



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

February 25, 1980

Mr. T. A. Ippolito, Chief  
Operating Reactors - Branch 3  
Division of Operating Reactors  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Dresden Station Units 2 & 3  
Quad Cities Station Units 1 and 2  
Refueling Floor Fire Detection System  
NRC Docket Nos. 50-237/249/254/265

Dear Mr. Ippolito:

Commonwealth Edison Co. in pursuing a design for the refueling floor detection systems at the subject stations, has again reviewed the fire loadings in the area. The area is 294' x 117.5' with a 46' ceiling and is common for both units at each station. The fire load as defined in the "Information Relevant to Fire Protection Systems and Programs" for each station submitted in our March 29, 1977 transmittal is under 1800 BTU/sq. ft. for normal operating conditions. During refueling an additional 100 BTU/sq. ft. may be on the refueling floor in the form of DAW boxes, 2 gallons of cleaning solvent and miscellaneous radiation protective clothing.

In discussions with the detection system vendor it was concluded that an ionization detection system located at the ceiling would not give a timely response due to the low fire loading and cooling of the smoke in such a large volume of air. An ultra-violet detection system was also considered but was ruled out due to sensitivity to radiation.

The concerns expressed in discussions with Mr. L. Dardarian of the NRC Staff dealt with the safety related structures and equipment in the area. The building structure (secondary containment) and the spent fuel pool are the only safety related items in this area. The walls and ceiling of the refueling floor (described in "Information Relevant to Fire Protection Systems and Programs" submitted 3-29-77) which constitute secondary containment in this area have been reviewed and considering the spatial separation and low fire loading present will not be affected by a

*App 3/10*

8003030

438

*F*

Commonwealth Edison

Mr. Thomas A. Ippolito  
February 25, 1980  
Page 2

postulated fire. The spent fuel pool as addressed in "Information Relevant to Fire Protection Systems and Programs" will not be effected by a postulated fire. All cooling equipment for the spent fuel pools is located in fire zone 1.1.1.4 and 1.1.2.4 for Dresden and Quad Cities. The fire loading in these areas is made of cable insulation and is approximately 7,200 to 8,400 BTU/sq. ft. for Dresden and some negligible amount at Quad Cities. In the event that the fuel pool cooling pumps were lost for a respective unit at Dresden, make-up water and cooling may be provided by the condensate storage system, the shutdown reactor cooling system or a cross-tie to the other unit's fuel pool cooling system. At Quad Cities make-up water and cooling may be provided by the Condensate Storage System or the Residual Heat Removal System.

In view of the low fire loading in these areas and the ability to make up water and cool the spent fuel pools in the event of losing the unit spent fuel pool cooling equipment, no detection system is needed in this area.

Please address any additional questions you may have concerning this matter to this office.

One (1) signed original and fifty-nine (59) copies of this transmittal are provided for your use.

Very truly your,



Robert F. Janecek  
Nuclear Licensing Administrator  
Boiling Water Reactors