



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

MAY 23 1984

Report Nos.: 50-348/84-14 and 50-364/84-14

Licensee: Alabama Power Company
600 North 18th Street
Birmingham, AL 35291

Docket Nos.: 50-348 and 50-364

License Nos.: NPF-2 and NPF-8

Facility Name: Farley 1 and 2

Inspection at Farley site near Dothan, Alabama

Inspector: R. E. Weddington

5/18/84

Date Signed

Approved by: G. R. Jenkins
G. R. Jenkins, Section Chief
Division of Radiation Safety and Safeguards

5/18/84

Date Signed

SUMMARY

Scope: This routine inspection entailed 38 inspector-hours (four inspector hours on backshifts) on site in the areas of respiratory protection, radioactive waste and transportation, posting and labeling, internal audits, and inspector follow-up items.

Results: One violation was identified - improper use of respirator protection factors.

REPORT DETAILS

1. Licensee Employees Contacted

- *W. G. Hairston, III, Plant Manager
- *J. D. Woodard, Assistant Plant Manager
- *W. G. Ware, SAER Supervisor
- *P. E. Farnsworth, Health Physics Sector Supervisor
- *M. W. Mitchell, Health Physics Supervisor
- *W. R. Bayne, Chemistry and Environmental Supervisor

Other licensee employees contacted included engineers, technicians, and office personnel.

NRC Resident Inspectors

- *W. H. Bradford, Senior Resident Inspector
- W. H. Ruland, Resident Inspector

*Attended exit interview.

2. Exit Interview

The inspection scope and findings were summarized on May 4, 1984, with those persons indicated in paragraph 1 above. The following issues were discussed in detail: an apparent violation for improper use of respirator protection factors (paragraph 5); an apparent violation for failure to post a high radiation area (paragraph 7); and an Inspector Followup Item concerning frisking (paragraph 9).

The licensee acknowledged the inspection findings and took no exceptions, except for the apparent violation for failing to post a high radiation area, which they believed not to be a violation since a Health Physics Technician was in control of the area and did not want to impede the inspector's access.

In a May 8, 1984 telephone discussion, the inspector informed the licensee that the matter of the high radiation area would not be considered an item of noncompliance.

3. Licensee Action on Previous Enforcement Matters

(Closed) Violation 348/83-16-02 and 364/83-14-02. The licensee was cited for not posting a 55 gallon drum located outside of the radiological control area as containing radioactive material. Licensee corrective action included posting of signs at the protected area exits stating that materials and equipment must be inspected by health physics prior to release. Administrative controls were also implemented to limit the time drums are stored outside. The inspector verified implementation of the corrective action and noted no similar problems. This item is considered closed.

4. Unresolved Items*

No new unresolved items were encountered.

(Closed) Unresolved Item 348/83-16-03 and 364/84-14-03 - Evaluation by the Region of licensee compliance with Technical Specification (TS) requirements regarding high radiation area controls (TS 6.12.1). The issue to be evaluated was the definition of continual surveillance by health physics personnel in high radiation areas. The licensee permitted health physics technicians to use their judgement and knowledge of the radiological conditions to determine the surveillance frequency of workers in high radiation areas. The Region has determined that this practice is acceptable. This item is considered closed.

5. Respiratory Protection (83725)

While reviewing licensee radiation incident reports (RIRs), the inspector noted that several reports concerned personnel that had detectable contamination on nasal smears upon exiting containment. The reports indicated that the personnel had been wearing 3M disposable half face respirators. The licensee stated that these masks were used during the recent outage to provide additional protection against facial contamination. The masks are NIOSH/MSA approved for protection against radionuclides and have an assigned protection factor of ten. Licensee management, however, stated that it was not their policy to take protection credit for the respirator.

The inspector then reviewed licensee files of APC Form 5-870's, Respirator Issue Cards. The inspector noted that every instance in which the 3M respirator was issued that a protection factor of ten was indicated on the form. Two cards were also identified which indicated that two workers spent 2.5 hours and 3.25 hours in an area which had airborne radioactivity in the breathing zone of the workers of 0.79 maximum permissible concentration (MPC). The cards indicated that both workers were assigned no MPC hours. The inspector observed that the workers should have been assigned 2.6 and 2.0 MPC hours if no credit was taken for the respirator or 0.3 and 0.2 MPC hours if the protection factor was applied. The licensee acknowledged there was an error in the MPC hour computation.

The inspector then asked to be shown and reviewed the NIOSH/MSA approval for the respirator. The respirator, 3M half face, model number 09940, did have an approval under number TC-21C-239 and a protection factor of ten was indicated. The inspector asked what training and testing was performed on this respirator since the respirator issue cards indicated that protection factor credit was being taken in estimating worker's exposure to airborne radioactivity. The licensee stated that, since it was not their intention

* Unresolved Item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.

to take protection factor credit for those respirators, that no specific training or testing had been performed. The inspector informed the licensee that they were in apparent violation of 10 CFR 20.103(c)(3) which requires fitting of respirators, testing of respirators for operability immediately prior to each use and training of personnel in order to make allowance for the use of respiratory protective equipment in estimating exposures to airborne radioactivity (VIO 50-348/364/84-14-01).

6. Radioactive Waste and Transportation (86721, 84722)

The inspector reviewed selected licensee manifests of radioactive material shipments performed in calendar year 1984. The manifests were completed in accordance with 10 CFR and 49 CFR requirements. The inspector observed the preparations for shipment of low specific activity drums and boxes under control number RWS-84-12. No inconsistencies with NRC and Department of Transportation requirements were noted.

The inspector reviewed the following procedures:

- FNP-O-RCP-810, Shipment of Radioactive Waste to Barnwell Burial Site
- FNP-O-RCP-811, Shipment of Radioactive Material
- FNP-O-RCP-809, Isotopic Characterization of Radioactive Materials for Offsite Shipments and/or Burial
- FNP-O-RCP-819, Waste Classification for Near Surface Disposal
- FNP-O-RCP-820, Scaling Factor Utilization for Waste Classification

The inspector determined that the licensee did not own any reusable radioactive material shipping containers. Containers are leased or purchased from the disposal site operators. Strong tight packages are constructed on site. The licensee has also not experienced any transportation incidents during the past year.

No violations or deviations were identified.

7. Posting and Labeling (83726)

The inspector performed independent radiation surveys of outside areas within the protected area and around the radioactive waste building. No inconsistencies with 10 CFR 20 posting requirements were noted.

The inspector reviewed the results of surveys performed in the auxiliary and turbine buildings. Surveys performed in the turbine building on dismantled secondary system components during the recent outage were also reviewed. Postings were noted to be consistent with the survey results.

While touring the auxiliary building, the inspector discovered a 55-gallon drum adjacent to the drum compactor area on the Unit 2 155' elevation that was reading 400 millirem/hour on contact and 110 millirem/hour at eighteen inches. The drum was not posted as a high radiation area. The licensee stated that the drum was in the process of being moved and that a health physics technician was present to provide controls. The inspector had observed the health physics technician covering work in the compactor area and was in his field of vision. The licensee stated the technician did not warn the inspector of the high radiation area because he observed the inspector was accompanied by a plant health physics supervisor, both had a radiation survey meter and he did not want to impede the inspector's access.

No violations or deviations were identified.

8. Internal Audits (83722, 83724, 83726, 83728, 83725, 83723, 86721, and 84722).

The inspector reviewed the licensee radiation incident reports (RIRs) issued since the first of the year. The reports are used by the health physics staff to document radiological problems, events, and procedure violations. The reports are reviewed by plant management.

The inspector then reviewed the SAER (quality assurance) section audits performed in the radiation protection, transportation, and training areas. Detailed checklists were used to perform the annual audits. Audit findings and corrective actions were reviewed and appeared to be adequate.

The inspector also reviewed plant event report number 84-009 which described a worker receiving a higher than expected beta radiation exposure of 5960 millirem while welding two fuel transfer tube alignment bolts in the Unit 1 containment. The exposure estimate for the worker before he entered containment was that he would receive less than 5,000 millirem beta exposure. Since his actual exposure exceeded the Plant Manager's administrative limit, an investigation was conducted. The licensee concluded that the prework survey failed to disclose a beta hot spot in the area. The inspector questioned the licensee concerning their confidence in the worker's whole body exposure of 1020 millirem. They stated that the TLD reading was consistent with the worker's high range pocket dosimeter reading of 1,000 millirem and that the gamma and beta-gamma chips in the TLD the worker wore were tested and found to be sensitive within required tolerances. The licensee determined that the full face respirator and welding visor that the worker wore had been adequate to shield the beta radiation from the worker's eyes.

No violations or deviations were identified.

9. Inspector Follow-up Items (IFIs)

(Closed) IFI 348/364/84-06-01 - Evaluation of licensee radiation work permit system. This item was opened because of the inspector's concern that the work permits were being written to encompass too broad a scope of work and

were therefore too general in specifying the radiological controls required for tasks involving significant radiological concerns. The inspector reviewed selected radiation work permits for major work evolutions and determined that they were now being written with sufficient detail and that the licensee prepared additional work permits when necessary. This item is considered closed.

(Closed) IFI 348/364/84-06-02 - Discrepancies in 10 CFR 61 scaling factors. The inspector's concern was that the scaling factors used for low level waste classification differed from actual waste stream sample analysis results by greater than a factor of ten. The licensee committed to classify waste based on the most conservative calculation using the scaling factors and actual sample results until the discrepancy between the two could be resolved. The inspector reviewed the most recent scaling factors the licensee received from their contractor the week prior to the inspection and noted that there was good agreement between the new scaling factors and actual sample results. No problems were noted with waste classifications performed since the last inspection per the licensee's commitment. This item is considered closed.

(Open) IFI 348/83-16-03 and 364/83-14-04 - Personnel knowledge related to frisking, procurement of frisking booths and general employee training. The inspector observed workers frisking upon exiting the Unit 1 containment. The workers each performed whole body frisks in approximately thirty seconds. The inspector later determined that the frisker alarm setpoints were set at maximum scale. The health physics technician in charge of the control point and in view of the frisking area did not correct the workers and did not know at what value the frisker alarms should be set. Health physics management stated that the short frisks were in accordance with their local procedures and that they had sensitive portal monitors at the controlled area exits to detect personnel contamination. The inspector expressed a concern that the licensee had no substantiation to their claims of the portal monitors effectiveness and that not performing a thorough frisk upon exiting a contaminated area could result in contamination spread in the controlled area before a worker reached a portal monitor. The licensee acknowledged the concerns and the Plant Manager committed in the exit interview to revising their frisking procedure to delete the thirty second criteria and requiring a thorough frisk and to also give more emphasis to this subject in general employee and health physics technician training. The licensee also stated that frisking booths are still on order. The inspector informed the licensee that this item would remain open and would be evaluated during the next routine inspection.

(Open) IFI 348/83-32-02 and 364/83-30-02 - Evaluate use of canvas smears near open reactor coolant system piping. The licensee acknowledged that they understood the concern that nondegradable smears lost in the primary could result in fuel cladding failure. They are still evaluating alternative types of smears. The inspector informed the licensee that this item would remain open and would be evaluated during the next routine inspection.