

July 17, 2000

Mr. H. L. Sumner, Jr.  
Vice President - Nuclear  
Hatch Project  
Southern Nuclear Operating  
Company, Inc.  
Post Office Box 1295  
Birmingham, Alabama 35201-1295

SUBJECT: SAFETY EVALUATION OF DEFERRAL OF WELD OVERLAYS  
(TAC NO. MA9213)

Dear Mr. Sumner:

By letter dated May 30, 2000, you notified the NRC staff of your plans to defer inspection on twenty (20) of fifty-four (54) weld overlays at the Edwin I. Hatch Nuclear Plant, Unit 1. You propose to defer these inspections in accordance with the guidance presented in a letter dated June 17, 1999, from Jack R. Strosnider, NRR:DE Director, to Carl Terry, Boiling Water Reactor Vessel Internal Program (BWRVIP) Chairman.

The staff's June 17, 1999, letter, was in response to the BWRVIP letter dated May 13, 1999, which requested that the NRC staff "...allow the boiling water reactor (BWR) plants Dresden Unit 2, Duane Arnold, Vermont Yankee, Brunswick Units 1 and 2, FitzPatrick, Hatch Unit 1, Hope Creek, Peach Bottom Unit 2, and Quad Cities Units 1 and 2, to defer weld overlay examinations until March 2001, or until the completion of the NRC staff review and approval of the proposed generic report ["Technical Basis for Revisions to Generic Letter (GL) 88-01 Inspection Schedules (BWRVIP-75)," Electric Power Research Institute (EPRI) Proprietary Report TR-113932, dated October 27, 1999], whichever comes first."

Presently, under the requirements of GL 88-01, "NRC Position on IGSCC In BWR Austenitic Stainless Steel Piping," dated January 25, 1988, licensees shall have an in-service inspection program for austenitic stainless steel piping, as covered under the scope of GL 88-01, that conforms to the staff positions on inspection schedules, methods and personnel, and sample expansion delineated in GL 88-01. NUREG-0313, Rev. 2, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping," dated January 1988, details the technical bases for the positions presented in GL 88-01.

The BWRVIP proposed the following criteria that must be met in order to defer these inspections:

1. The plant is operated in compliance with the EPRI water chemistry guidelines,
2. The overlay for which deferral is applied meets GL 88-01 or ASME Code Case N-504 (full structural overlay) as opposed to a temporary duty (leakage barrier) overlay, and

3. The overlays for which the deferral is applied must have been inspected at least two (2) times without intergranular stress corrosion cracking (IGSCC) indications in the overlay. The two examinations include a baseline examination after overlay application and one examination that was completed after the overlay has been in service for at least one full fuel cycle.

The NRC staff has reviewed this criteria, and finds them acceptable justification for deferral of weld overlay inspections, as required by GL 88-01 and NUREG-0313, Rev. 2 for the subject BWR plants.

In your May 30, 2000, letter, you stated that you have determined that the 20 welds for which you are deferring inspection have met the above three criteria. Specifically, you stated that:

The Plant Hatch Chemistry Monitoring Program provides guidance for operating both units in accordance with the EPI's BWR Water Chemistry Guidelines. Water chemistry control parameters are monitored, and action-level values are used to evaluate water chemistry conditions and resolve any problems, as required. A hydrogen water chemistry (HWC) program was implemented on Plant Hatch Unit 1 in September 1987. From 1994 to March 1999 (fuel cycles 16, 17, and 18), Unit 1 operated under moderate HWC with the following:

- Hydrogen injection at approximately 45 to 55 scfm.
- Conductivity in the 0.08 to 0.14  $\mu\text{S}/\text{cm}$  range.
- Electrochemical potential (ECP) in the -400 to -450 semihomogeneous experiment standard hydrogen electrode (SHE) range.

At shutdown from Cycle 18 (Spring 1999), NobleChem was added. During Cycle 19 (current cycle), hydrogen injection is 6 to 8 scfm, and ECP is approximately -450 to -480 SHE.

Plant Hatch Unit 1 presently operates with the following 54 weld overlays:

1. Fifty-one weld overlays were applied as the result of weld examinations revealing IGSCC.
2. Two weld overlays were applied as mitigation techniques for welds that received extensive repairs during replacement of some reactor water cleanup system piping.
3. One weld overlay was applied in the transition area of a pipe-to-valve weld to improve the ultrasonic inspectability of an adjacent weld.

All 54 weld overlays were designed and applied as full structural overlap.

H. L. Sumner, Jr.

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Since your May 30, 2000, letter states that the twenty (20) welds identified in the attachment "Weld Overlay Summary," have been inspected at least twice, these welds meet the above criteria 3. Since you have met the above criteria, the staff finds that the you may defer inspection of the subject weld overlays until March 2001 or until the completion of the NRC staff review and approval of the BWRVIP-75 report, whichever comes first.

Sincerely,

*/RA/*

Leonard N. Olshan, Project Manager, Section 1  
Project Directorate II  
Office of Nuclear Reactor Regulation

Docket No. 50-321

cc: See next page

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Sincerely,

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