Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

September 15, 1982

Mr. Darrell G. Eisenhut, Director
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Units 2 and 3
Quad Cities Station Units 1 and 2
Compliance with 10 CFR 50.44(c)(3)(ii)
Concerning Combustible Gas Control
NRC Docket Nos. 50-237/249 & 50-254/265

References (a): J. S. Abel letter to D. G. Eisenhut dated December 15, 1980.

(b): L. DelGeorge letter to D. G. Eisenhut dated July 1, 1981.

(c): T. A. Ippolito letter to L. DelGeorge dated December 8, 1981.

Dear Mr. Eisenhut:

Effective January 4, 1982, the NRC amended 10 CFR 50.44 such that all light-water nuclear power reactors that rely upon a purge/repressurization system as the primary means for controlling combustible gases following a LOCA would be required to install an internal recombiner or have the capability to install an external recombiner following the start of an accident.

Commonwealth Edison has determined that the Mark I containments of Dresden Station Units 2 and 3 and Quad Cities Station Units 1 and 2 rely on nitrogen inerting rather than purge/repressurization (Atmospheric Containment Atmosphere Dilution or ACAD System) as the primary means of combustible gas control. For this reason, installation of hydrogen recombiners is not required. Technical justification for this position is based on the results of a recent analysis performed by the General Electric Company. Attached is a copy of the report summarizing this analysis, "Generation and Mitigation of Combustible Gas Mixtures in Inerted BWR Mark I Containments" (NEDO-22155). Results of the analysis performed show that following a postulated loss of coolant accident (LOCA), peak oxygen concentrations found within a BWR Mark I containment would remain below the combustible gas limits at all times without the need for containment venting or hydrogen recombiners. The results of the analysis also show that an ACAD system is not required. In the event of a postulated LOCA, ACAD would further pressurize the drywell, and without controlled venting would not effectively control combutible gases.

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To verify the applicability of this analysis, we have reviewed the Dresden and Quad Cities air supply lines within the Containment. Because these lines utilize the (inerted) containment atmosphere as an air source, with the nitrogen makeup system as the primary backup source when the containment is inerted, there is negligible potential for these lines to increase the Containment oxygen content.

All four Dresden and Quad Cities Units are normally operated with drywell oxygen concentrationns well below the 4% by volume concentration assumed in the analysis. The Dresden Technical Specifications require the oxygen concentrations to be maintained below 4% by volume. The Quad Cities Technical Specifications, however, require drywell oxygen concentration be maintained below 5% by weight (approximately 4.4% by volume). This Technical Specification, value because it is only marginally above the 4% value referred to in the attached analyses, and because the station normally operates well below 4% by volume, does not invalidate the results of the anlysis for Quad Cities Units 1 and 2. Nevertheless, to prevent confusion and maintain consistency, a proposed Technical Specification change to 4% oxygen concentrations by volume will be submitted by November 1, 1982, for Quad Cities Station Units 1 and 2.

Considering the results of the attached analysis, installation of primary containment recombiners at Dresden Units 2 and 3 and Quad Cities Units 1 and 2 is not necessary. Furthermore, it is our position that the ACAD system installed at both stations is not the primary means for combustible gas control and should not be required to be in place. We therefore request to be released from all previous commitments we made concerning NUREG-0737, Item II.E.4.1 (see our References (a) and (b) and your SER in Reference (c)). Your immediate attention to this matter and written concurrence with our position is requested as soon as possible.

Please direct any questions you may have concerning this matter to this office.

One (1) signed original and fifty-nine (59) copies of this transmittal are provided for your use.

Very truly yours,

Thomas J. Rausch

Thomas J. Rausch
Nuclear Licensing Administrator

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Attachment

cc: Region III Inspector - Dresden
Region III Inspector - Quad Cities

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