



Commonwealth Edison

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August 2, 1985

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

Subject: Zion Nuclear Power Station Units 1 and 2
Proposed Amendment to Facility Operating
License Nos. DPR-39 and DPR-48
NRC Docket Nos. 50-295 and 50-304

References (a): July 12, 1985 letter from P. C. LeBlond
to H. R. Denton.

(b): July 26, 1985 letter from P. C. LeBlond
to H. R. Denton.

Dear Mr. Denton:

The referenced letters transmitted a proposed amendment to Facility Operating License Nos. DPR-39 and DPR-48, Appendix A, Section 5.0 - Design Features. This change will raise the enrichment limits to approximately 3.7 w/o for the Spent Fuel Pool and 4.0 w/o for the New Fuel Vault.

Mr. J. A. Norris of your office has requested a revised demonstration of no significant hazards consideration that more directly addresses the three criteria contained in 10 CFR 50.92. This revised analysis is enclosed with this letter. Please replace Attachment 3 of reference (a) with the attached document.

As required by 10 CFR 50.91, the State of Illinois is being notified of this amendment by transmittal of a copy of this letter and the attachment.

Three signed original and thirty-seven (37) copies of this letter and its attachments are hereby provided for your review.

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H. R. Denton

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August 2, 1985

If there are any further questions regarding this matter, please contact this office.

Very truly yours,

Peter LeBlond

P. C. LeBlond
Nuclear Licensing Administrator

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Attachment

cc: NRC Resident Inspector - Zion
J. Norris - NRR
G. Wright - State of Ill.

SUBSCRIBED AND SWORN to
before me this 2nd day
of August, 1985

John A. Mayo
Notary Public

0439K

ATTACHMENT

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

PROPOSED CHANGES TO ZION TECHNICAL SPECIFICATIONS APPENDIX A - SECTION 5.0 DESIGN FEATURES

DESCRIPTION OF AMENDMENT REQUEST

An amendment to the Zion Facility Operating License is proposed to allow the storage of 4.0 w/o U-235 fuel in the New Fuel Vault and 3.7 w/o fuel in Zion's Spent Fuel Pool

BACKGROUND

10 CFR 50.92 states that a proposed amendment will involve a no significant hazards consideration if the proposed amendment does not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety.

In addition, the Commission has provided guidance in the practical application of these criteria by publishing eight examples in 48 FR 14870.

The discussion below addresses each of these three criteria and demonstrates that the proposed amendment involves a no significant hazards consideration.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Does the proposed amendment

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety?

DISCUSSION - ITEM 1

The storage of 3.7 w/o fuel in the Spent Fuel Pool and 4.0 w/o fuel in the New Fuel Vault could only affect the fuel handling accidents. The enrichment increase will not significantly affect the potential consequences of a fuel drop accident, since the isotopic content of a discharged assembly is relatively insensitive to the assembly's initial enrichment.

The probability of a fuel handling accident is similarly unaffected by the enrichment increase. There are no structural changes involved that could affect the handling characteristics of Zion's fuel.

DISCUSSION - ITEM 2

The enrichment increase does not create the possibility for any new or different type of accident. All other acceptance criteria and operating parameters (DNBR, FQ , etc.) will remain unchanged.

DISCUSSION - ITEM 3

While the storage of fuel with increased enrichment will potentially bring the Spent Fuel Pool and the New Fuel Vault somewhat closer to criticality than was previously possible, this safety margin reduction is not significant.

Attachments 2 and 4 demonstrate that the results of the proposed change are clearly within all acceptable criteria. Specifically, the reactivity acceptance criteria of the Standard Review Plan, Section 9.1.1 and 9.1.2, have been satisfied.

Note that the proposed amendment meets and exceeds the example (vi) of the Commission guidance provided by 48 FR 14870.

- (vi) A change which either may result in some increase to the probability or consequences of a previously-analyzed accident or may reduce in some way a safety margin, but where the results of the change are clearly within all acceptable criteria with respect to the system or component specified in the Standard Review Plan: for example, a change resulting from the application of a small refinement of a previously used calculational model or design method.

Therefore, since the application for amendment satisfies the criteria specified in 10 CFR 50.92 and is similar to examples for which no significant hazards consideration exists, Commonwealth Edison Company has made a determination that the application involves no significant hazards consideration.