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UNITED STATES
NUCLEAR REGULATORY COMMISSION
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NOV 01 1993

MEMORANDUM FOR: Gary M. Holahan, Director
Division of Safety Programs
Office for Analysis and Evaluation of Operational Data

FROM: James T. Wiggins, Acting Director
Division of Engineering
Office of Nuclear Reactor Regulation

SUBJECT: CORE SHROUD CRACKING IN BOILING WATER REACTORS

As a result of in-vessel visual inspections performed during the current refueling outage for the Brunswick Unit 1 reactor, the Carolina Power and Light (CP&L, the licensee) informed the NRC of numerous cracks contained in the Brunswick 1 core shroud. The inspections were performed by the licensee in accordance with the recommendations contained in General Electric (GE) Corporation Rapid Information Communication Services Information Letter (RICSIL) 054, "Core Support Shroud Crack Indications," which was issued as a result of cracking previously discovered in the core shroud of an overseas boiling water reactor (BWR). GE and CP&L have been evaluating the safety significance of the cracking since its discovery at Brunswick Unit 1. In addition, the NRC has performed a preliminary assessment of the safety significance.

The core shroud cracking issue at the Brunswick Unit 1 reactor has attracted the attention of the press, the U.S. Congress, and of several intervenors. We are enclosing a core shroud cracking packet for your information, and to provide a preliminary view as to its safety significance. The packet includes the following items:

- Information Notice 93-79, "Core Shroud Cracking At Beltline Region Welds in Boiling-Water Reactors;"
- GE RICSIL 054, Rev. 1, "Core support shroud crack indications;"
- GE SIL 572, Rev. 0 and Rev. 1 on the Brunswick core shroud cracking;
- Preliminary GE core shroud crack evaluation methods and acceptance criteria;
- Copies of CP&L's Aug. 26, Sept. 23, and Oct. 22, 1993 presentations to the NRC;
- Two fax transmittals from the licensee containing photographs of the crack at the Brunswick Unit 1 H-3 weld;
- BWR Owner's Group proposed action plan for shroud cracking; and
- a report issued by the Division of Systems Safety and Analysis, NRR, titled "Core Shroud Cracking Preliminary Safety Assessment."

As indicated, the safety assessment is both preliminary in nature and for internal use only. Please do not distribute it outside of the NRC.

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Gary M. Holahan

Please feel free to contact any of the Technical Contacts listed in the Information Notice, Donald S. Brinkman, the lead PM on the issue (301-504-1409), or Jack R. Strosnider, Chief, Materials and Chemical Engineering Branch, NRR (301-504-2795), should you have any questions in regard to the issue.

ORIGINAL SIGNED BY:

James T. Wiggins, Acting Director
Division of Engineering
Office of Nuclear Reactor Regulation

Enclosures: As stated

cc: J. E. Rosenthal

cc: w/o encl.:

W. T. Russell
A. C. Thadani
R. C. Jones

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