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DMB

November 2, 1984

Mr. James G. Keppler
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Subject: Braidwood Station Units 1 & 2
10 CFR 50.55(e) 82-10 Interim Report
Structural Steel Installation Records
NRC Docket Nos. 50-456/457

References (a): T. R. Tramm letter to J. G. Keppler dated December 30, 1982

(b): E. D. Swartz letter to J. G. Keppler dated July 1, 1983

(c): E. D. Swartz letter to J. G. Keppler dated May 7, 1984

(d): E. D. Swartz letter to J. G. Keppler dated July 3, 1984

Dear Mr. Keppler:

References (a), (b), (c), and (d) provided information concerning a deficiency reportable pursuant to CFR 50.55(e) regarding structural steel installation inspection records at our Braidwood Station. In Reference (d), we indicated our expectations for completion of the inspection program and issuance of a final report by October 1, 1984. The purpose of this letter is to advise your office that this reinspection work is still in progress, provide an updated status of our activities in this matter, and provide a description of the discrepancies and how they are being processed by Commonwealth Edison Company.

Status of Resolution

All accessible welded and bolted connections which had missing QC inspection records have been either QC inspected and accepted, or have been repaired and QC accepted.

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The review of installation inspection records has identified a total of 2436 inaccessible welded and bolted connections with missing inspection records. A sample of 180 inaccessible bolted and welded connections have been inspected and the inspection reports are still being evaluated by Sargent & Lundy. The types of discrepancies found during the sample inspection program include: (1) AWS weld quality deficiencies such as overlap, undercut, included slag, fit-up gaps, undersize welds; (2) incomplete welds; (3) bolting deficiencies such as bolt locations in the slots and width of slots; (4) member and connection angle size changes; and (5) expansion anchor embedment lengths.

While performing the sample inspections, it was also noted that some shop welds on the blockwall columns had some of the same types of weld discrepancies. With respect to shop welds, we plan to conduct the necessary inspections, perform an engineering evaluation to determine the significance of the discrepancies, and perform any necessary repairs dependent on the engineering review results.

Sargent & Lundy's evaluation of the sample of 180 inspection reports of field installations is continuing. To date, none of the inspected connections have been determined to have discrepancies with design significance (i.e., design margin remains within specified design limits and code allowable stresses). The evaluation for design significance is anticipated to be completed by November 15, 1984. The basis for the loads used in this evaluation at Braidwood has been the Byron final attachment loads. Per our response to NRC I.E. Bulletin 80-11, the final load check is performed for block walls using the final attachment loads. Due to the construction status at Braidwood, the final attachment loads are not yet available.

Corrective Action

Commonwealth Edison Company has decided to repair or upgrade and inspect all inaccessible connections with inadequate records. One of the reasons for this decision is that while the Byron loads were used in the evaluation for design significance, the actual Braidwood loads, when they become available near completion of construction, may in some cases be greater than the Byron loadings. From a construction standpoint, it is more prudent to make modifications now, and upgrade the walls to restore and/or increase design margins, rather than making modifications shortly before fuel load when the actual Braidwood loadings become available.

We also plan to conduct necessary inspections, engineering evaluations and any required repairs of inaccessible and accessible block wall column shop welds. Lastly, there are 70 miscellaneous structural members embedded in concrete. These members are currently being evaluated for inclusion in the rework/reinspection program. We will advise you of their disposition in our next status report.

The procedure to perform the inspections, repairs and/or modifications of the field installations without inspection records is expected to be approved by November 19, 1984. Actual physical work will then start and is expected to continue until August 1, 1985. Some of the modifications to restore the design margin of structures with uninspected connections may be made externally to the block wall, if physical restrictions prevent inspecting and/or modifying existing connections. If restrictions also make external modifications difficult to implement, additional engineering analyses will be performed to ensure adequate design margins. In the event that external modifications or engineering analyses are used, the existing uninspected connection will be ignored in the modification design or engineering analyses.

We expect to submit an interim report updating the status of the inspection/rework program by January 15, 1985. If there are questions in this matter, please contact this office.

Very truly yours,

David H. Smith
Nuclear Licensing Administrator

cc: NRC Resident Inspector - Braidwood

Director of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
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