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U.S. Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1  
DOCKET NO. 50-400/LICENSE NO. NPF-63  
RESPONSE TO THE REQUEST FOR ADDITIONAL INFORMATION ON THE  
INSERVICE INSPECTION RELIEF REQUEST 1  
PROPOSED ALTERNATIVE TO ASME CODE REQUIREMENTS FOR WELD  
OVERLAY REPAIRS

Ladies and Gentlemen:

On June 28, 2007, the NRC requested additional information to facilitate the review of Harris Nuclear Plant's (HNP) Request (HNP-07-041 dated May 14, 2007) for relief from the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," Article IWA-4000, "Repair/Replacement Activities."

Attachment 1 provides the requested additional information.

This document contains no new regulatory commitment.

Please refer any question regarding this submittal to Mr. Dave Corlett at (919) 362-3137.

Sincerely,

T. J. Natale  
Manager, Site Support Services  
Harris Nuclear Plant

TJN/mse

Progress Energy Carolinas, Inc.  
Harris Nuclear Plant  
P. O. Box 165  
New Hill, NC 27562

A047

NRR

**Attachments:**

1. **Response to the Request for Additional Information on Request for Relief**
- c:
- Mr. P. B. O'Bryan (NRC Senior Resident Inspector, HNP)
  - Ms. B. O. Hall (Section Chief, N.C. DENR)
  - Ms. L. M. Regner (NRC Project Manager, HNP)
  - Dr. W. D. Travers (NRC Regional Administrator, Region II)

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Question:

Section VI, page E1-5 of the Relief Request identifies the potential for surface cracking in the initial weld overlay layer on stainless steel base material with elevated impurities. The Relief Request states that an austenitic stainless steel butter may be applied over the surface of stainless steel base metal if sensitivity to impurities is experienced. The NRC staff has inquired about the locations of the butter layer.

Response:

Reference Figure 1 on page E1-20 of the Relief Request for the configuration of stainless steel components.

A stainless steel butter layer may be applied over stainless steel base metal in any of the six pressurizer lines that will have the structural weld overlay applied. The stainless steel butter layer will be applied where surface indications are found following application of 52M weld metal over the stainless steel base metal (safe end, safe end to pipe weld, or pipe). At locations where sensitivity to base metal impurities is suspected, a dye penetrant surface examination will be performed to determine if the initial layer of overlay material experienced cracking.

If surface cracking is found, the affected portions of the overlay (52M material) on the stainless steel base metal will be removed, a dye penetrant surface examination performed, and the stainless steel butter applied. The affected area(s) could include the safe end, the safe end to pipe weld, or the pipe. All three components of the original configuration are stainless steel. The stainless steel butter layer will not be applied to the existing Alloy 82/182 weld or carbon steel base material of the nozzle.

Stainless steel butter may be preemptively applied to preclude the need for non-destructive examination of the initial 52M material and the potential for material removal.