July 25, 1996

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: REQUEST FOR ADDITIONAL INFORMATION CONCERNING NITROGEN CONTAINMENT ATMOSPHERIC DILUTION SYSTEM COMPLIANCE WITH 10 CFR 50.44 AT DRESDEN AND QUAD CITIES NUCLEAR POWER STATIONS (TAC NOS. M94843, M94844, M94845 AND M94846)

Dear Ms. Johnson:

In a letter dated February 16, 1996, Commonwealth Edison Company informed the staff that you plan on using the purge and vent strategy versus repressurization/purge strategy for primary containment hydrogen control at both Dresden and Quad Cities. A response to the enclosed Request for Additional Information (RAI) is needed in order to complete our review of the acceptability of this change.

Sincerely,

Original signed by
M. David Lynch for:

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

Docket Nos. 50-237, 50-249,
50-254, 50-265

Enclosure: RAI

cc w/encl: see next page

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REQUEST FOR ADDITIONAL INFORMATION
PRIMARY CONTAINMENT HYDROGEN CONTROL
AT DRESDEN AND QUAD CITIES

The staff provided an evaluation dated September 12, 1988, of the General Electric Topical Report NEDO-31331, "Emergency Procedure Guidelines, Revision 4," March 1987 to the BWR Owners Group. This evaluation provided guidance for the use of the Purge and Vent Strategy in conjunction with the Nitrogen Containment Atmospheric Dilution System for design basis hydrogen control.

1) In the SER that approved the Emergency Procedure Guidelines (EPG), the staff's stated goal is to limit venting to a "last resort" action. The major staff concern has centered on the appropriate containment pressure for venting. As a result, the venting pressure should be established as high as reasonably achievable. If the primary containment pressure limit (PCPL) is less than the design pressure, the licensee must submit justification which the staff will evaluate on a case by case basis. Accordingly, a reasonable effort should be made by each licensee to increase PCPL as high as practical; e.g., perform adjustments to the pneumatic operating pressure of the SRVs, and consider improving vent valve operability. Provide justification for your approach. How does the PCPL compare to the design pressure? Which of the four criteria contained in the staff evaluation cited above, limit the PCPL?

2) What impact did the change in methodology have on the time to manually initiate nitrogen dilution, maximum required injection flow rate and steady state flow rate?

3) The first step of the PC/H section of the EPGs requires venting/purging, whenever either the suppression chamber or drywell reaches the minimum detectable hydrogen concentration, provided that the offsite radioactivity release rate is expected to remain below the offsite Technical Specification value of the Limiting Condition for Operation (LCO) for the release rate. The staff concluded in its SER that operators should have detailed guidance when conditions dictate removal of hydrogen using a purge and vent strategy and that sufficient safeguards should be established to preclude this action from being implemented during an emergency situation. Identify and provide a summary of the primary containment venting procedure, lineups and valve operations.

4) What is the containment pressure profile versus time? The profile should show the initiation and duration of the vent cycle. What volume of containment atmosphere is released during the cycle? What is the maximum allowable purge flow without repressurizing containment?

5) Do plant-specific procedures exist for analyzing a primary containment air sample in support of Step PC/H-1 in the EPGs? If so, identify and summarize these procedures.

ENCLOSURE