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Feb. 6, 1985

PDR 22185

Mr. E. P. Igne
Advisory Committee on Reactor Safeguards
Nuclear Regulatory Commission
Washington, D. C. 20555

CT-1795

Subject: Commentary on Braidwood Units 1 & 2 Operating License
review Ref. ACRS 2: BDWD-COM

Dear Mr. Igne:

In response to your request I have reviewed the various documents available to me concerning the Commonwealth Edison (CE) Braidwood Units 1 & 2 Operating License (OL) and offer the following comments.

ENGINEERING AND CONSTRUCTION ADEQUACY

The Braidwood Units, subsequent to the ASLB review of the Byron Station, have been subjected to an extensive reinspection and engineering evaluation program that has covered electrical, ventilation, piping and structural installations. These inspections have uncovered a number engineering and construction errors that needed corrected and appropriate action appears to have been taken. Also, some of the supporting QA documentation was found to be incomplete. For the most part, these are minor deficiencies that would not have a significant effect on the safety of the installation. Some details may still have been overlooked, but the Braidwood Station has been examined as extensively as any of the other recently licensed nuclear units and the CE corrective program should make it as safe other installations in this regard.

APPLICATION OF LEAK-BEFORE-BREAK CRITERION TO PRIMARY (CLASS I) PIPING

CE is proposing to eliminate, to the extent practical, pipe whip restraints provided to mitigate the effects of a double ended pipe break. The NRC research effort, particularly that work done by Lawrence Livermore Laboratories (LLL) supports this action and I believe it is beneficial to the safety of the plant. It should eliminate concerns for pipe-lockup due to pipe movement interference and should make in-service inspection more accessible.

Because some valves, pumps and pipe fittings are made from statically cast stainless steel there is still some question as to whether fabrication and inspection of this hardware assures the same level of freedom from flaws as that for centrifugally cast straight lengths of piping that make up the bulk of the primary system circuitry. Also, there may still be some unresolved ques-

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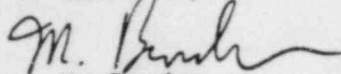
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tions concerning loss of toughness due to aging of static-cast stainless steels. Generally, the experience with all stainless castings in LWR primary circuits has been excellent and there should be no serious concern for double ended breaks in these elements of the system. However, care needs to be taken that pipe movement does not generate unusually high stresses in these portions of the system because of unexpected pipe movement. The hot functional tests should address this question.

ELIMINATION OF PIPE WHIP RESTRAINTS IN CLASS II AND III PIPING

Evidently, the NRC Staff is also planning to allow CE to eliminate intermediate pipe whip restraints in Class II and III piping systems where the stresses are shown to be low. This action seems very appropriate. The materials in question are of high ductility and there is small likelihood that loadings would lead to significant crack extension in this piping, even if flaws existed. Furthermore, most of the piping is a part of redundant circuitry where failure of one portion is tolerable without serious impact on the safety of the nuclear station.

Sincerely:


M. Bender