

Mr. J. H. Goldberg President - Nuclear Division Florida Power and Light Company Post Office Box 14000 Juno Beach, Florida 33408-0420

SUBJECT: ST. LUCIE 1 AND 2 - GL 95-03 - REQUEST FOR ADDITIONAL INFORMATION

Dear Mr. Goldberg:

On April 28, 1995, the U.S. Nuclear Regulatory Commission issued Generic Letter (GL) 95-03 "Circumferential Cracking of Steam Generator Tubes" which requested addressees to evaluate recent operating experience related to circumferential cracking, to justify continued operation until the next scheduled steam generator tube inspections, and to develop plans for the next steam generator tube inspections. The staff has reviewed the response provided by Florida Power & Light Company for St. Lucie 1 and 2. As a result of the review of your response, the staff has identified areas for which additional information and/or clarification is needed. The enclosure to this letter contains the information needed for the staff to complete its review of your response to GL 95-03.

Please provide your responses within 90 days from the date of receipt of this request.

This request is within the original reporting burden for information collection of 350 hours covered by the Office of Management and Budget clearance number 3150-0011, which expires July 31, 1997.

Sincerely,

(Original Signed By)

Jan A. Norris, Sr. Project Manager Project Directorate II-1 Division of Reactor Projects - I/II Office of Nuclear Reactor Regulation

Docket Nos. 50-335 and 50-389			Distribution DOCKet_Filler DVerrelli, RII		
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Mr. J. H. Goldberg Florida Power and Light Company

cc: Jack Shreve, Public Counsel Office of the Public Counsel c/o The Florida Legislature 111 West Madison Avenue, Room 812 Tallahassee, Florida 32399-1400

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- 1. The following areas have been identified as being susceptible to circumferential cracking:
  - a. Expansion transition circumferential cracking
  - b. Small radius U-bend circumferential cracking
  - c. Dented location (including dented TSP) circumferential cracking
  - d. Sleeve joint circumferential cracking

In your response, areas b, c, and d, were not specifically addressed for both units although it was indicated that circumferential cracking has also been observed at tube support plate intersections and in the U-bend of a retired Combustion Engineering steam generator. In addition, recirculating steam generators designed by another vendor have experienced circumferential cracking in the U-bend portion of tubes with small radius U-bends and at dented locations. Please submit the information requested in Generic Letter (GL) 95-03 per the guidance contained in the GL for this area (and any other area susceptible to circumferential cracking). The staff realizes that some of the above areas may not have been addressed since they may not be applicable to your plant; however, the staff requests that you clarify this (e.g., no sleeves are installed; therefore, the plant is not susceptible to sleeve joint circumferential cracking).

- 2. In your response, it was indicated that between 7% and 14% of the total hot leg dented tube support plate intersections were inspected at St. Lucie Unit 1. Discuss the criteria used for determining which dents were examined. If a dent voltage threshold is used for such a determination, provide the calibration procedure used (i.e., 4.0 volts on 4-20% through-wall ASME holes at 550/130 mix).
- 3. In your response you indicated that the circumferential cracks identified at St. Lucie were identified early in their lifetimes and were not of sufficient size to threaten mid-cycle leakage. Please indicate how tubes with circumferential indications were dispositioned during the previous inspection outage. For the tubes identified to have circumferential cracks at St. Lucie 1 and 2 during the prior inspection, provide your assessment of the structural integrity of these tubes (i.e., were they capable of withstanding the pressure loadings of Regulatory Guide 1.121).
- 4. During the Maine Yankee outage in July/August 1994, several weaknesses were identified in their eddy current program as detailed in NRC Information Notice 94-88, "Inservice Inspection Deficiencies Result in Severely Degraded Steam Generator Tubes". In Information Notice 94-88, the staff observed that several circumferential indications could be traced back to earlier inspections when the data was reanalyzed using terrain plots. These terrain plots had not been generated as part of the original field analysis for these tubes. For the rotating pancake coil (RPC) examinations performed at your plant at locations susceptible to circumferential cracking during the previous inspection (i.e.,

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previous inspection per your Generic Letter 95-03 response), discuss the extent to which terrain plots were used to analyze the eddy current data. If terrain plots were not routinely used at locations susceptible to circumferential cracking, discuss whether or not the RPC eddy current data has been reanalyzed using terrain mapping of the data. If terrain plots were not routinely used during the outage and your data has not been reanalyzed with terrain mapping of the data, discuss your basis for not reanalyzing your previous RPC data in light of the findings at Maine Yankee.

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Discuss whether terrain plots will be used to analyze the RPC eddy current data at locations susceptible to circumferential cracking during your next steam generator tube inspection (i.e., the next inspection per your Generic Letter 95-03 response).