



**Commonwealth Edison**  
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November 17, 1982

Mr. Paul O'Connor  
Project Manager  
Operating Reactors Branch No. 5  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Subject: Dresden 2  
SEP Topic: II-3.B, Flooding Potential and Protective Requirements; II - 3.B.1, capability of operating plants to cope with Design Basis Flood conditions; and II-3.C, Safety Related Water Supply (Ultimate Heat Sink).

NRC Docket 50-237

Reference: P. O'Connor to L. DelGeorge letter, dated June 21, 1982.

Dear Mr. O'Connor:

A review of the above reference letter was made in regards to the NRC staff concern that the plant does not meet current criteria. The following response address these areas of concern:

Item 1: The plant is not adequately designed to cope with a probable maximum flood (PMF). For that event, we estimate the flow to be 490,000 cfs, which would result in a maximum river stage at the site of about 528 ft. msl; service water pump motors would be flooded at about elevation 511 to 512 ft. msl (which corresponds to river flow of 100,000 to 160,000 cfs).

Response: Although the service water pumps are located on floor elevation 509.5 ft. mean sea level (msl) they are vertical pumps and could be operative until elevation 514 ft. Therefore, it appears that the plant can be brought to a cold shutdown condition for the Standard Project Flood. In fact, the return period for a flood of greater than 514 ft. elevation is well over 500 years.

Item 2: The licensee has an emergency procedure (EPIP-200-11) that is designed to cope with floods up to the PMF magnitude. We have identified deficiencies in the procedure and questions whether there is sufficient available warning time to implement appropriate emergency procedures.

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Response: Normal operating experience to cool down from normal operating temperature of 545°F to 350°F is 4 hours. Although the FSAR states the time it takes to cool the unit from 350°F to 125°F is 24 hours, actual operating experience shows it is done within 4 to 5 hours using normal shutdown procedures and within Technical Specification limits. Therefore, cold shutdown can be achieved within 8 to 9 hours versus the 28 hours quoted in the SER. Moreover, emergency procedure EPIP 200-11 directs the operator to transfer cooling to the isolation condenser if river level reaches 509 ft. as it would be the method of maintaining the reactor in a shutdown condition. Therefore, a realistic total time to reach cold shutdown at 212°F from normal operating temperature of 545°F is 6 to 7 hours, from which point the isolation condenser would maintain cold shutdown indefinitely.

Item 3: The roofs of safety-related buildings were not designed to sustain loading from the Probable Maximum Precipitation.

Response: At the September 28-29 meeting with the NRC staff Commonwealth Edison committed to make structural modifications to the roof parapets (scuppers) to ensure that loadings due to ponded water are within the structural capacity of the roof.

Item 4: On the basis of the computed hydrograph information (i.e., flood stage versus time for PMF), there is not sufficient time to get the plant to cold shutdown using normal shutdown procedures. The emergency plan does not address other procedures that would be required in a limited time frame and fuel requirements and availability for diesel and gasoline powered equipment.

Response: The Probable Maximum Flood (PMF) hydrograph predicts 33 hours before flood levels reach 517.5 ft. from the onset of the rainfall. With shutdown time being 6 to 7 hours, we believe sufficient manpower exist on site to perform steps required to safely shutdown the units. Also, the Load Dispatcher alerts the station when a high wind or large rainfall accumulation is predicted per intercommunication with the National Weather Bureau, upon which the station will monitor water level at intake once per shift. If the river level exceeds 507 ft. elevation, the load dispatcher will be contacted to obtain current prediction for additional rainfall accumulation. At 508 ft. elevation the station declares an alert. At 510 ft. elevation the station will enact the Generating Station Emergency Plan (GSEP) and off-site resources would be mobilized. Also, equipment will be made available to guarantee the Isolation Condenser will have sufficient make-up to remove all decay heat long term following a flood.

Item 5: The Licensee has committed to revise the existing flood emergency plan to address the staff concerns, including the capability to operate an emergency pump.

Response: We are in the process of revising Emergency Procedure EPIP 200-11. A summary of some of the changes are:

- 1) Load dispatcher will be contacted upon heavy precipitation or level exceeding 507 ft. elevation.
- 2) Locations to connect the gasoline driven pumps for Isolation Condenser make-up and where to locate supplies of fuel.
- 3) Use of a level gauge installed in the intake canal.
- 4) Clearer direction on use of instruments to monitor reactor water level and pressure.

In summary, with actual shutdown time being 6 to 7 hours, we believe sufficient time exists to implement the required measures to maintain the units in a safe condition in the event of a PMF.

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

One (1) signed original and thirty-nine (39) copies of this transmittal have been provided for your use.

Very truly yours,

*Ch. Schrade* 4/17/82

for Thomas J. Rausch  
Nuclear Licensing Administrator  
Boiling Water Reactors

SPPJ/dg  
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cc: RIII Resident Inspector-Dresden  
Gregg Cwalina,  
SEP Integrated Assessment Project Manager