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ESK-96-052

April 5, 1996

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555

Subject: Quad Cities Nuclear Power Station, Units 1 & 2  
Commonwealth Edison (ComEd) Response to NRC Request for Additional  
Information on March 28, 1996, Regarding Unit 2 Corner Room Steel Operability  
Evaluation

NRC Docket Nos. 50-254, and 50-265

- References:
- (A) August 1995 Quad Cities Units 1 and 2 Corner Room Structural Steel operability evaluation, including calculation No. QDC-0020-S-0055.
  - (B) April 1, 1996 letter from E. S. Kraft, Jr. (ComEd) to the USNRC Document Control Desk.
  - (C) ComEd Calculation 9200-E0-S, Pages 89.18-89.33.

During our March 28, 1996 telephone conference call you requested a formal response to the six questions regarding the operability evaluation of the Quad Cities corner room structural steel. Per

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April 5, 1996

Reference (B) we provided a response to five of the six questions. Our response to the final question (Question 5) is provided below:

**Question 5) For the one beam and one connection that have an interaction coefficient that is greater than or equal to 1.10, provide the revised analyses or justification to demonstrate compliance with your stated acceptance criteria.**

**Response 5)**

**1.0 Qualification of Beam 4, Unit 1 Southeast Corner Room**

On page 9 of Reference (A) an interaction coefficient (IC) of 1.137 was identified for beam 4 along with a statement that due to conservatism in the loadings used, the actual beam stresses are within functional limits. The basis for this conclusion was the noted engineering judgment. In order to provide a more quantitative justification that the beam stresses are within the functional limits, a revised analysis was performed to incorporate the loading and modeling refinements that were previously noted as conservatisms. The primary refinement was the incorporation of a support column that is located 8'-5" from the west end of the beam. Note that this beam was installed at the time of the previous operability evaluation, but was conservatively not considered in the previous evaluation. The Reference (C) calculation incorporates the effect of the additional support provided by this column and concludes that the resultant  $IC = 1.08 < 1.10$ .

**2.0 Qualification of Beam 10 Right End Connection, Unit 2 Southeast Corner Room**

On pages 89.13 and 89.13.1 of calculation 9200-00-E0-S an IC of 1.10 was determined for the web bending evaluation based on the judgment that the actual torsional moments resisted by the connection will be small. In order to provide a more quantitative justification that the connection stresses are within the functional limits a revised analysis was performed to incorporate the loading and modeling refinements that were previously noted as conservatisms. The primary refinements were the incorporation of the refined torsional moments that were applied to the structural steel by the pipe supports and a more accurate representation of the effective span of the web. The Reference (C) calculation demonstrates that with the applicable distribution of applied torsional moments that the connection stresses are within the functional limits as the resultant maximum interaction coefficient is  $IC = 1.09 < 1.10$ .

This completes our response to your request for additional information on March 28, 1996.

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To the best of my knowledge and belief, the statements contained in this document are true and correct. In some respects these statements are not based on my personal knowledge, but on information furnished by other Commonwealth Edison employees, contractor employees, and/or consultants. Such information has been reviewed in accordance with company practice, and I believe it to be reliable.

If there are any questions concerning this matter, or need for further clarification, please contact this office.

Sincerely,

A handwritten signature in cursive script, appearing to read "E. S. Kraft, Jr.", written in dark ink.

E. S. Kraft, Jr.

Site Vice President

Quad Cities Nuclear Power Station

cc: H. J. Miller, Regional Administrator - RIII (without attachment)  
R. M. Pulsifer, Project Manager - NRR  
C. G. Miller, Senior Resident Inspector - Quad Cities  
D. C. Tubbs, MidAmerican Energy Company (without attachment)  
R. J. Singer, MidAmerican Energy Company (without attachment)