

May 15, 2000

Mr. Oliver D. Kingsley, President
Nuclear Generation Group
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: QUAD CITIES - REQUEST FOR ADDITIONAL INFORMATION ON INDIVIDUAL
PLANT EXAMINATION FOR EXTERNAL EVENTS SUBMITTAL (TAC NOS.
M83665 AND M83666)

Dear Mr. Kingsley:

By letter dated July 29, 1999, Commonwealth Edison Company (ComEd) submitted a revised Individual Plant Examination of External Events (IPEEE) for Quad Cities Nuclear Power Station, Units 1 and 2. Based on our recent on-site audit of the fire portions of that submittal, we are unable to conclude at this time that ComEd has met the intent of Supplement 4 to Generic Letter (GL) 88-20 for Quad Cities. Therefore, we have developed the enclosed request for additional information (RAI) related to the fire analysis of the IPEEE. We discussed this RAI during the site audit exit meeting.

We have not completed our review of the seismic and high winds, flood, and other external events (HFO) areas of the IPEEE submittal. If RAIs are needed in these areas, they will be sent separately following completion of the ongoing reviews.

Please provide your response within 60 days of the date of this letter to support our review schedule. If you have any questions about the staff's review or about the enclosed questions, please call me at (301) 415-1321.

Sincerely,

/RA/

Stewart N. Bailey, Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-254, 50-265

Enclosure: RAI

cc w/encl: See next page

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O. Kingsley
Commonwealth Edison Company

Quad Cities Nuclear Power Station
Units 1 and 2

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REQUEST FOR ADDITIONAL INFORMATION (RAI) ON QUAD CITIES
INDIVIDUAL PLANT EXAMINATION OF EXTERNAL EVENTS (IPEEE)

Fire

1. Seven initiating events have been identified. However, the submittal does not provide a discussion of how the seven initiating events were selected for fire analysis from the large number of initiating events used in the internal events model. For example, the list does not include loss of service water or loss of all vital instrumentation as potential initiating events that may be caused by a fire. Please explain how the seven initiating events were selected.
2. Given that a large fraction of the cables is not IEEE-383 qualified, there is a possibility of horizontal and vertical propagation of a cable fire. From Sections 4.6.2.6 and 4.3.3 of the submittal, it is not clear how the fire propagation analyses was conducted for the cable spreading room. Please describe how vertical and horizontal fire propagation was considered for the cable spreading room.
3. From the discussions provided in Section 4.3.2.3 of the submittal, it can be inferred that transient ignition sources were accounted for in the fire initiation frequency estimation (Section 4.2.2.1.2), but they were not explicitly treated in the fire propagation analysis. This can lead to optimistic results. If within a compartment there are small areas where a large set of safety-related cables are co-located, a transient fire in that area may lead to an adverse impact on plant safety. Please provide information regarding: (a) the treatment of transient fires in the detailed analysis of unscreened compartments; (b) the identity of those localized areas of the plant where a large fire may cause the failure of a large number of safety components (e.g., the track-way area of Unit 1 in fire zone 8.2.6.A, MG set oil pump area in the turbine building, auxiliary electric room and fire zone 8.2.7.C); and (c) the results of analysis of the CDF contribution of these areas.
4. For barrier failure probabilities, the data provided in EPRI's Fire PRA Implementation Guide has been used. However, the licensee has deviated from the screening practice recommended in the guide. For barrier failure probability, the Guide recommends using 0.1 in the screening phase and using the values presented in Table 4-17 of the submittal for the detailed analysis of the propagation scenarios. The small failure probabilities used for active fire barriers (e.g., dampers), such as those presented in Table 4-17, can be overly optimistic. Please discuss the impact of the screening value on the IPEEE results and conclusions.
5. The submittal does not address large turbine oil fires. Such fires have been experienced in the industry. Very large fires can adversely affect cables, equipment and even structural elements of the turbine building. Please discuss the safety implications and core damage frequency (CDF) contribution of such scenarios at the plant.
6. The submittal does not discuss proposed or planned modifications (i.e., hardware, procedural) that result from the IPEEE fire analysis. Please describe these modifications and identify whether or not credit was taken for them in the IPEEE fire analysis.

ENCLOSURE