Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690 - 0767

March 4, 1988

Mr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC. 20555

Attn: Document Control Desk

Subject: Braidwood Station Unit 2
Preservice Inspection (PSI) Program
NRC Docket No. 50-457

Reference: (a) February 23, 1988 letter from S.C. Hunsader to T.E. Murley

Dear Mr. Murley:

This is to provide additional information regarding the basis for a relief request from the preservice inspection requirements of ASME Section XI. The relief request, contained in reference (a), pertains to an indication in the Braidwood Unit 2 loop 1 elbow to loop stop valve weld region. This relief request was supported by a fatigue crack growth evaluation documented in an interim report included in reference (a).

At the request of the NRC staff, further explanation for the bases of the fatigue crack growth evaluation of the weld indication in the interim report is provided in the attached addendum. The interim report contains a fatigue crack growth analysis based on the bounding conditions for the reactor coolant piping system. The final report will be submitted with the fatigue crack growth analysis performed at the flaw-specific location and will contain more details on the analytical methodology than provided in the interim report. The final report will be submitted to the NRC within 30 days after issuance of the operating license authorizing full power operation for Braidwood Unit 2.

Please direct any further questions regarding this matter to this office.

Very truly yours,

K. A. Ainger

K. A. Ainger
Nuclear Licensing Administrator

/klj
att.

cc: Braidwood Resident Inspector
NRC Region III Office
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Addendum

Fatigue Evaluation Bases in the Interim Report

The fatigue crack growth evaluation provided in the interim report was for a typical reactor vessel inlet nozzle to pipe weld, instead of the actual location of the indication. This crack growth evaluation includes bounding pipe loadings, residual stresses, and the design thermal transients. The inlet nozzle to pipe weld is the reference fatigue crack growth location for the primary coolant system used in the Primary Loop Leak Before Break evaluations performed for the Braidwood Units. This location will give higher fatigue crack growth than the location of the indication in Braidwood Unit 2, because it is a terminal end, while the actual indication is not located at a terminal end weld.

Final Fatigue Evaluation

The fatigue crack growth evaluation to be performed and submitted in April will use the thermal loadings at the actual location, along with the appropriate piping loads and the residual stress pattern from the technical basis document for IWB 3640 (EPRI-NP-4690-SR).