



August 2, 1996

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

Attn: Document Control Desk

Subject: Braidwood Station Unit 1  
NRC Docket Number: 50-456

Operating Interval Between Eddy Current Inspections for  
Circumferential Indications in the Braidwood Unit 1 Steam  
Generators

- Reference: 1. D. Lynch letter to D. Farrar dated May 22, 1996, transmitting Extension of the Operating Interval Between Eddy Current Inspections for Circumferential Indications in the Braidwood Unit 1, Steam Generator Tubes.
2. K. Kaup letter to the Nuclear Regulatory Commission dated February 23, 1996, transmitting Braidwood Unit 1 Cycle Length Assessment Report.

In the Reference letter 1, the Nuclear Regulatory Commission (NRC) accepted the Commonwealth Edison Company's (ComEd) proposal to operate Braidwood Unit 1 to October 15, 1996, prior to initiating a mid-cycle steam generator tube inspection outage. This timeframe was based upon the technical justification that the structural and leakage integrity of the circumferential indications in the Braidwood Unit 1 steam generator tubes can be maintained minimally until mid-October.

Subsequent to this submittal, ComEd performed additional look-backs and analysis of the steam generator tube eddy current data and determined that Byron had demonstrated that there is a substantial margin to safety limits after operation of 448.5 days above 500°F. As previously discussed with the staff, ComEd has been working with EPRI to determine a repair criteria for circumferential indications. This effort has resulted in the attached; an addendum to the "Braidwood Unit 1 Cycle Length Assessment Report" (Reference 2), which contains the following information that has not been previously reviewed by the NRC:

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- Byron Unit 1 and Braidwood Unit 1 eddy current testing data look-back using average voltage in addition to maximum voltage,
- predicted End of Cycle (EOC) distributions following the guidance of NRC GL 95-05,
- industry tube pull, insitu pressure test, and eddy current testing (ECT) data analysis with consistent voltage normalization results in structural and leakage limits, and
- adjustment of Braidwood ECT results to simulate the enhanced ECT used at Byron.

This report provides technical justification for Braidwood Unit 1 to operate full cycle (461 days above 500°F). This conclusion is based upon:

- structural integrity requirements were met for both the vertical maximum and average voltages, and adequate margin will be maintained for the degradation distributions through the end of 461 days of operation, and
- the leak rate analysis submitted in the previous Braidwood Unit 1 Cycle Length Assessment remains bounding, and demonstrates margin to site allowable leakage limits for the combined degradation mechanisms of top of the tube sheet circumferential cracks and TSP.

Braidwood is scheduled for its next refuel outage in March 1997. At that time, ComEd intends to fulfill the conditions as stated in Reference 1. Specifically,

- use an eddy current inspection methodology during the forthcoming Braidwood Unit 1 Spring refueling outage which is equivalent to, or better than that used in the Byron Unit 1 Spring 1996 refueling outage,
- pull and destructively analyze tubes with circumferential indications in the roll transition zone during the Braidwood Unit 1 Spring 1997 refueling outage,
- conduct in-situ pressure tests of selected steam generator tubes in the Braidwood Unit 1 Spring refueling outage, and
- plug or sleeve all steam generator tubes with circumferential indications found in the Braidwood Unit 1 Spring refueling outage.

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ComEd is looking forward to meeting with the NRC on August 15th to further address any questions that you have concerning the attachment. We are asking that the Staff concur with our conclusion that Braidwood 1 can operate for a nominal 461 days above a T-Hot of 500°F prior to the steam generator tube inspection by August 26, 1996. Approval by this date will avoid initiation of mobilization associated with a mid-cycle outage.

If you have any questions concerning this correspondence please contact Denise Saccomando, Senior PWR Licensing Administrator at (708) 663-7283.

Sincerely,



Harold Gene Stanley  
Site Vice President  
Braidwood Station

Attachment

cc:

D. Lynch, Senior Project Manager-NRR  
R. Assa, Braidwood Project Manager-NRR  
C. Phillips, Senior Project Manager-Braidwood  
A. W. Beech, Regional Administrator-RIII  
Office of Nuclear Safety-IDNS