

March 4, 1977

Docket No.: 50-261

Carolina Power & Light Company
ATTN: Mr. J. A. Jones
Senior Vice President
336 Fayetteville Street
Raleigh, North Carolina 27602

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Gentlemen:


By letter dated November 4, 1976, you submitted proposed technical specifications for surveillance and plugging of the H. B. Robinson Unit No. 2 steam generator tubes which were in substantial conformance with the model technical specifications transmitted by our letter of September 14, 1976. One major area of difference, however, was your selection of a tube plugging limit of 50% reduction in nominal wall thickness as opposed to the 40% reduction stated in our model technical specifications.

The staff's position in this regard is that a plugging limit other than that specified in the model technical specifications must be fully justified as being suitably conservative. An acceptable method for determining such a limit is provided in Regulatory Guide 1.121, "Bases for Plugging Degraded PWR Steam Generator Tubes".

In your letter of November 4, 1976, you stated that the justification for the 50% plugging limit was provided in your submittal of July 10, 1974. We have reviewed that submittal relative to the criteria contained in Regulatory Guide 1.121 (R.G. 1.121) and have not been able to confirm that your justification provides an equivalent degree of conservatism. Particular problem areas include the following:

1. R.G. 1.121, Section C.2.a(4) states that, "The margin of safety against tube rupture under normal operating conditions should not be less than 3 at any tube location where defects have been detected."

Based on our review of your submittal we have not been able to confirm that this margin of safety has been explicitly demonstrated.



2. Section C.2.a(6) of R.G. 1.121 states that, "The margin of safety against tube failure under postulated accidents, such as a LOCA, steam line break, or feedwater line break concurrent with the SSE, should be consistent with the margin of safety determined by the stress limits specified in NB-3225 of Section III of the ASME Boiler and Pressure Vessel Code."

Again, based on our review of your submittal, we have been unable to confirm that this margin of safety has been explicitly demonstrated for the H. B. Robinson Unit No. 2 steam generators.

3. Section C.2.b of R.G. 1.121 states that, "An additional thickness degradation allowance should be added to the minimum acceptable tube wall thickness to establish the operational tube thickness acceptable for continued service." Your submittal has not specifically identified this allowance. In this regard, the 40% plugging limit given in the model technical specifications includes a 10% allowance for degradation during operation. In other words, the staff accepts 50% as a safe wall thickness for Westinghouse steam generator tubes, but requires an additional 10% as part of the plugging limit to preclude violation of the 50% limit between inspections.
4. In Section V of your submittal you refer to an analysis based on a 3/4 inch O.D. tube with a minimum wall thickness of 0.026 inches, and state that the corresponding value for the 7/8 inch diameter tubing used in the Robinson steam generators is 0.021 inches. No explanation or justification is given for what appears to be a questionable relationship (i.e. a smaller wall thickness is needed for a larger tube diameter).

In view of the above problems, we conclude that your submittal, in its present form, does not adequately justify your proposed plugging limit of 50%. Accordingly, we request you initiate action to resolve this matter. Possible means of resolution include the following:

- a. Your agreement to modify your proposed technical specifications by substituting a plugging limit of 40% in place of the present 50%; or

- b. Provide a supplement to or replacement of your July 10, 1974 submittal which clearly demonstrates that the proposed 50% plugging limit provides a Margin of safety fully equivalent to that provided by the criteria contained in R.G. 1.121; or
- c. Agree to Item a, above, to permit early resolution of this issue, and pursue Item b as an amendment to your technical specifications which may or may not be found acceptable.

It is requested that you advise us of the action you plan to take within 15 days of receipt of this letter. If you plan to pursue option b, above, it is requested that you explicitly address each of the criteria in R.G. 1.121 and that you submit your justification within 45 days of receipt of this letter.

Sincerely,

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

cc: See next page

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Carolina Power & Light Company

cc: G. F. Trowbridge, Esq.
Shaw, Pittman, Potts & Trowbridge
1800 M Street, N. W.
Washington, D. C. 20036

Hartsville Memorial Library
Home and Fifth Avenue
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