Commonwealth Edison Company
1400 Opus Place
Downers Grove, IL 60515-5701

June 9, 1997

ComEd

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

SUBJECT: Application for Amendment to Facility Operating Licenses

Byron Station Units 1 and 2
Facility Operating Licenses NPF-37 and NPF-66
NRC Docket Nos. 50-454 and 50-455

Braidwood Station Units 1 and 2
Facility Operating Licenses NPF-72 and NPF-77
NRC Docket Nos. 50-456 and 50-457

Waste Gas Decay Tank Rupture Accident Dose

Pursuant to 10 CFR 50.90, Commonwealth Edison (ComEd) proposes to amend Facility Operating Licenses NPF-37, 66, 72, and 77 to reflect the latest revision of the waste gas decay tank rupture accident dose calculation. During preparation of the resulting UFSAR change, an unreviewed safety question was identified. In accordance with the provisions in 10 CFR 50.59(a)(2)(iii), this change requires NRC staff review and approval per the provisions of 10 CFR 50.90 because the consequences of an accident previously evaluated in the safety analysis are increased.

The following Attachments have been developed in support of this proposed change:

Attachment A Description and Safety Analysis
Attachment B Marked Up Copy of Proposed UFSAR Change
Attachment C Evaluation of Significant Hazards Considerations
Attachment D Environmental Assessment Statement

A001

This proposed changes have been reviewed and approved by ComEd Onsite and Offsite Review in accordance with ComEd procedures. ComEd has reviewed the proposed changes in accordance with 10 CFR 50.92(c) and has determined that no significant hazards considerations exists.

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To the best of my knowledge and belief, the statements contained above are true and correct.

ComEd is notifying the State of Illinois of this application for amendment by transmitting a copy of this letter and its attachments to the designated state official.

Please address any comments or questions regarding this matter to Marcia Lesniak, Nuclear Licensing Administrator, at (630) 663-6484.

Sincerely,

John B Hosmer

John B. Hosmer
Engineering Vice President

OFFICIAL SEAL
JACQUELINE T EVANS
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES: 12/16/97

Signed before me on this 9th day of June, 1997 by

Jacqueline T. Evans
Notary Public

Attachments

cc: A.B. Beach, Regional Administrator -RIII
G.F. Dick, Byron/Braidwood Project Manager - NRR
S.D. Burgess, Senior Resident Inspector - Byron
C. Phillips, Senior Resident Inspector - Braidwood
Office of Nuclear Facility Safety - IDNS

ATTACHMENT A

DESCRIPTION AND SAFETY ANALYSIS FOR PROPOSED CHANGES TO THE BYRON/BRAIDWOOD UFSAR

A. DESCRIPTION OF PROPOSED CHANGES

ComEd proposes to change realistic dose values for the process gas system rupture in Section 15.0 of the Byron/Braidwood (B/B) Updated Final Safety Analysis Report (UFSAR). During preparation of a UFSAR change package, it was discovered that the Final Safety Analysis Report (FSAR) had not been updated to correct an error from the previous revision of the dose calculation. Since the correct dose value is greater than that previously reported, the consequences of the accident had increased, and an unreviewed safety question resulted. The proposed changes are described in detail below. The marked up UFSAR pages are provided in Attachment B.

B. DESCRIPTION AND BASIS OF THE CURRENT REQUIREMENT

The UFSAR includes specific dose values for each postulated accident in Table 15.0-11 for Byron and Table 15.0-12 for Braidwood. For the process gas system rupture, the realistic whole body dose is 6.52E-03 rem at the exclusion area boundary (EAB) and 1.50E-04 rem at the low population zone (LPZ) at Byron. For Braidwood, these values are 7.11E-03 rem at the EAB and 6.62E-04 rem at the LPZ. These values were determined in calculation B5-GW-01, Revision 0, which was approved on January 26, 1978 and included in the FSAR. The values were carried over into the UFSAR and have not been changed.

The methodology for the calculation is detailed in FSAR/UFSAR Appendix 15A, "Dose Models Used to Evaluate the Environmental Consequences of Accidents." The methodology is identical to that of Regulatory Guide 1.4, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for the Pressurized Water Reactor," Revision 2. The radiological source terms for the calculation are those provided in FSAR/UFSAR Table 15.7-2. These values were combined with atmospheric dispersion factors (χ/Q) and nuclear data in the calculation to determine the offsite doses at the EAB and LPZ.

C. NEED FOR REVISION

A note in a later revision of the calculation indicated that realistic dose values should be changed in the FSAR because of assumptions used in the calculation. However, the FSAR changes were not made, and the UFSAR continues to use values from an earlier revision of the dose calculation. A UFSAR change is required to reflect the current calculation.

In accordance with the provisions in 10 CFR 50.59(a)(2)(iii), this change requires NRC staff review and approval per the provisions of 10 CFR 50.90 because the consequences of an accident previously evaluated in the safety analysis result are increased.

D. DESCRIPTION AND BASES OF CHANGES TO B/B UFSAR

ComEd proposes to revise UFSAR Table 15.0-11 for Byron and Table 15.0-12 for Braidwood for the process gas system rupture realistic whole body dose. For Byron, the dose at the EAB is increased from 6.52E-03 rem to 6.53E-03 rem, and the dose at the LPZ is increased from 1.50E-04 rem to 1.51E-04 rem. For Braidwood, the dose at the EAB is increased from 7.11E-03 rem to 7.14E-03 rem, and the dose at the LPZ is increased from 6.62E-04 rem to 6.63E-04 rem. These values were determined in calculation B5-GW-01, Revision 2, which was approved on August 30, 1984.

In Revision 2 of the calculation, the preparer noted that the curies released of Xe-131m was set at 0.0 in the original calculation, when Table 15.7-2, Source Terms, had a values of 2.79E+01 curies (realistic) and 4.69E+02 curies (conservative). The calculation was revised to include the contribution for Xe-131m. All other source terms remained the same, and the same methodology was used.

As a result of using nonzero values, the doses increased slightly over those that had been reported in the FSAR and those that are in the UFSAR. It is unknown why the original calculation used zero values for Xe-131m, or what prompted the calculation revision. There is no impact on the actual source terms or on any of the events of the waste gas decay tank rupture event.

E. IMPACT OF THE PROPOSED CHANGES

The change has no impact on the waste gas decay tank rupture accident as presented in UFSAR Subsection 15.7.1. The resulting dose increases slightly, since nonzero values for Xe-131m were used in the revised calculation. However, the values continue to be less than a small fraction of the 10 CFR 100 limits, i.e., 10 percent or 2.5 rem for whole-body dose. They are also less than the dose limit of 0.5 rem to an individual at the nearest exclusion area boundary as established in Standard Review Plan 11.3, Branch Technical Position ETSB 11-5, "Postulated Radioactive Releases Due to a Waste Gas System Leak or Failure," in NUREG-0800.

F. SCHEDULE REQUIREMENTS

ComEd requests approval in a timely manner so that the UFSAR may be revised to reflect the current dose calculation.