

U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION & ENFORCEMENT

REGION IV

Report No. 50-313/77-08

License No. DPR-51

Docket No. 50-313

Category C

Licensee: Arkansas Power and Light Company (AP&L)  
Sixth and Pine Streets  
Pine Bluff, Arkansas

Facility: Arkansas Nuclear One (ANO-1)

Inspection Conducted: April 25-27, 1977

Inspector: Blaine Murray 5/13/77  
Blaine Murray, Radiation Specialist Date

Approved by: Glen D. Brown 5/16/77  
Glen D. Brown, Chief, Fuel Facility and Material Safety Branch Date

Inspection Summary: Inspection on April 25-27, 1977 (Report No. 50-313/77-08)

Type of Inspection: Routine, unannounced, Emergency Planning

Areas Inspected: Emergency facilities, equipment, instrumentation and supplies; licensee coordination with off-site support agencies; licensee records of emergency drills; amendments to the Emergency Plan and emergency procedures; emergency training program; licensee internal audits; and collection of samples for verification measurements. The inspection involved twenty (20) inspector-hours on site by one inspector.

Results: Two apparent items of noncompliance and one deviation were noted:

- (1) Infraction - Failure to establish a First Aid room. See paragraph C.2.e.
- (2) Infraction - failure to provide annual training to off-site agencies. See paragraph C.1.
- (3) Deviation from Reg. Guide 1.101. See paragraph C.3.c.

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DETAILS

A. Persons Contacted

1. Principal AP&L Personnel

Mr. J. W. Anderson, Plant Superintendent  
Mr. C. H. Halbert, Technical Support Engineer  
Mr. R. G. Carrol, Health Physics Supervisor  
Mr. J. L. Bates, Radiochemistry Supervisor  
Mr. D. Trimble, Training Coordinator  
Mr. S. Strasmer, QC Inspector  
Mr. R. Turner, Assistant I&C Supervisor

2. Local Agencies

Mr. J. Goodall, Administrator, St. Mary's Hospital  
Mr. J. Phillips, Assistant Fire Chief, Russellville Fire Dept.  
Mr. D. Snellings, Director, Radiological Control Division  
Arkansas Health Department  
L. Darter, Sheriff, Pope County  
Mr. S. Smith, Director, Pope County Civil Defense  
W. J. Felkins, Chief Deputy Sheriff, Johnson County  
H. Lewis, Sheriff, Yell County  
Capt. I. T. Bartlett, Arkansas Highway Patrol  
W. D. Hamilton, Sheriff, Logan County

B. Licensee Action on Previous Inspection Findings

1. Items of Noncompliance

One item of noncompliance involving functional testing of laboratory counting instrumentation was identified in IE Inspection Report No. 50-313/77-04. The licensee's corrective action contained in their letter dated March 29, 1977, was reviewed and found adequate to correct the previously reported item.

This item is considered closed.

2. Unresolved Items

a. 76/08-1, Radiochemistry QC Program

This item was reported in IE Inspection Report No. 50-313/76-08, and involved the completion of QC program procedures.

The status of this item was not reviewed during this inspection. This item will be examined during the next Rad Waste Systems inspection.

The item remains open.

b. 76/04-1, Stack Monitor

This item was discussed in IE Inspection Report No. 50-313/76-04, and involved designating which stack monitoring system is to be used when calculating release concentrations. It was noted that Emergency Procedure 1202.37 (Rev 3) "Determining Magnitude Of Release" now designates that RE-7400 (Gross Monitor) data are to be used in calculating release concentrations.

This item is considered closed.

c. 74/14-3, Radiation Levels In Containment

This item was reported in RO Inspection Report No. 50-313/74-14 and involved certain radiation levels in containment that exceed design basis. Additional shielding was installed during the January 1977 refueling outage in an attempt to reduce radiation levels to acceptable values. However, radiation surveys conducted after refueling start-up indicate that radiation levels remain above design basis. A licensee representative stated that this item will be reviewed in order to arrive at an acceptable solution.

This item remains open.

d. 76/10-2, Operational Checks Of Constant Air Monitors

This item was discussed in IE Inspection Report No. 50-313/76-10 and involved routine operational checks for various constant air monitors (CAMs). It was noted that CAM operating procedures have been modified to include daily functional checks.

This item is considered closed.

C. Emergency Planning

1. Coordination With Off-Site Agencies

The inspector reviewed records, procedures, annual reviews, and written agreements relating to the licensee's coordination of emergency planning with the support agencies listed in the

Emergency Plan. The inspector discussed this subject, either in person or by telephone, with representatives of nine (9) off-site agencies.

It was determined that annual training had not been conducted for all off-site agencies listed in the Emergency Plan.

Section 5.4 of the Emergency Plan states, in part, ". . . Periodic reviews with local groups are held annually and as soon as possible following assignment of new key personnel to these local outside groups.

The licensee's records indicated that seven (7) of the 17 agencies listed in the Emergency Plan had not received annual training. The following chart show agencies and training provided between 1975 and 1977.

<u>Agency</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Arkansas Health Dept.	None	2/03/76 7/20/76	None
Arkansas Civil Defense	None	2/12/75	1/17/77
Arkansas State Police	11/18/75	None	None
Pope County Sheriff	None	None	1/17/77
Russellville Fire Dept.	7/07/75	None	1/05/77
Pope County Civil Defense	6/10/75	None	1/05/77
Yell County Sheriff	7/29/75	None	None
Yell County Civil Defense	8/19/75	None	None
Johnson County Sheriff	9/10/75	None	None
Johnson County Civil Defense	9/10/75	None	None
Logan County Sheriff	11/18/75	None	None
Logan County Civil Defense	11/18/75	None	None
Millard-Henry Clinic	None	2/06/76	1/07/77
St Mary's Hospital	None	2/06/76	1/06/77
Pope County Ambulance Service	None	2/24/76	1/05/77
UofA Medical Center	None	None	1/06/77
ERDA-RAT	9/10/75	12/29/76	None

The failure to provide the specified annual training is considered an item of noncompliance.

2. Facilities and Equipment

a. Emergency Kits Inventories

The inventory of equipment maintained in the emergency kits located at the Emergency Assembly Area, Emergency Control Center, Control Room, Emergency Control Office

and Site Ambulance was examined. The inventory of equipment to be maintained in the various kits is listed in Appendix J of the ANO-1 Emergency Plan. The general condition of the emergency kits is checked each month and detailed inventory conducted each quarter.

No discrepancies were noted.

b. Emergency Control Centers

The inspector visited the various Emergency Control Centers identified in the Emergency Plan to verify that the specified equipment was available and operable.

No discrepancies were noted.

c. Emergency Communications Equipment

The inspector examined the communications equipment specified in Appendix I of the Emergency Plan.

No discrepancies were noted.

d. Monitoring Systems and Survey Instruments

The calibration and functional tests for portable and fixed instrumentation that would be used in an emergency situation were examined. The licensee's records indicated that portable survey meters maintained in the emergency kits are response tested monthly and calibrated quarterly.

The review of calibration and functional tests for fixed gaseous and liquid monitors included the following system:

RE-7400	- Gross Stack Monitor
RE-7400(s)	- <sup>131</sup> I Stack Monitor
RE-1237	- Fail Fuel
RE-2120	- North Penetration Room Ventilation
RE-2130	- South Penetration Room Ventilation
RE-7441	- Hydrogen Purge
RE-4830	- Gaseous Rad Waste
RE-4642	- Liquid Rad Waste

No discrepancies were noted.

e. Medical Arrangements

(1) Off-Site Treatment Facilities

The licensee has an agreement with St. Mary's Hospital, Russellville, to provide emergency medical treatment. The inventory of emergency supplies maintained at St. Mary's Hospital is listed in Appendix E of the Emergency Plan. The St. Mary's Hospital Administrator stated that the following physicians have received formal radiological emergency training:

J. M. Carter, M.D.  
L. O. New, M.D.  
S. E. Teeter, M.D.

According to the administrator, all of the above physicians are presently on St. Mary's staff.

(2) On-Site Treatment Facilities

The licensee maintains an ambulance, First Aid Kits placed at various plant locations, and personnel trained in First Aid.

Section 4.3.2.a of the Unit No. 1 Emergency Plan states: "A First Aid room is located near the Unit No. 2 controlled access entrance. The equipment and supplies available in the First Aid room are listed in Appendix J."

The above mentioned First Aid room has not been established. A licensee representative stated that a First Aid room is planned for Unit No. 2, but the facilities specified in Section 4.3.2.a have not been completed.

This is an apparent item of noncompliance.

f. Training (AP&L Personnel)

Section 5 of the Emergency Plan outlines the emergency training requirements. The licensee's records indicated that the required training was provided to new personnel employees and emergency teams. (See paragraph C.1. for comments regarding off-site agencies.)

g. Implementing Procedures

The following procedures were reviewed:

Emergency Plan (through Amendment No. 53)

<u>EP 1202.34</u>	"Personnel Response and Accountability"
<u>EP 1202.35</u>	"Radiation Incident"
<u>EP 1202.37</u>	"Determining Magnitude of Release"
<u>EP 1202.38</u>	"Fire or Explosion"
<u>EP 1202.39</u>	"Personnel Injury"
<u>EP 1202.40</u>	"Refueling Accident"
<u>EP 1202.41</u>	"Evacuation"
<u>EP 1202.42</u>	"Recovery and Re-Entry"
<u>H.P. 1602.14</u>	"Inventory of Emergency Kits"
<u>H.P. 1602.24</u>	"Portable Emergency Plant Radiation Instrument Monthly Check"
<u>H.P. 1602.19</u>	"Air Monitoring With Portable Instruments"
<u>O.P. 1304.26</u>	"Process Radiation Monitoring System Quarterly Calibration"
<u>O.P. 1304.27</u>	"Process Radiation Monitoring System Annual Calibration"
<u>O.P. 1304.15</u>	"Meteorological Instrumentation Calibration"
<u>O.P. 1303.69-.83</u>	"Portable Survey Meter Calibration"

3. Emergency Drills and Exercises

The inspector reviewed records of emergency drills and test exercises conducted since the previous emergency planning inspection. The previous emergency planning inspection was conducted on March 3-4, 1976. The licensee's records indicated that since the previous inspection, an annual drill was conducted the afternoon of December 31, 1976 (New Years Eve). The December 31, 1976 was not observed by an NRC representative. St. Mary's Hospital was the only off-site agency that had an active participation in the drill.

a. Scenario For The December 31, 1976, Drill

The drill condition consisted of the reactor being shut down due to problems caused by an earthquake; plant evacuation; transporting an injured person to St. Mary's Hospital; plant re-entry; and the release of radioactive gas (0.2 Ci/sec) via the north and south penetration ventilation system. The drill started at 1500 hours and terminated at 1610 hours.

b. Post Drill Critique

Ten persons from the plant staff were assigned to observe drill activities. The licensee held a critique on January 4, 1977, to discuss problems noted during the drill. The following significant problems were identified:

- (1) Duty Emergency Coordinator experienced difficulties in calculating gaseous release concentrations
- (2) Evacuation instructions could not be heard in the Hot Lab area.

It was noted that the licensee has initiated action to correct the problems noted above. A training session on releases calculations was held for Duty Emergency Coordinators on January 13, 1977. The licensee stated that a Work Request has been issued to have a speaker installed near the Hot Lab area.

c. Drill Contents

In reviewing the December 31, 1976, drill and the two previous drills held on March 3, 1976, and February 19, 1975, it was noted that several aspects of the licensee Emergency Plan have not been tested. The 1975 and March 3, 1976, drills consisted only of a plant evacuated and personnel accountability. The December 31, 1976, drill was somewhat more comprehensive, however, the following aspects of the emergency plan have not been tested:

- (1) Establishing and conducting drill activities from the Emergency Control Center and the Emergency Control Office.
- (2) Conducting a coordinated drill that included participation with off-site support agencies.
- (3) Testing the off-site notification call list.
- (4) Evaluating the release of radioactive material of sufficient magnitude that would require appropriate off-site emergency action.

Since the drill scenario specified release concentrations of 0.2 Ci/sec caused by abnormal plant conditions, the inspector inquired if off-site agencies were notified of



potential emergency conditions. A licensee representative stated that difficulties were experienced in calculating off-site concentrations. As a result, off-site conditions were not established by the time the drill terminated.

The lack of testing the above essential aspects of the Emergency Plan is considered a deviation from Section 8.1.2 of Reg. Guide 1.101.

D. Audits Performed By The Licensee

The inspector reviewed licensee audits of their emergency planning program conducted between January 1, 1976, and April 26, 1977. The licensee's records indicated that five (5) audits were conducted during the aforementioned period. The audits covered drills, emergency equipment and supplies, emergency procedures, and amendments to the Emergency Plan. The audits reports identified several items that required corrective action. The licensee's reports indicated that timely corrective action has been either initiated or completed.

E. Analytical Measurement

The following samples were collected for verification measurements:

1. Liquid waste
2. Gas decay tank
3. Stack particulate filter
4. Stack charcoal filter

The NRC/AP&L comparison results will be documented in a future inspection report.

F. Exit Interview

At the conclusion of the inspection on April 27, 1977, the inspection findings were discussed with the following AP&L personnel:

Mr. J. W. Anderson, Plant Superintendent  
Mr. C. H. Halbert, Technical Support Engineer  
Mr. S. Strasner, QC Inspector

1. Scope of Inspection

The inspector outlined the areas covered during the inspection.

2. Status of Previously Reported Unresolved Items

The licensee provided a status update report on open items  
(See paragraph B.)

3. Items of Noncompliance and Deviations

The apparent items of noncompliance (See paragraph C.1. and  
C.2.e) and the deviation (See paragraph C.3.c.) were discussed.