Docket File
T5C3

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 22, 1997

50-254/265

Ms. Irene Johnson, Acting Manager
Nuclear Regulatory Services
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 - INDIVIDUAL PLANT EXAMINATION OF EXTERNAL EVENTS (IPEEE)

Dear Ms. Johnson:

By letter dated February 17, 1997, Commonwealth Edison Company (ComEd) submitted the Quad Cities Nuclear Power Station, Units 1 and 2, Final Report-Individual Plant Examination of External Events (IPEEE). ComEd presented information concerning the results of the Quad Cities IPEEE assessment of internal fires at a public meeting at NRC headquarters in Rockville, Maryland, on March 31, 1997. Representatives from NRC's Office of Nuclear Reactor Regulation, Office for Analysis and Evaluation of Operational Data, Office of Nuclear Regulatory Research, and Region III visited the site to review the plant areas associated with the more significant fire vulnerabilities and review the provisions of the Interim Alternate Shutdown Method (IASM) on April 29-30, 1997.

NRC Concerns

Based on the site visit, the walkdowns, and the information exchanged related to the fire vulnerabilities recently identified at Quad Cities, the NRC needs additional information. This information is needed to fully assess the interim actions taken by ComEd regarding (1) the mitigation of the introduction of fire hazards and monitoring and recognizing potential degradation of plant equipment in these areas of concern, (2) the logistics and staging of specialized fire brigade fire fighting equipment with respect to certain known fire hazards, (3) short-term fire protection improvements, and (4) the conditions placed on shared post-fire safe shutdown systems when one unit is operating and the other unit is shut down. We request that the following areas be discussed in a public meeting at NRC headquarters and subsequently addressed in a written response:

1. Describe the type of fire protection compensatory measures (e.g., roving fire watches) and any enhancements that have been made to them as a result of the recently identified fire vulnerabilities. Specifically, describe how they provide reasonable assurance that they are adequate to monitor and act upon any changes in the known fire hazard conditions and assure that no new fire hazards are introduced into the areas of concern.

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2. Describe the fire prevention administrative controls (e.g., controls over combustibles and hot work in these areas) and any enhancements that have been made to them as a result of the recently identified fire vulnerabilities. Specifically, for the areas of concern, describe if there has been any changes made to impose stricter controls over the introduction of fire hazards or ignition sources into these areas.

3. Certain fire vulnerabilities may need specialized fire fighting equipment to suppress and control the potential fire. Describe any actions that were taken to assess the deployment of this equipment. Were any actions taken to improve the logistics and staging of this equipment (e.g., locate foam fire fighting agents and application equipment, spare breathing air cylinders, etc.) by moving, distributing and locating it to plant areas that are near the respective fire vulnerabilities.

4. The NRC has concerns with the fire protection provided for the motor-generator (MG) sets specifically with the water curtain separating MG set 1A and 2B. The NRC views that the risk associated with this area may be higher than has been estimated by the IPEEE. A water curtain is not sufficient to protect personnel and equipment from radiant heat generated by a significant fire. In addition, the NRC is concerned with the application and design considerations associated with the water curtain and the potential fire interaction with the other automatic fire suppression systems in the area of concern (see 10 CFR 50.72 report No. 32317). Describe the additional short-term fire protective features being considered which will provide the assurance a fire will limit the number of fire suppression systems actuated by a fire in this area and shield plant equipment and personnel from the maximum possible radiant heat flux generated.

5. Describe the administrative controls, which were used prior to the identification of the fire vulnerabilities, that assure the operability of required post-fire safe shutdown systems when one unit is operating and the other is shut down. For example, describe the conditions where this equipment may not be available, the time limits that this equipment may be out-of-service, and the actions taken to restore this equipment. Since the recent identification of the fire vulnerabilities, describe what actions you have taken to provide reasonable assurance that the operability of post-fire safe shutdown systems for the operating unit is maintained when the other unit is shut down or in a degraded condition.

6. The NRC has concerns with the known weaknesses associated with the capabilities of the IASM. Describe the IASM and under what plant degraded conditions would it be implemented. Discuss the IASM's implementation, operator actions and the time required for these actions to place the IASM in service, the condition of the plant (e.g., plant in a station blackout, containment integrity confirmed) and the adequacy of plant lighting to support IASM implementation, and the expected core response (e.g., is core damage expected; does cold, dirty river water

affect the fuel integrity or cause blockages of fuel channels that may cause inadequate bundle cooling when recovering).

7. Describe the shift manning and composition. Is there sufficient trained personnel on site at all times to provide a minimum five member fire brigade and enough operators to shut down both units under the postulated worst-case fire scenario. In addition, describe the depth of training and shutdown drills that have been conducted. Describe, under what conditions these drills were conducted, were the drill scenarios realistic, and did they challenge the operators by simulating the expected environmental conditions.

8. The licensee committed to advise the NRC of its proposed corrective actions by November 1997. Consideration should be given to expediting this schedule. In this response, is it your intent to make the necessary commitments and provide the conceptual engineering of its fire protection/safe shutdown enhancements to the NRC for review?

A meeting will be scheduled for the week of May 25, 1997, after receipt of this letter by ComEd. If you should have any questions regarding this matter or need additional clarification, please contact me at (301) 415-3016.

Sincerely,

Original signed by:

Robert M. Pulsifer, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-254, 50-265

cc: see next page

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