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

November 10, 1981

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
US Nuclear Regulatory Commission
Washington D.C, 20555

Subject: Byron Station, Units 1 and 2
Braidwood Station Units 1 and 2
Auxiliary Feedwater Reliability
NRC Docket Nos. 50-454, 50-455,
50,456 and 50-457

References (a): September 18, 1981 Letter from T. R. Tramm to H.R. Denton

(b): October 27, 1981 Letter from T. R. Tramm to H.R. Denton

(c): October 30, 1981 Letter from D. G. Eisenhut to L.O. DelGeorge

Dear Mr. Denton:

This is to respond to the concerns identified by the NRC in reference (c) regarding the reliability of the Byron/Braidwood Auxiliary Feedwater System (AFWS) reliability and the possible need for a third auxiliary feedwater pump.

Reference (a) transmitted a report of the reliability analysis done for the B/B AFWS. The reliability for the loss of offsite power case in this analysis was not in the 10^{-4} to 10^{-5} range called for in Section 10.4.9 of NUREG 0800, the new version of the Standard Review Plan. That reliability analysis had been performed prior to receipt of the guidance contained in NUREG 0800 and should not be judged in that context.

The guidance contained in SRP Section 10.4.9 calls for the use of NUREG 0611 data and methodology. Although the original analysis used the NUREG-0611 methodology, it incorporated additional assumptions and some data that had not appeared in the NUREG which made the reliability numbers unnecessarily low. The analysis has been revised to follow the methodology and data of NUREG-0611 and the results were reported in reference (b). For the loss of offsite power case the unreliability per demand for the B/B AFWS is approximately 9×10^{-5}. This should be acceptable according to the guidance contained in NUREG 0800.

B001
s
1/0

For your information, the Byron/Braidwood design already includes a third auxiliary feedwater pump: the startup feedwater pump. This is a diverse source of feedwater but is not normally powered from an ESF bus. No credit has been taken for this pump in analyzing system reliability in situations involving loss of offsite power. It does, however, significantly improve reliaibility in the other situations examined in the analysis reported in reference (a).

To summarize, the Byron/Braidwood Auxiliary Feedwater System is designed to be highly reliable. The analytical work reported in references (a) and (b) demonstrates that it will meet the reliability goal established by the NRC. We would be pleased to meet with the NRC Staff to discuss this matter further. In the interim, there appears to be no need to revise the plant design.

One (1) signed original and fifty-nine (59) copies of this letter are provided for your use. Please address further questions regarding this matter to this office.

Very truly yours,

T.R. Tramm

T.R. Tramm
Nuclear Licensing Administrator

0900b