Docket No. 50-10

JUL 22 1971

Commonwealth Edison Company
ATTN: Mr. Wayne L. Stiede
Nuclear Licensing Administrator
72 West Adams Street
Chicago, Illinois 60690

Gentlemen:

We have under review three proposed changes to the Technical Specifications of Facility License No. DPR-2 for the Dresden Unit 1 facility: (1) Your proposed change to permit installation of an emergency core cooling system (Proposed Change No. 17) dated October 10, 1968, supplemented by letters of September 17, 1970, and March 26, 1971, (2) Your proposed changes in effluent limits dated January 18, 1971 (Proposed Change No. 21), and (3) Proposed changes dated March 3, 1971, related to primary system leak detection, administrative controls, containment leak rate tests and the emergency condenser system. In several discussions regarding inadequacies in each of the above submittals, Commonwealth Edison personnel have indicated that supplemental information regarding each proposed change would be submitted promptly. Since your supplements have not yet been received, we have prepared the enclosed request for additional information, based on the description and analysis in your submittals.

The additional information should be submitted in three signed plus forty additional copies.

On June 19, 1971, the AEC adopted interim acceptance criteria for the performance of emergency core cooling systems (ECCS) for light-water nuclear power plants. A copy of the Commission's interim policy statement on this matter is enclosed for your information. In accordance with Section IV.C.1(b) of the policy statement, you are requested to submit analyses of the performance of the ECCS proposed for installation in Dresden Unit 1, using methods equivalent to the evaluation model in Appendix A, Part 2 of the policy statement as soon as practicable, but not later than January 1, 1972, to determine the extent of compliance with the criteria of Sections IV.A and B of the statement.

The information we need regarding these analyses is outlined below.

1. Provide curves of peak clad temperature and percent clad metal-water reaction as a function of break size for the various combinations of ECC subsystems evaluated by applying the single failure criterion to the active components involved in the emergency cooling process. A discussion should be included showing the justification for the ECC subsystem combinations used in the evaluation.

2. For several breaks that typify small, intermediate and large breaks, provide curves of (a) peak fuel clad temperature for various fuel rod groups within a fuel bundle, (b) core coolant flow, (c) fuel channel inlet and outlet quality, (d) heat transfer coefficients, (e) reactor vessel water level, and (f) minimum critical heat flux ratio (MCHFR), all as functions of time. Indicate the time that rated core cooling flow is initiated, the time the fuel channel becomes wetted based upon item 4 of Appendix A, Part 2, and the time that the temperature transient is terminated.

3. For the analyses performed in 1 and 2 above, discuss the range of peaking factors studied and the basis for selecting the combination that resulted in the most severe thermal transient. Curves of peak clad temperature vs time for the range of peaking factors studied should be included.

4. Discuss in detail any deviations in the evaluation model used in the foregoing studies from that described in Appendix A, Part 2 of the Commission's interim policy statement.

In the event these analyses show that Dresden Unit 1 will not be in compliance with the criteria of Section IV.A and B following installation of the proposed ECCS, you are requested to submit a program of improvements and a schedule for effecting them prior to July 1, 1974, together with anticipated performance information on the improved system as indicated in items 1-4 above, as soon as practicable but not later than July 1, 1972.

You are requested to make, as soon as practicable, such interim improvements in operating techniques as are practical and worthwhile in improving emergency core cooling system performance or reliability. Please inform us of any such actions taken.

In addition, in accordance with Items IV.C.1(b)(3) and (4) of the statement, you are requested to submit a proposed augmented inservice inspection program to provide additional assurance of continued primary coolant system integrity, to propose appropriate additions to your primary system leakage detection system to provide at least two different methods of detection, and to propose technical specifications that reduce allowable rates of identified and unidentified leakage to the lowest practical values. These interim measures should be effected promptly and reported to the AEC not later than October 1, 1971.

When each of the information items requested has been prepared, please send us 60 copies. When we have completed our review of your analysis for the Dresden Unit 1 ECCS, we will contact you regarding the results of our evaluation.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

Enclosures:
1. Request for Additional Information
2. AEC Interim Policy Statement

cc: Arthur C. Gehr, Esq.
Isham, Lincoln & Beale
72 West Adams Street
Chicago, Illinois 60690

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