



**Commonwealth Edison**  
 One First National Plaza, Chicago, Illinois  
 Address Reply to: Post Office Box 767  
 Chicago, Illinois 60690

May 25, 1978

Mr. George E. Lear, Chief  
 Operating Reactors - Branch 3  
 Division of Operating Reactors  
 U.S. Nuclear Regulatory Commission  
 Washington, DC 20555

REGULATORY DOCKET FILE COPY  
 JUN 5 1978  
 NRC

Subject: Dresden Station Units 2 and 3  
 Revised Response to Fire Protection  
 Position: PF25  
NRC Docket Nos. 50-237/249

Reference (a): M. S. Turbak letter to D. K. Davis  
 dated November 15, 1977

Dear Mr. Lear:

Reference (a) transmitted Commonwealth Edison's response to several NRC Fire Protection positions concerning Dresden Station. During a recent telecon, it has come to our attention that the response to PF.25 - Radiological Consequences of Fires requires supplementary information. Enclosed is our revised response to PF.25 (item 3.2.2 in Table 3.1 of the Dresden 2/3 Safety Evaluation Report on Fire Protection).

One (1) signed original and thirty-nine (39) copies of this letter and enclosure are provided for your use.

Very truly yours,

M. S. Turbak  
 Nuclear Licensing Administrator  
 Boiling Water Reactors

Enclosure

781560080

A006  
 1/40  
 ADD  
 LEAR

Dresden 2 &amp; 3

Position:

PF25

Identification

PF.25 - Radiological Consequences of Fires

Reference

Section A.(2) of Appendix A to BTP 9.5-1 and licensee's submittal of March 29, 1977. Section 2.3.14.1.7 on page 2.3-72.

Staff Concern

The licensee has not evaluated the radiological consequences of fires which may involve radioactive material, such as fires in the radwaste areas (e.g., involving dried radioactive filter sludges or other dry radioactive materials) or the off-gas system. Thus reasonable assurance has not been provided that the fire protection systems associated with such fires are adequate to minimize the potential for radiation releases.

Staff Position

The licensee should analyze the radiological consequences of fires in the radwaste areas and off-gas systems. The consequences of fires should not significantly exceed those previously calculated for accidents involving radwaste systems.

Answer:

The following information is provided as supplementary information to the original response to PF25 concerning radiological consequences of fires in the off-gas systems.

The potential radiological consequences of the Dresden Units 2 & 3 off-gas system component failure have been submitted to the Atomic Energy Commission (now the Nuclear Regulatory Commission) in Table 4 of Quad Cities Units 1 & 2 Special Report No. 1 and Supplementary Information for Dresden Units 2 & 3 Special Report No. 4A, Modified Off-Gas System, Commonwealth Edison Company, June 11, 1974. The docket number is **50-237**. No credible hypothetical fires in the off-gas system could produce doses to the public above those calculated, using very conservative assumptions, in this report.

Should a fire occur in a charcoal vessel, the temperature elements on the charcoal vessels would initiate a high temperature alarm in the control room and provide warning of a fire. In addition radiation instrumentation in the stack would provide high radiation warnings, providing further assurance that the abnormal condition would be recognized and that timely action would be taken by the operating staff.

However, in the event a fire should occur, a very conservative analysis would assume a release of 100% of the iodine from a fire in the first charcoal bed (This also conservatively assumes the loss of function of all subsequent charcoal beds) and 100% of the Noble Gas Source term, described in Table 3 of the earlier referenced report, through the station chimney. The off gas system

charcoal beds are in steel vessels. However, in the unlikely event that the system integrity is not maintained, the results of this analysis would not be changed since the off gas charcoal beds are located in the off gas filter building and the off gas filter building HVAC would exhaust through the station chimney.

Assuming a fumigation accident meteorology consistent with Regulatory Guide 1.3, the resultant calculated radiological consequences at the exclusion area boundary are 332 mrem thyroid and 2.7 mrem whole body. These postulated doses are well within 10 CFR 20 limits (1500 mrem and 500 mrem, respectively).

5-4-78