

REQUEST FOR ADDITIONAL INFORMATION
2009 STEAM GENERATOR TUBE INSPECTIONS
ST. LUCIE UNIT 2
DOCKET NUMBER 50-389

By letter dated November 9, 2009 (Accession Number ML093230226) Florida Power & Light Company (the licensee) submitted information summarizing the results of the 2009 steam generator (SG) tube inspections at St. Lucie Unit 2. These inspections were performed during the eighteenth refueling outage (SL2-18).

In order for the NRC staff to complete its review of the document listed above, please provide the following additional information:

1. General information concerning the design of your replacement SGs was provided in the submittal. In order for the staff to better understand the design of your replacement SGs, please provide the following information:
 - a. A tubesheet map depicting the row and column numbers,
 - b. Tube material and manufacturer,
 - c. Outside diameter and wall thickness of the tubes,
 - d. Number of tubes in each SG,
 - e. Tube pitch (e.g., triangular, 1.00-inch center-to-center),
 - f. Expansion method and extent (e.g., hydraulic expansion for the full length of the tubesheet),
 - g. Tube support plate material and design,
 - h. Flow distribution baffle design, if applicable,
 - i. Whether tubes were stress relieved after bending, and if so, the rows that were stress relieved,
 - j. The smallest U-bend radius, and
 - k. Heat transfer surface area.
2. One tube was inspected with a rotating probe due to a tubesheet drill hole anomaly and another tube was inspected for a "tube shaving signal." Please briefly discuss the nature of the anomaly and the "shaving signal."

3. Please confirm that no tubes were plugged prior to placing the steam generators in service (i.e., pre-operational plugging at the factory and/or on site).
4. It appears that not all wear scars were inspected with a rotating probe. Given that the nature of wear indications may differ from support to support (single sided versus double sided; tapered versus uniform), how was it ensured that an appropriate sizing technique was used? In addition, please discuss how it was confirmed that the indications were associated with the support (i.e., facing the support and not the result of some other degradation mechanisms such as wear from a loose part). For tubes sized with a rotating probe and a bobbin coil probe, what is the official size estimate (e.g., the most conservative)?

It appears that approximately 2000 tubes have wear indications at the anti-vibration bars. Discuss the extent to which this is consistent with the operating experience of similarly designed steam generators.