

July 16, 2008

Mr. Charles G. Pardee
Chief Nuclear Officer
and Senior Vice President
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNIT 2 - SUMMARY OF CONFERENCE CALL
REGARDING SPRING 2008 STEAM GENERATOR TUBE INSPECTIONS
(TAC NO. MD8409)

Dear Mr. Pardee:

On April 28 and May 1, 2008, the Nuclear Regulatory Commission (NRC) staff participated in a conference call with Braidwood Station, Unit 2 representatives regarding the ongoing steam generator (SG) tube inspection activities conducted during the spring 2008 refueling outage. The NRC staff follows the results of the industry's SG inspections in order to maintain an awareness of the condition of the SGs and the types of tube degradation mechanisms that are active.

The enclosed summary of the phone call is being provided to Exelon Generation Company, LLC for information. If there are any questions, please contact me at 301-415-1547.

Sincerely,

/RA/

Marshall J. David, Senior Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. STN 50-457

Enclosure:
Conference Call Summary

cc w/encl: See next page

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Braidwood Station, Unit 2

cc:

Corporate Distribution
Exelon Generation Company, LLC
Via e-mail

Braidwood Distribution
Exelon Generation Company, LLC
Via e-mail

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Via e-mail

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U.S. Nuclear Regulatory Commission
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Chairman, Ogle County Board
Via e-mail

SUMMARY OF CONFERENCE CALL WITH

BRAIDWOOD STATION, UNIT 2

REGARDING SPRING 2008 STEAM GENERATOR TUBE INSPECTIONS

On April 28 and May 1, 2008, the Nuclear Regulatory Commission (NRC) staff participated in conference calls with Braidwood Station, Unit 2 representatives regarding their ongoing steam generator (SG) tube inspection activities conducted during the spring 2008 refueling outage (RFO).

Braidwood, Unit 2 has four Westinghouse Model D5 steam generators, each containing 4,570 thermally treated Alloy 600 tubes. The tubes have an outside diameter of 0.750 inches and a nominal wall thickness of 0.043 inches. The tubes were hydraulically expanded at both ends for the full length of the tubesheet and are supported by a number of stainless steel tube supports with quatrefoil-shaped holes. The U-bend region of the tubes in rows 1 through 9 was thermally stress relieved after bending.

Information provided by the licensee during the conference calls is summarized below.

The SGs have been in service for 70.5 effective full power months (EFPM) in their 90 EFPM sequential periods. There is one more scheduled outage in this sequential period. The SGs have operated for a total of 17.1 effective full power years. The hot-leg operating temperature is 611 °F.

There was no primary-to-secondary leakage in the cycle preceding the 2008 inspection.

No secondary side pressure tests were performed.

No exceptions were taken to the industry's SG examination guidelines.

The following primary side inspections were scheduled to be performed:

- 100 percent of tubes were to be inspected with a bobbin probe in all four SGs. At the time of the conference calls, the inspections were approximately 74 percent complete. From the bobbin inspection, six tubes were identified with wear at the anti-vibration bars that exceeded the 40 percent through wall repair criteria. The largest indication was 43 percent through wall.
- 20 percent of tubes that were expanded in the preheater region were inspected with a +Point probe in one SG.
- 25 percent of the U-bends in rows 1 and 2 were inspected with a +Point probe.
- 25 percent of the hot leg dents and dings that were greater than 3 volts were inspected with a +Point probe.
- The plug expansion zone of a tube that was unplugged during the second RFO was inspected with a +Point probe.

Enclosure

- 20 percent of tubes were inspected from 3 inches above the top of the secondary face of the tubesheet to the hot-leg tube end. This included 20 percent of the expansion transitions, tack rolls, bulges/overexpansions, and tube ends in all four SGs.

As a result of finding several indications near the tube end in the initial sample, 100 percent of tubes were inspected in the bottom one inch region of the hot-leg.

- In SG A, 148 indications were identified in 118 tubes and, of these, 16 circumferential indications exceeded the repair criteria (i.e., were greater than 94° in circumferential extent). The largest circumferential indication measured 211° in circumferential extent (peak location was +0.2 inches above the hot-leg tube end).
- In SG B, 25 indications were identified in 25 tubes. There were no circumferential indications that exceeded the repair criteria. There was only one circumferential indication, and it measured 40° in circumferential extent.
- In SG C, 131 indications were identified in 118 tubes, and all the circumferential indications were smaller than or equal to 74° in circumferential extent.
- In SG D, 27 indications were identified in 27 tubes, and none of these were circumferential indications.

Sludge lancing was scheduled to be performed in all four SGs. At the time of the conference calls, sludge lancing was complete in SGs B and C and in-progress in SG A.

Foreign object search and retrieval (FOSAR) was scheduled to be performed in all four SGs. At the time of the conference calls, FOSAR was complete in SGs B and C. In SG B, one wire bristle was retrieved. In SG C, a wire was retrieved. There was no indication of wear on the tubes at the location where this loose part was found. There is an object in SG D that has been there since RFO 6 that is adhered to the tubesheet. This object is monitored every outage. There is no wear associated with this object.

The eddy current inspections performed to date have not revealed any indications of tube wear attributed to loose parts. If such wear was detected, the loose part would be retrieved if possible.

Visual inspections are planned in the preheater region of one SG. This inspection will include the waterbox cap plate. This inspection had not yet been performed at the time of the conference calls. No anomalies have been found in this region in the last two inspections at Braidwood, Unit 2. (Subsequent to the conference calls, the licensee performed an evaluation of the collected inspection data and decided not to perform the visual inspections in the preheater region.)

Visual inspections of the upper SG internals (moisture separators) were scheduled to be performed in all four SGs. The inspections in SG D were complete. The inspection in SG C was ongoing at the time of the conference calls. These inspections revealed minor erosion of the swirl vanes and tangential nozzles in the riser barrel. This erosion is being

monitored and trended. No erosion that warranted immediate attention was identified (i.e., there was no significant erosion).

No indications were detected in the U-bends of the row 1 and 2 tubes inspected at the time of the conference calls.

The inspection of the dents/dings was in progress at the time of the conference calls. Larger voltage dents/dings were included in the sample, but there was no preference to inspecting all dents/dings greater than a specific voltage.

No indications were detected at the plug expansion zone of the tube that was unplugged during the second RFO.

A visual inspection of the plugs did not reveal any anomalous conditions.

The NRC staff did not identify any issues that required follow-up action at this time; however, the NRC staff asked to be notified in the event that any unusual conditions were detected during the remainder of the RFO.