UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 7, 2011

Mr. Larry Meyer
Site Vice President
NextEra Energy Point Beach, LLC
Point Beach Nuclear Plant
6610 Nuclear Road
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNIT 1 – SUMMARY OF CONFERENCE CALL REGARDING STEAM GENERATOR TUBE INSPECTIONS DURING FALL 2011 REFUELING OUTAGE (TAC NO. ME7140)

Dear Mr. Meyer:

By letter dated September 21, 2011 (Agencywide Documents Access and Management System Accession No. ML112620201), the U.S. Nuclear Regulatory Commission staff in the Steam Generator Tube Integrity and Chemical Engineering Branch of the Office of Nuclear Reactor Regulation provided discussion points to facilitate a conference call regarding the steam generator tube inspections during the Fall 2011 refueling outage at the Point Beach Nuclear Plant, Unit 1. On October 24, 2011, a conference call was conducted. Enclosed with this letter is a summary of that call.

If you have any questions regarding this matter, I may be reached at (301) 415-3049.

Sincerely,

Terry A. Beltz, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-266

Enclosure:
As stated

cc w/encl: Distribution via Listserv

SUMMARY OF CONFERENCE CALL

REGARDING THE 2011 STEAM GENERATOR TUBE INSPECTION RESULTS

POINT BEACH NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-266

On October 24, 2011, the U.S. Nuclear Regulatory Commission (NRC) staff of the Steam Generator Tube Integrity and Chemical Engineering Branch in the Division of Engineering participated in a conference call with representatives of NextEra Energy Point Beach, LLC (the licensee) regarding their ongoing steam generator (SG) tube inspection activities at the Point Beach Nuclear Plant (Point Beach) Unit 1.

Point Beach Unit 1 has two Westinghouse 44F SGs, each containing 3214 thermally-treated Alloy 600 tubes. The SGs are designated as SG A and SG B. The SGs were installed in 1984 during refueling outage (RFO) 11. The tubes have a nominal outside diameter of 0.875 inches, a nominal wall thickness of 0.050 inches, and are supported by six stainless steel tube support plates and a baffle plate. The tube support plate holes are quatrefoil shaped. The u-bend region of the tubes in rows 1 through 8 was stress relieved after bending. The tubes are hydraulically expanded for their full depth into the tubesheet.

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

The SGs have been in service for approximately 23.2 effective full power years. The current outage will complete a 60 effective full power month (EFPM) inspection interval for these SGs, and the licensee has met the requirement to inspect 100 percent of the tubes by the end of the 60 EFPM inspection interval. The SG tube inspections were approximately 78 percent complete at the time of the call.

The licensee's degradation assessment, performed prior to the current RFO, indicated that tube wear at the anti-vibration bars (AVBs), at the tube support plates, and near the top of the tubesheet (from a previous sludge lancing operation) were the degradation mechanisms affecting the tubes. In 2008, the following indications of wear in the tubes had been identified: approximately 150 wear indications attributed to the AVBs; four tubes with minor wear from the tube support plates; and 34 tubes in SG A and 1 tube in SG B with mechanical wear indications from prior sludge lancing operations. The last inspection was performed during the fall 2008 RFO. During the 2008 RFO, one tube that was not fully expanded into the tubesheet was plugged and the secondary sides of the SGs were chemically cleaned. Eleven tubes had been plugged in both SGs prior to the start of the 2011 RFO.

During the operating cycle prior to the 2011 RFO, the primary-to-secondary leak rate varied between 0.0 and 0.2 gallons per day. The source of the leak is unknown and is assumed to be from just one SG.

There were no secondary side pressure tests performed or scheduled at the time of the call, and the licensee had taken no exceptions to industry guidelines.

Enclosure

The licensee performed a full length (tube-end to tube-end) bobbin coil inspection of 100 percent of the tubes in rows 3 and higher, in both SGs. For rows 1 and 2, the bobbin inspection was performed on the straight portions of the hot-leg and cold-leg, and a +Point™ probe was used to inspect the u-bend region of 50 percent of the tubes in rows 1 and 2. This 50 percent sample ensured that the u-bend region of 100 percent of the tubes in rows 1 and 2 were inspected during the 60 EFPM inspection period.

A +Point™ coil was used to inspect 50 percent of the peripheral tubes from 3 inches above to 3 inches below the top-of-the-tubesheet (TTS +/- 3 inches) on the hot-leg side in both SGs. This 50 percent sample of tubes ensured 100 percent of the peripheral tubes on the hot-leg side had been inspected during the 60 EFPM inspection period. The +Point™ coil was also used to inspect 50 percent of the tubes from 3 inches above the TTS on the hot-leg side to the tube end (TE) on the hot-leg side in both SGs. There was some overlap between the tubes selected for the hot-leg TTS +/- 3-inch inspections and the tubes selected on the hot-leg side for the inspection from 3 inches above the TTS to the TE. In SG B, the +Point™ coil inspections in the tubesheet region were expanded to ensure 100 percent of the tubes were inspected from 3 inches above the TTS to the TE on the hot-leg side of the SG. This expansion in SG B was performed because of an indication found at a TE. Potential loose part (PLP) indications from prior inspections were also inspected using the +Point™ coil in both SGs. One-hundred percent of the hot-leg freespan dents and dings with bobbin voltage amplitudes greater than or equal to 5 volts were inspected with a rotating probe in both SGs. One-hundred percent of the dents and dings at structures (tube support plates) in the hot-leg, cold-leg, and u-bend with bobbin voltage amplitudes greater than or equal to 2 volts were inspected. A visual inspection of all tube plugs was also performed.

Wearing of the tubes at the AVBs was the dominant degradation mechanism identified in the Point Beach Unit 1 SGs during this outage, with 67 tubes with indications in SG A and 51 tubes with indications in SG B. The deepest wear indication found was 37 percent through wall (TW). This same indication was 33 percent TW in the 2008 inspection. Not many new wear indications were detected in the tubes at the AVBs in the 2011 outage and there was no substantial growth of previously identified wear indications in the tubes at the AVBs.

One circumferential indication was found at the TE of a row 1 tube in SG B. The indication was about 40 degrees in circumferential extent and measured 2.46 volts peak-to-peak on the 300 kHz [kilohertz] +Point™ channel. It was not clear whether the indication initiated on the inside or outside diameter of the tube, but due to being constrained in the tubesheet, it seemed likely to the analyst that it was an inside diameter initiated indication. The indication appeared to be deep but the signal was complex because it was near the TE. This TE had never been inspected with a rotating probe. In the industry, there appears to be a bias towards TE indications in row 1 tubes.

There were 11 PLP indications found near the TTS in the hot-leg of SG A and 3 PLP indications found near the TTS in the hot-leg of SG B. There was no wear associated with these PLPs. The locations where these PLPs were identified will be visually inspected later in the outage.

The licensee was planning to plug the tube in row 1 of SG B having the circumferential crack indication. The licensee stated that they plug all tubes with crack-like indications upon detection

and they plug tubes with wear indications that have depths greater than or equal to 40 percent TW.

The licensee had no plans for in-situ pressure testing or for removing tubes for destructive examination during the outage.

Visual examinations from the secondary side of the SGs are used in conjunction with eddy current testing of the tube to identify loose parts in the SGs. The secondary side visual examination of the SGs had not commenced at the time of the call and was scheduled for November 3 – 5, 2011. At the time of the call, no tube damage from loose parts had been detected.

The licensee was also planning to perform sludge lancing in both SGs.

The licensee was planning on inspecting the upper steam drum, the feed ring, and the J-nozzles of both SGs, but had not commenced these inspections at the time of the call.

The licensee expected to complete the eddy current inspections on October 27, 2011. At the time of the call, nothing unusual or unexpected had been identified during the inspection.

The NRC staff requested that the licensee contact them if there were any unusual findings in the remainder of the outage, or if the licensee decided to perform any in-situ pressure testing.

December 7, 2011

Mr. Larry Meyer
Site Vice President
NextEra Energy Point Beach, LLC
Point Beach Nuclear Plant
6610 Nuclear Road
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNIT 1 – SUMMARY OF CONFERENCE CALL REGARDING STEAM GENERATOR TUBE INSPECTIONS DURING FALL 2011 REFUELING OUTAGE (TAC NO. ME7140)

Dear Mr. Meyer:

By letter dated September 21, 2011 (Agencywide Documents Access and Management System Accession No. ML112620201), the U.S. Nuclear Regulatory Commission staff in the Steam Generator Tube Integrity and Chemical Engineering Branch of the Office of Nuclear Reactor Regulation provided discussion points to facilitate a conference call regarding the steam generator tube inspections during the Fall 2011 refueling outage at the Point Beach Nuclear Plant, Unit 1. On October 24, 2011, a conference call was conducted. Enclosed with this letter is a summary of that call.

If you have any questions regarding this matter, I may be reached at (301) 415-3049.

Sincerely,

/RA/

Terry A. Beltz, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-266

Enclosure:
As stated

cc w/encl: Distribution via Listserv

DISTRIBUTION:

Public	RidsOgcRp Resource	VCusumano, NRR
LPL3-1 R/F	RidsRgn3MailCenter Resource	KKarwoski, NRR
RidsNrrDorlLpl3-1 Resource	RidsAcrsAcnw_MailCTR Resource	AJohnson, NRR
RidsNrrLABTully Resource	RidsNrrDeEsgb Resource	
RidsNrrPMPointBeach Resource		

Accession No.: ML113270240 * via memorandum (ML113270156)

OFFICE	NRR/LPL3-1/PM	NRR/LPL3-1/LA	NRR/DE/ESGB/BC(A)	NRR/LPL3-1/BC(A)	NRR/LPL3-1/PM
NAME	TBeltz	BTully	VCusumano *	SWilliams	TBeltz
DATE	11/28/11	11/28/11	11/18/11	12/06/11	12/07/11

OFFICIAL RECORD COPY