



Commonwealth Edison  
1400 Opus Place  
Downers Grove, Illinois 60515

November 25, 1992

U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Dresden Nuclear Power Station Units 2 and 3  
Response to Information Requested in  
Inspection Report 50-237/92019; 50-249/92019  
NRC Docket Numbers 50-237 and 50-249

References: C. Norelius letter to Cordell Reed dated  
September 18, 1992, transmitting NRC Inspection  
Report 50-237/92019; 50-249/92019

Enclosed is Commonwealth Edison's (CECo) response to the Follow-Up Item 237(249)/92019-04, which was transmitted with the reference letter and Inspection Report. The Follow-Up Item concerns the operation of the radwaste ventilation system outside of the design specifications.

If there are any questions or comments regarding this response, please contact Denise Saccomando, Compliance Engineer, at 708/515-7285.

Sincerely,

*A. L. Barnes*

T.J. Kovach  
Nuclear Licensing Manager

Attachment

cc: A.B. Davis, Regional Administrator-Region III  
B.L. Siegel, Project Manager, NRR  
W.G. Rogers, Senior Resident Inspector, Dresden

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Response to Follow-Up Item  
237(249)/92019-04

**Issue:**

The referenced inspection report cover letter requested "an evaluation and proposed actions with regard to operation of the radwaste ventilation systems outside of design specifications."

**Response:**

Dresden Station has reviewed the referenced inspection report with regard to Max Recycle and Radwaste Building Ventilation and provides the following response:

**Evaluation of Current Configuration**

Dresden Station has evaluated the current configuration of the radwaste ventilation system with regard to the design specifications and have determined that with closed outside doors:

- The Radwaste Building maintains a negative differential pressure relative to the outside atmosphere.
- The Max Recycle Building maintains a negative differential pressure relative to the outside atmosphere.
- The Solidification Building maintains a negative differential pressure relative to the outside atmosphere.
- Negative differential pressure is maintained between clean and contaminated areas in the Radwaste Building.
- Negative differential pressure has been measured and is maintained between the clean and contaminated areas in the Max Recycle Building.

Our evaluation concluded that the current system configuration meets the intent of the design bases. Section 10.11.1 of the FSAR states, "The design objectives of the station heating, ventilating and air condition systems are to provide protection to plant personnel and equipment from extreme thermal environmental conditions and to provide personnel protection from airborne radioactive contaminants." Historically, the thermal environment has not reached extremes to consistently affect personnel or equipment. A review of radiological air sample data indicated that the ventilation properly functioned ensuring personnel were not exposed to radiologically significant concentrations. Over 200 air sample results since 1989 indicated radioactive concentrations averaging less than  $9.0E-11$  microcuries/cc. If conditions existed where an unmonitored release did occur, it would not have been of radiological significance.

## **Evaluation of the Potential for Unmonitored Release**

Dresden Station agrees that the potential for an unmonitored release path did exist via the open door on the 558' elevation of Max Recycle. The actual amount of air flow out of the door could not be quantified. The station took the following actions:

- A review of radiological survey data from January 1992, for the area adjacent to the Max Recycle open door, indicated no contamination.
- Air sample data from the summer months of 1989 to 1992 (times with the highest probability of an open door) for the various areas in Max Recycle and the Radwaste buildings indicated low levels of radioactive material. The data indicated concentrations generally in the E-12 to E-11 microcuries/cc range.

Note: An evaluation of total dose to the public was performed using the worst case air sample result ( $4.4E-10$  microcuries/cc) from July 1991. Based upon conservative assumptions, if a release did occur, the total dose to a member of the public would have been  $1.5E-4$  mrem.

- A survey of the adjacent roof area found no contamination.

Our evaluation concluded that there was no evidence that a radiologically significant release occurred. Based on the above, had a release occurred, it would have been of minimal radiological significance.

## **Monitoring of Max Recycle Clean/Contaminated Area Differential Pressure**

Although no instrumentation exists to measure the differential pressures between the clean and contaminated areas in the Max Recycle Building, we believe that the system design, coupled with existing administrative controls, is adequate to ensure that a negative differential pressure is maintained.

With the current ventilation configuration (no supply fan and one exhaust fan), air flows in through various building penetrations to the clean areas, moving through various dampers into the contaminated areas. The air then flows through the exhaust pre-filters, the HEPA filter, through the filter fan and exits via the stack. With this configuration, the exhaust fan pulls suction only from the contaminated vaults. Therefore, a negative differential pressure has to exist between the clean and contaminated areas if the building's differential pressure is negative.

Various administrative controls are in place to ensure a differential pressure is maintained. Operators and Radiation Protection Technicians have received training on the importance of proper air flow between contaminated and clean areas and the actions that need to be taken if they become aware of a problem.

Additionally, routine smear surveys are performed in the change areas outside of the contaminated rooms. If contamination is detected, the Radiation Protection Department would take additional action to identify and control the source of the contamination.

## **Status of Ventilation System**

### **Max Recycle Ventilation**

Dresden Station is currently operating Max Recycle ventilation with only one exhaust and no supply fan. This configuration maintains the building differential pressure relative to outside atmosphere at  $-0.15$  WG in relation to the outside atmosphere. This satisfies the design specification of  $-0.125$  WG differential pressure. On the midnight shift only, after reverifying the Max Recycle outside doors are closed, one supply fan is turned on and the doors to the barreling area are opened to facilitate air exchange and promote cooling.

### **Radwaste Building Ventilation**

In mid-September 1992, all three radwaste building exhaust fans were replaced with new direct drive fans. The intent of the installation was to improve equipment reliability. The differential pressure in the building (between clean and contaminated areas) was unaffected given the like-for-like fan replacement.

### **Corrective Actions**

To improve the Max Recycle and Radwaste Buildings ventilation, Dresden Station is focusing efforts on hardware/system enhancements and improved administrative controls. New high capacity Max Recycle building exhaust fans are scheduled for installation by May 30, 1993. These fans should improve the differential pressure between clean and contaminated areas in the Max Recycle Building.

A Nuclear Work Request was initiated to install an exhaust duct from the Spent Resin Tank Room to the existing exhaust duct in the Collector Tank Room. This installation, which will increase the existing negative pressure in the Spent Resin Tank Room, will be completed by August 31, 1993.

The damper between the Sludge Tank Room and the Concentrated Waste Tank Vault will be opened to increase air flow out of the Sludge Tank Room. This is expected to increase the differential pressure between the clean and contaminated areas in the Radwaste Building. Because of dose considerations, the damper will be opened after the Floor Drain Filter Sludge Tank is cleaned out. This will be completed by December 31, 1993.

Upon completion of the Radwaste Upgrade project by April 30, 1994, the 3' by 8' opening from the Access Building to the Collector Tank Room will be closed and sealed. This will eliminate air leakage to the tank room, thus increasing the differential pressure between the clean and contaminated areas.

Wall and floor penetrations in the Radwaste Building have been plugged or repaired. Any new openings or penetrations required for installation or work, will be processed as a Temporary Alteration or modification, thus requiring a 50.59 safety evaluation with regard to impact on building air flow. Permanent building changes that may affect building air flow will also require a safety evaluation. A memo issued by the Technical Staff Supervisor, containing this information has been distributed to Operating Engineers and the Master Mechanic providing direction on the proper handling of work requests which may adversely affect air flow in the Radwaste or Max Recycle Buildings. Dresden Administrative Procedure (DAP) 7-4, "Control of Temporary System Alterations," will be revised to include the requirement that holes in doors and walls be considered a Temporary Alteration. This revision will be completed by December 31, 1992.

The Radwaste Reboiler Area outside door was repaired, thus eliminating air inleakage. A work request was written to repair the door closure. All other doors were inspected by Operating management and were found to be in good condition.

Additional outside doors of the Radwaste and Max Recycle Buildings have been posted to remain closed at all times except for access. This information has been tailgated and is scheduled for tailgating immediately before each refueling outage. Directions to maintain all Radwaste exterior doors closed has been added to Operations Department Policy No. 32 "Radwaste Operations."

The Radwaste Round Book has been revised. The Max Recycle rounds were expanded to incorporate logging Radwaste, Solidification, and Max Recycle Buildings differential pressures, and the differential pressure between the clean and contaminated areas in the Radwaste Building. Differential pressure readings will be compared to an acceptance criteria and appropriate actions will be taken to reestablish the pressure as necessary. The revised round book also includes verification that the Radwaste and Max Recycle outside doors are closed. The revised round book was initiated on November 2, 1992. Training on this change will be provided to "B" Operators by January 15, 1993.

Dresden Station has evaluated the radwaste system ventilation differential pressure for the other CECO stations. Our review concluded that a quantitative ventilation criteria is not always defined in other stations' FSAR, but does include a statement indicating that the building should be maintained at a slightly negative pressure. We believe that the current configuration of Dresden's Radwaste ventilation system is consistent with other stations' FSAR.

Nuclear Engineering Department (NED) is performing a technical review of the radwaste ventilation system which will verify conformance with design documents. Results of this review, including any possible recommendations, will be issued in a report to the station by April 3, 1993. Dresden Station will review the recommendations and determine if additional actions are necessary by May 3, 1993. Additionally, NED will evaluate the bases for the values specified in the FSAR by April 3, 1993. After this review is complete the station will determine, by May 3, 1993, if a revision to the FSAR is warranted. If necessary the radwaste ventilation section will be revised in the next available update.

Lastly, on October 13, 1992, Dresden Station began a Heating, Ventilation and Air Conditioning System (HVAC) Program for Excellence. The purpose of the program is to proactively maintain the station's ventilation systems. This program establishes a methodology for station and corporate engineering personnel to jointly identify system problems and their root cause, identify and prioritize corrective actions, and identify budget and manpower requirements. Implementation of this plan will provide enhanced management oversight of the ventilation systems.