

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-295/82-02; 50-304/82-02

Docket Nos. 50-295; 50-304

Licenses No. DPR-39; DPR-48

Licensee: Commonwealth Edison Company
Post Office Box 767
Chicago, IL 60690

Facility Name: Zion Nuclear Power Station, Units 1 and 2

Inspection At: Zion Site, Zion, IL

Inspection Conducted: January 18-19, 1982

Inspector: *P. C. Lovendale*
P. C. Lovendale

2/1/82

Approved By: *L. R. Greger*
L. R. Greger, Chief
Facilities Radiation
Protection Section

2/1/82

Inspection Summary:

Inspection on January 18-19, 1982 (Reports No. 50-295/82-02; 50-304/82-02)

Areas Inspected: Nonroutine, unannounced inspection of radioactive material transportation activities and inplant radiation safety aspects of the Unit 1 primary to secondary steam generator leakage. The inspection involved 15 inspector-hours onsite by one NRC inspector.

Results: Of the two areas inspected, one apparent item of noncompliance was identified in one area (failure to verify if a transferee was authorized to receive byproduct material before transfer - Section 4).

DETAILS

1. Persons Contacted

- *K. Graesser, Superintendent
- *E. Fuerst, Assistant Superintendent, Operations
- *J. Marianyi, Radwaste Operating Engineer
- *D. Howard, Rad/Chem Supervisor
- *F. Rescek, Lead Health Physicist
 - B. Schramer, Lead Chemist
- *P. Hull, Quality Assurance
- *M. Krysiak, Quality Control
 - R. Aker, Health Physicist
 - L. Minejevs, Lead Foreman Rad/Chem
 - F. Ost, Health Physicist
- *J. Kohler, Senior Resident Inspector, NRC
- *J. Waters, Resident Inspector, NRC

The inspector also contacted several other licensee employees including, Rad/Chem Technicians, Rad/Chem Engineering Assistants, and members of the technical and engineering staffs.

*Denotes those present at the exit meeting.

2. General

This inspection, which began at 9:30 a.m. on January 18, 1962, was conducted to examine the licensee's program for transportation of radioactive material. Also, the inplant radiation safety aspects of the Unit 1 primary to secondary steam generator leakage were reviewed.

3. Transportation Activities

The licensee's program for transportation of radioactive material was reviewed. Responsibility for transportation activities is shared by the Rad/Chem Group, Radwaste Operating Group, and QA/QC. Surveys, labeling, marking, package selection, activity calculations, and shipping papers are the responsibility of the Rad/Chem Group. Packaging, loading, transport scheduling, and notifications are the responsibility of the Radwaste Operating Group. The Quality Control Group is responsible for verifying that certain procedural steps are completed and for performing cask/vehicle inspections. The Quality Assurance Group observes selected procedural steps, such as radiation surveys, to ensure compliance with DOT/NRC regulations.

Written procedures are used which specify all necessary documentation, notification, survey, and package preparation requirements for each type of shipment. The following procedures were reviewed to determine if they are consistent with 10 CFR 71 and 49 CFR 170-189. No problems were noted.

RP-1520-1	Offsite Shipment of Radioactive Material
RP-1520-2	Radioactive Waste Shipments
RP-1520-3	Calculation of Curie Content of Radioactive Shipments
RP-1520-4	Surveying Radioactive Shipments
ZAP-1352-8	Preparation and Shipment of Radioactive Material

The licensee made 214 radioactive materials shipments in CY 1981. Of these, 165 were radioactive waste shipments to burial sites and 49 were miscellaneous radioactive material shipments such as contaminated contractor equipment to other reactor sites and liquid samples for analysis at contractor labs. The inspector reviewed records of each shipment made in CY 1981 for compliance with NRC and DOT transportation regulations. No problems were noted.

No items of noncompliance were identified.

4. Transfer of Byproduct Material

During review of radioactive material shipment records, the inspector compared quantities shipped against possession limits listed in the consignees' license. It was noted that shipments were made on April 15, 1981 and August 21, 1981, to National Nuclear Corporation (NNC), California License No. 1718-43. The April shipment consisted of two boxes containing contaminated fuel rack testing equipment with a total activity of 0.2 microcuries of Co-60. The August shipment consisted of one box containing detector cables contaminated with 500 microcuries of mixed fission products, a Cf-252 source, and two boxes of clean equipment. A check of the portion of NNC's license, in the licensee's files, indicated that NNC was not authorized to possess the contaminated equipment contained in these two shipments.

On January 19, 1982, the licensee contacted NNC and learned that they were licensed to possess up to 1.0 microcurie of byproduct material. NNC agreed to send a copy of this part of their license to Zion. Based on this information, it appears that the April 15, 1981 shipment did not constitute an unauthorized transfer.

On January 20, 1981, NNC contacted the licensee and informed them that the August 21, 1981 shipment was sent to Prairie Island Nuclear Plant instead of NNC. Apparently, an NNC employee directed the carrier to deliver the material to Prairie Island, a destination not listed on the shipping papers. Based on this information, it appears that the August 21, 1981 shipment did not constitute an unauthorized transfer.

Although it appears an unauthorized transfer did not occur, the licensee failed to verify whether NNC was authorized to receive the

contaminated equipment before transfer as required by 10 CFR 30.41(c). This is considered an item of noncompliance. (295/81-02-01, 304/81-02-01)

5. Turbine Building Radiological Controls

Steam generator tube leakage, over the last several months, has caused low level contamination to build up in certain secondary systems located within the turbine building. The licensee has identified several components where low level contamination has concentrated. These areas have been barricaded and posted as contaminated areas.

The inspector conducted an independent radiation and contamination survey of selected areas within the turbine building. Low level contamination was found in one area that was not previously roped off. The licensee corrected this problem.

The inspector reviewed the latest survey of the turbine building which was conducted December 18, 1981. Contaminated areas were identified on the survey maps, but the levels of contamination were not indicated. The licensee stated that the frequency of turbine building surveys had not been increased because of manpower shortages. The inspector stated that as long as steam generator leakage continues at the present rate, the turbine building survey frequency should be increased. Also, it was noted that airborne tritium samples had not been taken in the vicinity of steam leaks such as the one the inspector found near the turbine building fire sump. The only airborne tritium sample collected is the weekly routine sample on the turbine floor which is used for release quantification. Samples in the vicinity of steam leaks should be collected for worker occupancy assessments. These matters were discussed during the exit meeting and will be reviewed during a future inspection. (295/81-02-02; 304/81-02-02)

A cursory review of turbine building release pathways and effluent controls was conducted. No problems were noted.

6. Exit Meeting

The inspector met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on January 19, 1982. The inspector summarized the scope and findings of the inspection. In response to certain matters discussed by the inspector, the licensee:

- a. Stated they would review the need for increasing the frequency of turbine building surveys. (Section 5)
- b. Stated they would review the need for conducting additional airborne tritium sampling in the vicinity of steam leaks within the turbine building. (Section 5)
- c. Acknowledged the item of noncompliance. (Section 4)