was discussed in IE Inspection Report 50-313/79-17 and involved a radioactive gaseous release that exceeded Technical Specification limits. Part of the licensee's corrective action included the development of an analysis procedure for off-shift personnel. This item remains open pending approval of the procedure.
- c. (Open) Open Item (50-368) 79/04-01: This item was discussed in IE Inspection Report 50-368/79-04 and involved the development of a set-point procedure for the area radiation monitors. This item remains open pending approval of the procedure.

4. Advanced Planning and Preparation

The inspector examined the licensee's program for providing advanced planning and preparation by the Health Physics staff regarding refueling

activities. The Health Physics Supervisor stated that he is provided advanced information regarding work involving radiation control to enable proper planning by the Health Physics staff. It was noted that a member of the Health Physics staff was assigned to work with the Planning and Scheduling Coordinator in order to assist with planning Health Physics activities.

Twenty-one (21) contract Health Physics Technicians were on-site during the refueling to supplement the regular plant staff. The inspector examined the inventory of Health Physics supplies and equipment on hand during the refueling.

No items of noncompliance or deviations were noted.

5. Radiological Training

The inspector reviewed training records to determine compliance with 10 CFR 19.12 and the FSAR. Special attention was given to training of non-regular plant personnel involved with the refueling. The following areas were reviewed:

- . Scope and content of training
- . Initial training
- . Refresher training
- . Documentation of training

Training records were examined for three (3) new plant employees, twenty-one (21) contract personnel, and six (6) regular plant employees.

No items of noncompliance or deviations were identified.

6. Exposure Control

The inspector examined selected records for permanent plant employees, transient workers, visitors, and terminated personnel to determine compliance with 10 CFR 20 requirements.

No items of noncompliance or deviations were noted.

7. Respiratory Protection Program

The inspector examined the licensee's respiratory protection program to determine compliance with 10 CFR 20.103.

No items of noncompliance or deviations were identified.

8. Posting and Control

The inspector made several visits to selected plant areas during May 26 and 27 to observe maintenance and refueling activities. Specific attention was given to the following items:

- . Special Work Permit (SWP) areas
- . Housekeeping
- . Visitor control
- . Access control into restricted areas
- . Identification and control of high radiation areas
- . Identification and control of contaminated areas
- . Radioactive material storage area
- . Laundry facilities
- . Health physics supplies and equipment
- . Respirator cleaning and storage area
- . Health physics counting room
- . First aid supplies
- . Radioactive waste handling and storage areas
- . Independent measurements made by the inspector

The above visits included a review of the licensee's program to determine compliance with the following requirements:

- . 10 CFR 19.11
- . 10 CFR 20.203
- . 10 CFR 20.207
- . Special Work Permits (SWP) conditions

During a tour of the auxiliary building, it was noted that large amounts of trash were piled around the waste compactor. The lack of good housekeeping practices regarding this area was brought to the attention of

the licensee. The licensee stated that the compactor would be operated more frequently in order to prevent the accumulation of loose trash materials. The licensee also stated that better housekeeping procedures would be put into use regarding the storage of trash material awaiting compaction.

No items of noncompliance or deviations were identified.

9. Surveys

The inspector reviewed the licensee's survey program to determine compliance with plant procedures, 10 CFR 20.20¹, and 10 CFR 20.401.b. A survey conducted in the containment building revealed the presence of several high radiation levels during the transfer of incore detectors from the reactor core into the incore tank. Radiation levels of 2 R/hr near the personnel airlock and 60 R/hr adjacent to the incore tunnel were identified. The licensee stated that high levels associated with the detectors were discovered by chance during a routine survey while transferring of the detectors was in progress. The elevated radiation levels were observed during an approximate 1-3 minute period while a detector is moving through the incore tunnel.

The licensee stated that after the elevated radiation levels were identified, access into the containment building was restricted until transfer of the detectors had been completed. No overexposures occurred regarding transfer of the detectors. The inspector stated that information concerning the high radiation levels would be forwarded to the NRC Headquarters staff for review regarding other plants with similar design.

10. Instruments and Equipment

The inspector examined the inventory, response tests, and calibrations regarding Health Physics instruments and equipment to determine compliance with plant procedures and Technical Specification requirements. This involved a review of the following types of instruments and equipment:

- . Portable survey instruments
- . Fixed personnel monitoring equipment (e.g. friskers, portal monitors, hand and foot counters)
- . Constant air monitors (CAMs)
- . Portable air samplers

- . Pocket dosimeters
- . Area radiation monitors
- . Personnel monitoring devices
- . Whole body counter

No items of noncompliance or deviations were noted.

11. Radioactive and Contamination Materials Controls

The inspector examined procedures for controlling contaminated tools and equipment.

No items of noncompliance or deviations were identified.

12. Procedures

The inspector reviewed changes and revisions made to radiological procedures between July 1, 1978, and April 15, 1979. The licensee's records indicated that several procedure changes were made during the above mentioned period. These changes were properly reviewed and approved by designated licensee personnel.

No items of noncompliance or deviations were identified.

13. Exit Interview

At the conclusion of the inspection on April 27, 1979, the inspection findings were discussed with the individuals denoted in paragraph 1. The inspector summarized the scope of the inspection and the inspection findings.