

JUL 16 1971

Docket Nos. 50-237
and 50-249

Commonwealth Edison Company
ATTN: Mr. Byron Lee, Jr.
Assistant to the President
P. O. Box 767
Chicago, Illinois 60690

Gentlemen:

On June 19, 1971, the AEC adopted interim acceptance criteria for the performance of emergency core cooling systems (ECCS) in 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(a) of the policy statement you are requested to submit an analysis of the performance of the ECCS presently installed in the Dresden Units 2 and 3 plants using methods equivalent to the evaluation model in Appendix A, Part 2 of the policy statement as soon as practicable, but not later than October 1, 1971, to confirm that the performance of the ECCS is in compliance with the criteria of Sections IV A and B of the statement. We have discussed this request with representatives of the General Electric Company and we understand that analyses using this model have been or are being performed for your plants.

The information that 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 using the single failure criterion indicated in Table 2-1 of the topical report; "Loss-of-Coolant Accident and Emergency Core Cooling Models for General Electric Boiling Water Reactors", NEDO-10329. 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 rod groups, (b) core flow, (c) fuel channel inlet and

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outlet quality, (d) heat transfer coefficients, (e) reactor vessel water level, and (f) minimum critical heat flux ratio (MCHFR) as functions of time. Indicate the time that effective core cooling 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.

When this information has been prepared we would appreciate your sending us 60 copies. When we have completed our review of the Dresden Units 2 and 3 ECCS's we plan to contact you regarding the results of our evaluation.

Sincerely,

ORIGINAL SIGNED BY
Peter A. Morris

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
AEC Interim Policy Statement

cc: Arthur C. Gehr
Isham, Lincoln & Beale
Counselors at Law

outlet quality, (d) heat transfer coefficients, (e) reactor vessel water level, and (f) minimum critical heat flux ratio (MCHFRR) as functions of time. Indicate the time that effective core cooling 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.

When this information has been prepared we would appreciate your sending us 60 copies. ~~We will need to complete our evaluation of the requested analyses before we authorize operation of the Dresden Unit 2 reactor beyond 50000.~~ When we have completed our review of the Dresden Units 2 and 3 ECCS's we plan to contact you regarding the results of our evaluation.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
AEC Interim Policy Statement

cc: Arthur C. Gehr
Isham, Lincoln & Beale
Counselors at Law

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