



Commonwealth Edison
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Chicago, Illinois 60690

November 1, 1985

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

Subject: Dresden Station Unit 2
Liquid Hydrogen Storage System
NRC Docket NO. 50-237

Dear Mr. Denton:

The purpose of this letter is to provide supporting information regarding our Liquid Hydrogen Storage System to be used in conjunction with our Dresden Unit 2 Hydrogen Water Chemistry Program. Commonwealth Edison has determined that the modification to incorporate this system meets the criteria of 10 CFR 50.59. During previous meetings and discussions with your staff, questions were raised regarding our basis for this determination. Two reports are enclosed with this transmittal, the context of which is largely based on those questions. These reports are provided as further bases for our determination that the modification can be performed under 10 CFR 50.59.

The enclosed report, entitled "Safety Analysis for the Liquid Hydrogen Storage System," describes how hydrogen behaves and translates this behavior into design criteria. The report then describes possible event scenarios--both man-made and natural, as well as both on-site and off-site that could possibly damage the hydrogen storage system. Analyses and evaluations are provided to demonstrate that these events will not compromise the ability of safety-related structures to perform their design function.

A second report, entitled "Liquid Hydrogen Storage System - Hazardous Consequence Analysis", is also enclosed and provides generic analyses of releases from the liquid hydrogen storage system as well as the consequences of those releases.

The information in these reports supports our conclusion that a failure of the liquid hydrogen storage system will not threaten safety-related structures.

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One signed original and five copies of this letter and the enclosures are provided for your use.

If you should have any questions regarding this transmittal, please contact this office.

Sincerely,



J. R. Wojnarowski
Nuclear Licensing Administrator

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Enclosures

cc: J. Zwolinski - NRR
R. Gilbert - NRR
E. Sullivan - NRR
NRC Resident Inspector - Dresden

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