

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

REGION III

Report Nos. 50-10/81-04; 50-237/81-08; 50-249/81-05

Docket Nos. 50-10, 50-237 and 50-249 License Nos. DPR-2, DPR-19 and DPR-25

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

Facility Name: Dresden Nuclear Power Station, Units 1, 2 and 3

Inspection At: Dresden Site, Morris, IL

Inspection Conducted: March 25, 1981

Inspectors: W. L. Axelson

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Approved By: W. L. Axelson, Acting Chief,
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C. J. Paperiello, Chief
Emergency Preparedness and
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4/7/81

Inspection Summary

Inspection on March 25, 1981, (Report No. 50-10/81-04; 50-237/81-08; 50-249/81-05)

Areas Inspected: Routine, announced inspection of the response of the licensee during a scheduled Health Physics drill conducted by the licensee. The inspection involved nine inspector-hours onsite by three NRC inspectors.

Results: For the area inspected, no items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

- *D. Farrar, Assistant Superintendent (Dresden)
- *G. Myrick, Rad/Chem Supervisor (Dresden)
- *V. L. Chaney, Emergency Planning Coordinator (CECo)
- *J. Red, Rad/Chem Foreman (Dresden)
- *S. McDonald, Lead Chemist (Dresden)
- *S. N. Olejniczak, Rad/Chem Technician (Dresden)
- *J. McIntyre, Rad/Chem Foreman (Dresden)
- *J. Ruettiger, Rad/Chem Technician (Dresden)
- *J. O'Neil, Rad/Chem Technician (Dresden)
- *P. Garnier, Chemist (Dresden)
- *J. Schneider, Chemist (Dresden)

Other Personnel

- *T. Tongue, NRC Senior Resident Inspector
- *M. Jordan, NRC Resident Inspector

*Denotes those present at the exit interview.

2. Drill

The inspectors observed the response by the licensee organization during a scheduled drill conducted on March 25, 1981. This drill consisted of collection and preparation of an actual reactor coolant sample under simulated accident conditions using the Emergency Plan Implementing Procedures (EPIP).

a. Preparation for Sample Collection

All equipment for sample collection was correctly stored in a locked area near the Operational Support Center (OSC). In the process of retrieving the equipment, one of the lead bricks fell off its metal support lifter. The brick was placed back on its support and the sampling equipment was taken to the Unit 2 Reactor Building interlock. Members of the team correctly donned their anti-contamination clothing and face masks. Although facial hair was present on both members of the team, it was confined to areas that did not interfere with the mask seal. Both sampling team members wore correct dosimetry, e.g., finger ring badges, film badges and high and low range pocket dosimeters.

b. Collection of Sample

The sampling team proceeded through the interlock and up the elevator to the normal sampling area, which was located behind a fence. All handling of the sample vial, sample discharge

hose, and valves was performed using remote handling equipment. The sample line was properly purged, and reactor coolant was then collected in the sample vial from the discharge hose. A glass stopper was placed on the glass sample vial, and remote handling tongs were used to force the glass stopper onto the sample vial. The vial was then transferred from the sample hood by the stopper and placed into the shielded cart with the lid correctly placed over the sample. The inspectors determined this sample handling technique could easily lead to a spill if the vial disconnected from the stopper. This was discussed in the exit interview.

c. Transport of Sample

The lead shielded cart was taken to the elevator and down to the first floor. This cart was then taken to an interlock passageway for transfer of the sample to a second shielded cart. The second cart was used to block the door open, and the sampling team attempted to make the transfer of the sample vial from one cart to the other in the interlock passageway. In the process of lifting the vial by the stopper, the stopper separated from the vial, and dropped back into the original cart shield area. The stopper was again forced onto the vial using the remote handling tools, and the sample was successfully transferred to the cart located in the interlock. A lead brick cover was placed over the sample. However, the hole in the cover brick did not line up with the sample vial lid, and the vial was crushed by the brick and broke inside the second cart's shield. The primary coolant remained in the drilled out port of the shielded cart and no primary coolant spilled on the floor. In the process of removing the lead brick lid from the first cart at the interlock, the brick again fell off of its metal handle and almost landed on the foot of one of the sample team members. These inadequacies were discussed at the critique.

d. Analytical Preparation

The second sample cart was taken from the interlock directly to the hot laboratory by another two man team. At the hot laboratory the lead brick cover was removed and the stopper was removed from the crushed sample vial. A station chemist then collected a five lambda (0.005 ml) sample from the drilled out space in the lead shield. This sample was then added to a 450 cc glass counting bottle previously filled with laboratory mono-bed water. The chemist then monitored the sample and took it to the counting room for analysis. The drill was terminated at this point.

No items of noncompliance or deviations were identified.

3. General Comments

The overall performance by licensee personnel during the course of the drill indicated a good knowledge of the procedure tested. Most of the problems encountered during the drill had to do with the sample vial or the lead brick cover, indicating that the procedure itself was inadequate.

4. Licensee Critique

The licensee held a critique with all personnel involved in the drill. The general comments addressed above were discussed. The sampling team indicated that the sample collection gloves were awkward and suggested different types of gloves be explored.

5. Exit Interview

The inspectors held an exit interview at the conclusion of the licensee's critique with all representatives denoted in Paragraph 1. The licensee made the following remarks in response to certain of the items discussed by the inspectors:

- a) Agreed to secure the lead brick assembly in place on the sample shield carts.
- b) Agreed to permanently attach the lead brick lid to its handle support to prevent it from falling.
- c) Agreed to have a backup lead pot for hand carrying samples in case the elevator could not be used.
- d) Agreed to correct the inadequacies of the glass stoppered vial presently used for sampling and transport. The inspectors suggested that the licensee look into the means used by various nuclear medicine suppliers for handling of highly radioactive small liquid sources.