



James Scarola  
Vice President  
Harris Nuclear Plant

SEP 20 2001

SERIAL: HNP-01-134

United States Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT  
DOCKET NO. 50-400/LICENSE NO. NPF-63  
REQUEST FOR LICENSE AMENDMENT  
TECHNICAL SPECIFICATIONS  
SUPPLEMENTAL INFORMATION

Dear Sir or Madam:

On October 4, 2000, Harris Nuclear Plant (HNP) submitted a proposed license amendment for various Technical Specification (TS) associated with replacement of the HNP steam generators. This amendment was supplemented on March 27, 2001. Additionally, on December 14, 2000, HNP submitted a proposed license amendment that would increase allowed power operation to 2900 megawatts thermal. The enclosed information provides evaluation of stresses during certain transients. HNP is submitting this additional material in order to facilitate NRC review of the proposed amendment.

This supplemental information does not affect the conclusions of either the 10 CFR 50.92 evaluation or the Environmental Considerations submitted as part of HNP's October 4, 2000 or December 14, 2000 letters.

Please refer any questions regarding this submittal to Mr. J. R. Caves at (919) 362-3137.

Sincerely,

P.O. Box 165  
New Hill, NC 27562

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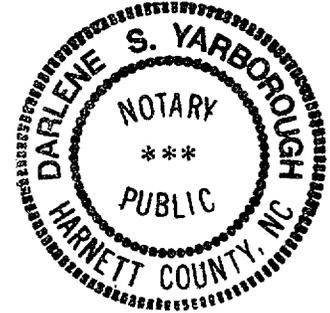
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J. Scarola, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief, and the sources of his information are employees, contractors, and agents of Carolina Power & Light Company.

*Darlene S. Yarborough*

Notary (Seal)

My commission expires: 2-21-2005



MSE/mse

Enclosures:

Supplemental Response – Faulted Thermal Transient Evaluation

- c: Mr. J. B. Brady, NRC Sr. Resident Inspector  
Mr. Mel Fry, Director, NC DEHNR  
Mr. R. J. Laufer, NRC Project Manager  
Mr. L. A. Reyes, NRC Regional Administrator

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SUPPLEMENTAL RESPONSE – FAULTED THERMAL TRANSIENT EVALUATION

Thermal effects for the faulted thermal transients (large bore RCS LOCA, main steam line break, etc.) on the primary side replacement steam generator components have been considered as required by the ASME Code. Faulted secondary stress effects are not required to be considered in the Code stress evaluation, but are required to be investigated for the possibility of brittle fracture. Methods of evaluating non-ductile behavior, outlined in Appendix G of the Code, are based upon linear elastic fracture mechanics of thick sections. These methods are applicable to ferritic materials. Primary side S/G components that use these materials have been evaluated for brittle fracture as required by the Code and do consider thermal analysis results for faulted transients, including large bore RCS LOCA. Results show that except for the primary manway covers, the main steam line break, and not the RCS LOCA transient, is the most limiting faulted transient for non-ductile failure.

Non-ferrous materials such as Inconel and stainless steel normally exhibit ductile behavior even at relatively low operating temperatures. The HNP Delta-75 replacement steam generator tube material is thermally treated Ni-Cr-Fe Alloy 690. Testing indicates that the tube material will not fail in a brittle fashion in the temperature range of concern. Therefore, brittle fracture of the HNP Delta-75 tubes is not a concern and a fracture mechanics evaluation is not required.