



Commonwealth Edison
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June 25, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Units 2 and 3
Quad Cities Station Units 1 and 2
Recombiner Capability Requirement
of 10 CFR 50.44 (c)(3)(ii)
NRC Docket Nos. 50-237, 50-249,
50-254 and 50-265

References (a): D.G. Eisenhut letter to All Licensees
of Operating Reactors dated May 8, 1984.

(b): T.J. Rausch letter to D.G. Eisenhut
dated September 15, 1982.

Dear Mr. Denton:

The purpose of this letter is to provide the information requested in Reference (a) supporting the conclusion that containment recombiner capability is not required. In addition, this letter reiterates our position that the Atmospheric Containment Air Dilution System is not required.

The NRC is requesting that all Mark I BWR owners, that have concluded that containment recombiner capability is not required, supply information on applicable generic studies that support this conclusion. The Commission is also requesting additional information that will show compliance with specific technical criteria listed in the Reference (a).

Commonwealth Edison has determined that the Mark I containments of Dresden Station Units 2 and 3 and Quad Cities 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. Attachment A is a copy of the report summarizing this analysis, "Generation and Mitigation of Combustible Gas Mixtures in the 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.

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As stated in reference (a), the Commission has determined that Mark I BWR plants need not rely upon purge/repressurization systems as the primary means of hydrogen control as long as certain technical criteria are satisfied. The following paragraphs provide the information needed to conclude that the Dresden and Quad Cities Stations are in compliance with these technical criteria.

Technical Criteria #1:

The technical specifications (limiting conditions for operation) should require that the drywell oxygen concentration be maintained below 4% by volume.

Compliance:

The Dresden and Quad Cities Units are normally operated with the drywell oxygen concentration well below 4% by volume.

Dresden Technical Specification 3.7.A.5.a requires the drywell oxygen concentration to be maintained below 4% by volume.

Per Reference (c), Commonwealth Edison submitted a Technical Specification change for Quad Cities Units 1 and 2 which requires the drywell oxygen concentration to be maintained below 4% by volume.

Technical Criteria #2:

Provide information that shows that the Stations have only nitrogen or recycled containment atmosphere for use in all pneumatic control systems within containment.

Compliance:

A review of the pneumatic control systems within containment has shown that only nitrogen or recycled containment atmosphere is used in these systems during power operations.

Technical Criteria #3:

Provide information that shows that there are no potential sources of oxygen in containment other than that resulting from radiolysis of the reactor coolant. Consideration of potential sources of inleakage of air and oxygen into containment should include consideration of not only normal plant operating conditions but also postulated loss-of-coolant accident conditions. These potential sources of inleakage should include instrument air systems, service air systems, MSIV leakage control systems, purge lines, penetrations pressurized with air and inflatable door seals.

Compliance:

The containment and containment nitrogen inerting systems are designed to eliminate the potential sources of oxygen in containment during normal operations and during a postulated Loss-of-Coolant Accident.

Specific systems are addressed as follows:

- a. Instrument Air System - The containment instrument air system uses inerted atmosphere or nitrogen during power operations.
- b. Service Air Systems - The Service Air Systems are valved out during power operations.
- c. MSIV Leakage Control Systems - The Dresden and Quad Cities Stations do not have air assisted leakage control systems.
- d. Purge Lines - During normal operating conditions the containment is maintained at 1 psi above atmospheric pressure. Every refueling outage, the containment boundary valves are tested in accordance with Appendix J.
- e. Penetrations Pressurized with Air - The Dresden and Quad Cities Stations have no penetrations that are pressurized with air.
- f. Inflatable Door Seals - The Dresden and Quad Cities Stations have no inflatable door seals.

The results of the analysis found in the G.E. NEDO-22155 study show that an ACAD system is not required. In the event of a postulated Loss-of-Coolant Accident, the ACAD system would further pressurize the drywell, and without controlled venting, would not effectively control combustible gases.

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. Therefore, as was requested previously in Reference (b), we again request to be released from all previous commitments we made concerning NUREG-0737, Item II.E.4.1.

H. R. Denton

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If you have any further questions concerning this information, please contact this office.

One signed original and sixty (60) copies of this letter are provided for your use.

Very truly yours,



B. Rybak
Nuclear Licensing Administrator

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cc: R. Bevan - NRR
R. Gilbert - NRR
NRC Resident Inspector - Dresden
NRC Resident Inspector - Quad Cities

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