March 7, 2008

Mr. Gene F. St. Pierre, Site Vice President c/o James M. Peschel Seabrook Station FPL Energy Seabrook, LLC P.O. Box 300 Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT NO. 1 – SUMMARY OF CONFERENCE CALL AND REQUEST FOR ADDITIONAL INFORMATION REGARDING THE FALL 2006 STEAM GENERATOR INSPECTIONS (TAC NO. MD2791)

Dear Mr. St. Pierre:

By letters dated October 26, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML063040324), and May 23, 2007 (ADAMS Accession No. ML071510197), FPL Energy Seabrook, LLC (FPLE) submitted information summarizing the results of the steam generator (SG) tube inspection activities at Seabrook Station, Unit No. 1 (Seabrook) during the eleventh refueling outage, which took place in October 2006. In addition, on October 17, 2006, FPLE staff participated in a conference call with the Nuclear Regulatory Commission (NRC) staff regarding the stats of the ongoing SG tube inspection activities. A summary of this teleconference is provided in Enclosure 1 to this letter.

The NRC staff has reviewed the information provided and requests that additional information be submitted for the staff to complete its review. The requested information is identified in Enclosure 2 to this letter.

Sincerely,

/**ra**/

G. Edward Miller, Project Manager Plant Licensing Branch I-2 Division of Operating Reactor Licensing Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosure:

- 1. Teleconference Summary
- 2. Request for Additional Information

cc w/encls: See next page

March 7, 2008 Mr. Gene F. St. Pierre, Site Vice President c/o James M. Peschel Seabrook Station FPL Energy Seabrook, LLC P.O. Box 300 Seabrook, NH 03874

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SUMMARY OF OCTOBER 17, 2006, TELECONFERENCE

RELATED TO STEAM GENERATOR INSPECTIONS

PERFORMED DURING THE ELEVENTH REFUELING OUTAGE

FPL ENERGY SEABROOK, LLC

SEABROOK STATION, UNIT NO. 1

DOCKET NO. 50-443

On October 17, 2006, FPL Energy Seabrook, LLC (FPLE) staff participated in a conference call with the Nuclear Regulatory Commission (NRC) staff regarding the, at the time, ongoing steam generator (SG) tube inspection activities at Seabrook Station, Unit No. 1 (Seabrook) during the eleventh refueling outage (OR11).

During this call, FPLE reported that there was no primary to secondary leakage during the previous operating cycle and that there would be no secondary-side pressure tests performed during OR11. FPLE reported that one exception was taken to the Electric Power Research Institute (EPRI) Pressurized Water Reactor SG Examination Guidelines, Revision 6. It is important to note that the guidelines do not constitute NRC requirements, but are documented here for completeness.

The exception taken was that examination of SG tubing was not performed fully, in accordance with EPRI SG Examination Guidelines, Section 3.3.10. Section 3.3.10 states, in part, that if an active damage mechanism associated with cracking is present and a critical area cannot be defined, all tubing, full length, shall be examined. Additionally, the area must be inspected every fuel cycle. FPLE indicated that the cracking reported during previous outages was repaired and that they have not found any signs of further cracking. Based on its root cause assessment, FPLE believes that all tubes potentially susceptible to the previously observed cracking mechanism have been plugged. Therefore, FPLE will return to the normal schedule of examining the SG every other refueling outage (RFO) as opposed to every RFO.

This exception was consistent with the requirements contained in a proposed Technical Specification (TS) change that was under NRC staff review at the time of the inspection. This amendment to the TSs was approved on March 28, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML070510629).

The Seabrook inspection scope consisted of the following:

- 100 percent of the inservice tubes were inspected full length with a bobbin coil;
- 30 percent of the Row 1 and 2 tubes were inspected in the U-bend region with a rotating probe;
- 30 percent of the tubes were inspected using a rotating probe from 3-inches above to 3-inches below the top of the hot-leg tube-sheet;
- 30 percent of the dents and dings greater than 5 volts were inspected using a rotating probe;

- 50 percent of the bulges and over-expansions in the top 17-inches of the tube-sheet on the hot-leg side of the SG were inspected using a rotating probe;
- 100 percent of the I-codes were inspected using a rotating probe;
- Tubes immediately surrounding tubes with possible loose part (PLP) indications were inspected;
- Visual inspections were performed on all mechanical weld plugs;
- Visual inspections were performed to confirm loose parts; and
- Foreign object search and retrieval was performed in the tube bundle to shell annulus and the open tube lane.

At the time of the call, SGs C and D were reported to have three anti-vibration bar wear indications exceeding the plugging limit of 40 percent through-wall. FPLE indicated that these wear indications were 41 to 44 percent through-wall, and that these tubes would be plugged. Additionally, no indications were identified at the top or in the tube-sheet.

At the time of the call, FPLE stated that there were no plans for in-situ pressure testing or for tube pulls.

With regard to loose parts, FPLE reported the following:

- In SG A, a 0.25 inch by 0.12 inch hard piece of socket screw was found and removed;
- A twisted piece of wire and a thin piece of metal were found and removed from SG B;
- In SG C, a dumbbell-shaped foreign object was located between two tubes. The object was reported to have been present since the first RFO, and is bounded by plugged tubes; and
- No loose parts were found in SG D.

At the time of the call, FPLE reported two distorted support indications (DSIs) above the baffle plate using the bobbin probe. The DSIs were further inspected using a +Point[™] probe and were discovered to be two PLPs with some apparent wall loss. As a result of the two PLPs, additional inspections of neighboring tubes were performed at the same axial elevation where the original PLPs were identified. These additional inspections resulted in identifying five additional PLPs. FPLE plugged a 16 tube zone bounding the location of the 7 PLPs. No indications were present at these locations during the previous outage. FPLE reported that it is difficult to perform a visual inspection of the location where the 7 PLPs were found.

While inspecting SG D, FPLE identified a DSI with a bobbin probe just below a support plate on the cold-leg side. The DSI was further inspected using a +PointTM coil. The +PointTM inspection of the location revealed a volumetric indication of 40 percent through-wall loss. FPLE stated that this tube would be plugged. In addition, inspections of the adjacent tubes using a +PointTM coil were performed yielding no indications, including no indications of loose parts.

REQUEST FOR ADDITIONAL INFORMATION

RELATED TO STEAM GENERATOR INSPECTIONS

PERFORMED DURING THE ELEVENTH REFUELING OUTAGE

FPL ENERGY SEABROOK, LLC

SEABROOK STATION, UNIT NO. 1

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- 1. For each refueling outage or SG inspection outage, since the beginning of the second inspection interval, please provide the cumulative effective full power months (or years) of operation that the SGs had accumulated at the time of the outage.
- In the May 23, 2007, letter, Table 1 identifies SG B, tube R27C97 (Row 27, Column 97) as having been plugged in OR11 due to potentially elevated residual stress. In previous letters dated October 12, 2004 (ADAMS Accession No. ML042940501), and October 26, 2006, you indicated SG B, tube R29C97 as having potentially elevated residual stress that would result in plugging in OR11. Please clarify which tube was plugged and which tube had the elevated residual stress.
- 3. Please provide the scope and results of any secondary side inspections (including foreign object search and retrieval) performed during OR11.
- 4. With respect to the inspections performed in the u-bend region of the tubes in rows one and two, and at dings and dents whose voltage exceeds five volts, please discuss whether 50 percent of these locations have been inspected since the start of the 90 effective full power month period.
- 5. Regarding the tubes in SG C with foreign object wear and the surrounding tubes, please identify those which were plugged and also stabilized. If plugged and not stabilized, discuss how the condition of these tubes will be monitored or why no monitoring is necessary.
- 6. The May 23, 2007, submittal does not appear to provide the location and percentage of wall thickness for all indications of an imperfection. Specifically, it appears that this information is not provided for wear at the anti-vibration bars and wear at the flow distribution baffle (FDB). Please provide this information for all imperfections.

- 7. You indicated that two tubes in SG C with possible loose part (PLP) signals could not be accessed for removal of the foreign object. Since both of these tubes are in the periphery of the tube bundle, please discuss the location of the indications and the challenges in removing any PLPs at these locations.
- 8. Please discuss how pressure pulse cleaning caused indications at the FDB. In addition, discuss the purpose of the pressure pulse cleaning.