

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report Nos. 50-237/89020(DRSS); 50-249/89019(DRSS)

Docket Nos. 50-237; 50-249

License Nos. DPR-19; DPR-25

Licensee: Commonwealth Edison Company  
P. O. Box 767  
Chicago, IL 60690

Facility Name: Dresden, Units 2 and 3

Meeting At: Region III Office  
Glen Ellyn, IL

Meeting Conducted: September 20, 1989

Approved By: *L. Robert Greger*  
L. Robert Greger, Chief  
Reactor Programs Branch

10-3-89  
Date

Meeting Summary:

Meeting on September 20, 1989 (Report Nos. 50-237/89020(DRSS);  
50-249/89019(DRSS))

Areas Discussed: A special meeting was conducted to discuss the radiological status of the Dresden radwaste sludge tank and spent resin tank rooms and licensee plans to cleanup the contamination and to preclude future significant contamination problems in the rooms.

## DETAILS

### 1. Meeting Attendees

#### Commonwealth Edison Company

L. Gerner, Technical Superintendent, Dresden  
M. A. Jackson, Nuclear Engineering Department, CECO  
T. Kovach, Licensing Manager, CECO  
L. Oshier, HP, ALARA/Operations, Dresden  
K. Peterman, Regulatory Assurance, Dresden  
B. Pietriga, Operating Engineer, Dresden  
F. Rescek, Radiation Protection Director, CECO  
J. Schrage, Senior HP, Nuclear Services, CECO  
J. Silady, Nuclear Licensing Administrator, CECO

#### Nuclear Regulatory Commission

D. Calhoun, Project Engineer, DRS  
R. Greger, Chief, Reactor Programs Branch, DRSS  
M. Kunowski, Reactor Inspector, DRSS  
C. Norelius, Director, Division of Radiation Safety  
and Safeguards, RIII  
R. Pedersen, Radiation Protection Branch, NRR  
(by telephone).  
M. Schumacher, Chief, Radiological Controls and  
Chemistry Section, DRSS

### 2. Meeting Details

Following the identification at a nuclear power plant in another region of a highly contaminated room containing free liquid and solid radwaste which had been left in the highly contaminated condition for a number of years, the plants within Region III were reviewed to see if any similar conditions existed. Based on these reviews, Dresden station advised the Senior Resident Inspector that an area in the Unit 2/3 Radwaste Building basement has had contaminated sludge and resins on the floor for several years. The area was seldom entered, but is an area that is used in the operation of the Dresden station. Based on this information, Commonwealth Edison was requested to meet with NRC, Region III, to discuss the extent and cause of the contamination and their plans for cleaning the area.

In describing the highly contaminated area, the CECO staff indicated that the two rooms, which are connected by a hallway, contain three radwaste sludge tanks and a spent resin tank. While there currently is no intentional storage of radioactive materials in either room except in the tanks, there is contaminated sludge and resin on the floors of the rooms, and there is some contaminated debris in the rooms and adjoining hallway. The contaminated material primarily resulted from deliberate and accidental tank overflows in the past, although some contribution may remain from past intentional flooding of the rooms for temporary water storage. Pictures of the rooms taken recently by CECO personnel show evidence of past flooding in the rooms to an estimated depth of six

inches. The CECO staff stated that intentional flooding was discontinued in the early 1970's, and that no sludge tank overflows have occurred in the last five years, as a result of changes in operational practices and tank level monitoring. As an administrative limit, the tanks are now only filled to 95%. A personnel error caused a spent resin tank overflow approximately three years ago. This was the last tank overflow in these rooms.

According to licensee personnel, the intentional flooding of the rooms as temporary holding containers occurred primarily due to poor radwaste inventory planning which necessitated use of the area to hold excess liquid radioactive waste on occasion when the generated liquid radwaste exceeded the capacity of installed tanks and treatment equipment. This practice was discontinued in the early 1970's when better liquid radwaste inventory control was stressed. However, occasional intentional overflowing of the sludge tanks to the sludge tank room continued to occur when operational considerations required filter media cleaning and the sludge tanks were already full. This practice, which continued until the early 1980's, caused extensive floor contamination in the area, although the floor drain system collected the overflowed liquids in sumps. Also, unintentional sludge tank overflows have occurred occasionally due to inaccurate level instrumentation in the sludge tanks.

The sludge tanks were originally designed and operated as homogeneous holding tanks, the contents of which were to be pumped to centrifuges to separate out solid material for disposal and liquid for further cleanup and reuse. Problems with the centrifuges very early apparently precluded their design operation, and the sludge tanks have since been used essentially as settling tanks. This, however, caused problems because the settled material plugged the lines intended for its removal and has affected the reliability of the installed level instrumentation. Both of these problems have contributed to the tank overflows. In order to remove the settled material the licensee drilled holes through the sludge tank room ceiling into two of the sludge tanks and inserted pumps which are used to extract the settled material. This procedure was successful for two of the sludge tanks and has contributed to the absence of recent tank overflows. One of the three tanks was not so modified; however, the licensee plans a similar modification to this tank in the near future. Licensee personnel stated they were not aware if any 10 CFR 50.59 reviews were conducted, or were required to have been conducted, for the changes made to the operation of the sludge tanks. The NRC personnel requested that this determination be made by the licensee. (Open Item 50-237/89020-01)

The licensee's pictures showed the rooms to be primarily dry at this time except for some rain or groundwater which had entered the sludge tank room, apparently through bore holes from the floor above. The NRC staff questioned whether the groundwater level was high enough to cause inleakage. The CECO staff agreed to provide the groundwater level information relative to this room at a later date. (Open Item 50-237/89020-02)

The CECO staff pointed out that access to the room is tightly controlled by special procedures because of the high levels of radiation in the room (potentially greater than 15 R/hr, although a recent survey showed radiation levels less than 15 R/hr). The floor contamination in the spent resin tank room is a major contributor to the radiation field in the room, whereas the radiation field in the sludge tank room appears to be primarily due to the material in the tanks as opposed to the contamination on the floor. The sludge and resins on the floor of the respective rooms appear to be of varying depth, in some cases just a coating and in others up to several inches.

The station is developing plans to clean both rooms and anticipates the cleanup will be completed in 1990, although final corporate office approval has not yet been received. The CECO staff agreed that in response to this meeting they would provide the NRC with their schedule for cleanup of these two rooms. (Open Item 50-237/89020-03)

The CECO staff also provided a description of their Radwaste Upgrade Program. They are currently in Phase I of this program which involves improvements to the liquid radwaste system, including pumps, piping, process monitors, and sampling systems. This is a substantial effort which is expected to be completed by the end of 1992. The current licensee dose estimate for the Phase I upgrade is 2000 person-rems. The Phase I upgrade work does not involve work in the radwaste sludge tank and spent resin tank rooms that are discussed above. The licensee currently is planning Phase II of this program which will be directed towards the solid radwaste activities. Phase II apparently will include improvements to the radwaste sludge tanks and the spent resin tank, including tank level instrumentation. The schedule for Phase II has not been determined at this time by Commonwealth Edison Company.

### 3. Summary

As a result of this meeting, the licensee agreed that they would: (1) provide the schedule for completion of the decontamination of the radwaste tank room and the spent resin room; (2) determine the groundwater level in relation to the radwaste tank rooms; and (3) evaluate the need for and completion of 10 CFR 50.59 reviews related to their activities in this area.