February 14, 1997

MEMORANDUM TO: Frederick J. Hebdon, Project Director
Project Directorate II-3
Division of Reactor Projects, I/II

FROM: Barry J. Elliot, Acting Section Chief
Material Integrity Section
Materials and Chemical Engineering Branch
Division of Engineering

SUBJECT: ST. LUCIE UNITS 1 AND 2 : PRESSURIZED THERMAL SHOCK EVALUATION

Plant Name: St. Lucie Units 1 and 2
License: Florida Power and Light Company
TAC Nos.: M95484/M95485
Review Status: Continuing

By letter dated May 14, 1996, the licensee submitted a pressurized thermal shock (PTS) evaluation for St. Lucie Units 1 and 2. A request for additional information (RAI) was issued by the staff on October 15, 1996. The licensee responded to the RAI by letter dated January 14, 1997.

The Materials and Chemical Engineering Branch of the Division of Engineering has reviewed the licensee's response to the RAI, and has developed additional questions needed to complete its assessment. In the Attachment, Request for Additional Information, the staff has listed the outstanding questions.

Docket Nos.: 50-335 and 50-389

Attachment: As stated

cc: L. Wiens
K. Wichman (Acting Branch Chief)

CONTACT: A. Lee, NRR
415-2735

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Attachment

Request for Additional Information

The staff requests additional information for the Florida Power and Light Company pressurized thermal shock (PTS) evaluation.

1) The licensee's response to question 2 of the staff's RAI provided the basis for determining initial RT_{NDT} ($RT_{NDT(U)}$) values for several weld wire heats. The licensee's responses with respect to three of the five heats were acceptable. However, the following information is necessary to complete our evaluation of the remaining two heats:

   a) The limiting weld in the St. Lucie 1 reactor vessel beltline is fabricated from weld wire heat 305424. This heat of weld wire was also used to fabricate the Beaver Valley 1 surveillance weld and welds in the LaSalle 1 reactor vessel beltline. The licensee's response 2 to the RAI indicated that the LaSalle and St. Lucie 1 Charpy data were not used to assess the $RT_{NDT(U)}$ for the St. Lucie 1 vessel. Explain the effect on the value of $RT_{NDT(U)}$ that would result from including the Charpy data from St. Lucie 1 and LaSalle 1. Verify whether the $RT_{NDT(U)}$ value for heat 305424 remains drop weight controlled (i.e. does the lower bound Charpy curve become controlling).

   b) With regard to heat 83642, St. Lucie 2 reported an $RT_{NDT(U)}$ value of -80°F; and Beaver Valley 2 reported a value of -30°F. The response stated that an $RT_{NDT(U)}$ of -80°F would be used for the St. Lucie 2 weld. Provide the basis for selecting the non-conservative value of -80°F. If justification cannot be provided, use a generic value in which plus or minus 2 sigma would bound the St. Lucie 2 and the Beaver Valley 2 data points.

2) The licensee's response to question 3 of the RAI stated that "the fluence at the St. Lucie 1 limiting weld...has been updated". The fluence value was 1.20 E19n/cm^2 in the original submittal. Table 3 of the response to the RAI shows a value of 1.06 E19n/cm^2. Provide supporting documentation that justifies the decrease in the fluence value for St. Lucie 1. This includes an explanation of the analysis that was used to determine the revised fluence.

3) Where applicable, update the RT_{PTS} tables as described in the response to the RAI. Specifically, Tables 1 and 2 from Attachment B pages B-4 and B-51, respectively and Table 3 of Attachment A, page A-13.