



Commonwealth Edison

1400 Opus Place  
Downers Grove, Illinois 60515

October 31, 1994

Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Braidwood Nuclear Power Station Unit 1  
Final WCAP for the Model D-4 Steam Generator Tube Support Plate  
Limited Displacement Analyses  
NRC Docket No. STN 50-456

References: See Attachment

Reference a) transmitted Commonwealth Edison Company's (ComEd's) request for an Emergency Technical Specification Amendment to Section 3/4.4.5 for Braidwood Unit 1. The proposed amendment would incorporate a 1.0 volt steam generator (SG) tube support plate (TSP) interim plugging criteria (IPC) for Cycle 5. In Reference a) ComEd committed, in part, to submit a final WCAP report for the Model D-4 Steam Generator Tube Support Plate Limited Displacement Analyses within 2-3 months. ComEd's request for the Emergency Technical Specification Amendment was subsequently granted for a period of 100 calendar days with  $T_{hot}$  greater than 500°F as documented in Reference b).

Reference c) transmitted ComEd's request to remove the operating limit of 100 calendar days with  $T_{hot}$  greater than 500°F imposed by Reference b). In Reference c) ComEd committed to provide data a final WCAP report for the Model D-4 Steam Generator Tube Support Plate Limited Displacement Analyses by the end of August.

In Reference d) the Nuclear Regulatory Commission (NRC) transmitted a Request for Additional Information (RAI) to ComEd, Part 2 of which dealt with the use of the TRANFLO code to calculate hydraulic loads on the TSPs during a limiting event. ComEd's response to the RAI is documented in References e) through i). In Reference f) ComEd revised its commitment to provide a final WCAP report for the Model D-4 Steam Generator Tube Support Plate Limited Displacement Analyses by the end of August due to the expanded scope of analysis required to address the concerns raised in the RAI. ComEd committed to provide the complete results of TRANFLO Test Cases 1 and 2 and Structural Test Cases 1 and 2 documented in a WCAP report to be completed by the end of August. When Reference f) was transmitted from ComEd to the NRC the schedule for completion of TRANFLO Test Cases 3-7 and Structural Test Cases 3-5 had not been

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determined. In Reference j) ComEd committed to provide the final WCAP report for the Model D-4 Steam Generator Tube Support Plate Limited Displacement Analyses by October 31, 1994.

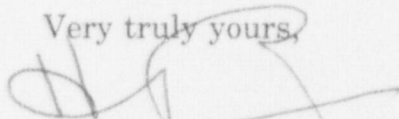
As committed to in Reference f), the final WCAP report for the Model D-4 Steam Generator Tube Support Plate Limited Displacement Analyses will include analyses for reference conditions and sensitivities to potential uncertainties in the TRANFLO analyses. These uncertainty analyses are combined to define a bounding uncertainty factor for the reference analyses. When the bounding loads were applied in the structural analyses with the previously used model, some instabilities in the structural analyses were found, particularly when TSP rotation resulted in preventing further displacement of the plate. The instability problem has been corrected, but with a resulting delay in completion of the analyses and report.

In addition, analyses have been performed with the MULTIFLEX code to assess acoustic effects on the hydraulic TSP loads. These analyses demonstrate no influence of acoustic effects on the TSP loads. While these analyses have not delayed the report, the additional time permits inclusion of additional supporting information from these analyses.

ComEd intends to provide the Staff with the final WCAP report for the Model D-4 Steam Generator Tube Support Plate Limited Displacement Analyses by November 15, 1994. ComEd and the Westinghouse Electric Corporation regret any inconvenience that this delay places upon the Staff.

Please address any questions or comments regarding this submittal to this office.

Very truly yours,



Harold D. Pontious, Jr.  
Nuclear Licensing Administrator

Attachment: References

cc: J. B. Martin, Regional Administrator - Region III  
R. R. Assa, Braidwood Project Manager - NRR  
S. C. DuPont, Senior Resident Inspector - Braidwood  
Office of Nuclear Facility Safety - IDNS

## ATTACHMENT

### References

- a) D. Saccomando letter to W. Russell requesting an Emergency Technical Specification Amendment for Braidwood Unit 1 regarding Interim Plugging Criteria (IPC) dated April 25, 1994
- b) R. Assa letter to D. Farrar transmitting Safety Evaluation for Braidwood Unit 1 IPC dated May 7, 1994
- c) D. Saccomando letter to W. Russell requesting an amendment to Technical Specifications 3/4.4.5 and 3/4.4.8 dated June 20, 1994
- d) R. Assa letter to D. Farrar transmitting a Request for Additional Information (RAI) dated July 7, 1994
- e) D. Saccomando letter to W. Russell transmitting Commonwealth Edison Company's (ComEd's) Response to an Nuclear Regulatory Commission (NRC) Request for Additional Information dated July 13, 1994
- f) J. Bauer letter to W. Russell transmitting ComEd's Response to an NRC Request for Additional Information Part 2.a dated July 14, 1994
- g) J. Bauer letter to W. Russell transmitting a Supplement to ComEd's July 13, 1994 Response to an NRC Request for Additional Information dated July 15, 1994
- h) D. Saccomando letter to W. Russell transmitting a Supplement to ComEd's Response to Parts 2.a and 2.b of an NRC Request for Additional Information dated July 21, 1994
- i) D. Saccomando letter to W. Russell transmitting a Supplement to ComEd's Response to Part 2.a of an NRC Request for Additional Information dated July 26, 1994
- j) T. Simpkin letter to W. Russell transmitting Additional Information in Support of Steam Generator Tube Interim Plugging Criteria dated September 2, 1994