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April 23, 2007

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Serial No. 07-0116A
NL&OS/PRW R0
Docket No. 50-423
License No. NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
REGARDING AN ALTERNATIVE FOR THE WELD OVERLAY OF
PRESSURIZER NOZZLE WELDS (TAC NO. MC3379)

In a letter dated October 17, 2006, Dominion Nuclear Connecticut, Inc. (DNC) submitted Alternative Request IR-2-47 for the use of preemptive weld overlays as an alternative for repairs to pressurizer nozzle welds for Millstone Power Station Unit 3 (MPS3). In a letter dated March 28, 2007, DNC transmitted Revision 1 to Alternative Request IR-2-47. In a facsimile dated April 17, 2007, the NRC provided a request for additional information (RAI). Those questions were further discussed in a telephone conference call held on April 17, 2007. DNC's response to the NRC's RAI is provided as Attachment 1 to this letter. It should be noted that DNC has restated the question as originally forwarded by the NRC. DNC's responses, however, are based upon clarifications that were discussed during the referenced telephone conference call.

If you have any questions in regard to the responses provided or require additional information, please contact Mr. Paul R. Willoughby at (804) 273-3572.

Very truly yours,

A handwritten signature in black ink, appearing to read "Gerald T. Bischof".

Gerald T. Bischof
Vice President – Nuclear Engineering

Commitments in this letter: None

Attachment: (1)

1. Response to Request for Additional Information.

cc: U.S. Nuclear Regulatory Commission
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ATTACHMENT 1

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

**DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3**

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
MILLSTONE POWER STATION UNIT 3

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NRC Question No. 1

Paragraph 2(a)(2)(c) does not specify the depth of base metal that ultrasonic testing (UT) would be qualified to detect flaws after weld overlay installation. The staff assumes that a region of the base metal would not be qualified. In such case, the staff believes that the initial flaw size should be the as-found flaw depth plus the postulated worst-case flaw in the unqualified region of the base metal. The postulated worst-case flaw size should be the depth of the base metal that UT is not qualified [to examine]. Paragraph 2(a)(2)(c) needs to be revised to clarify the initial flaw size.

DNC Response

Paragraph 2(a)(2)(c) of Enclosure 1 to Alternative Request IR-2-47, Revision 1 is applicable if an examination is performed prior to the application of the preemptive weld overlay (PWOL). An examination prior to application of the preemptive weld overlay (PWOL) is not practical due to the MPS3 weld repair configuration. Therefore, the requirements of paragraph 2(a)(2)(b) are applied.

NRC Question No. 2

Paragraph 2(a)(2)(d). The current UT is not qualified to inspect inner 75% of the base metal once the weld overlay is installed on the pipe. Therefore, UT is not capable of detecting any indication that is connected to the inside surface of the pipe during preservice inspection (the staff assumes that the preservice inspection is the post-installation preservice inspection, not pre-installation inspection.). Paragraph 2(a)(2)(d) needs to be revised.

DNC Response

Paragraph 2(a)(2)(d) of Enclosure 1 to Alternative Request IR-2-47, Revision 1 is applicable if an examination is performed prior to the application of the overlay. An examination prior to application of the preemptive weld overlay (PWOL) is not practical due to the MPS3 weld repair configuration. Therefore, the requirements of paragraph 2(a)(2)(b) are applied.

NRC Question No. 3

Paragraph 2(b)(2) requires that the slope of the overlay not exceed 30 degrees. This has been changed from 45 degrees as required in Code Case N-740. Confirm if the 30-degree angle is more conservative than the 45-degree angle.

DNC Response

The 30-degree transition angle specified in paragraph 2(b)(2) of Enclosure 1 to Alternative Request IR-2-47 results in a reduced stress concentration and is therefore conservative.

NRC Question No. 4

Paragraph 2(a) of Code Case N-740 requires that if the flaw is at or near the boundary of two different materials, evaluation of the flaw growth in both materials is required. This requirement should also be incorporated in Section 2 of Enclosure 1 to Alternative Request IR-2-47, Revision 1.

DNC Response

Crack growth has been considered in both materials under the MPS3 Pressurizer Safety, Relief, and Surge Nozzles Structural Weld Overlay Qualification Report, WCAP-16734-NP and P, Rev. 0,⁽¹⁾ Section 4.4. However, the requirement was not included in paragraph 2(a) of Enclosure 1 to Alternative Request IR-2-47, Revision 1 because the crack growth in the Alloy 82/182 material is considered to be the most limiting.

⁽¹⁾ DNC Letter 06-731A, Millstone Power Station Unit 3, Supplemental Information Regarding Request IR-2-47 for use of Weld Overlays as an Alternative Repair Technique, dated March 30, 2007.

NRC Question No. 5

Paragraph 3(a)(3) states that "... for planar indications outside this examination volume, the nominal wall thickness shall be "t2" as shown in Figure 1(c) for volumes A-E-H-D and F-B-C-G..." UT is not qualified to examine the inner 75% of the base metal after weld overlay installation. Therefore, the "t2" distance cannot be part of the acceptance criteria of IWB-3514-2 because "t2" includes the 75% depth of the base metal. Discuss the technical basis of this requirement.

DNC Response

It is recognized that primary water stress corrosion cracking (PWSCC) is not a concern in the base metals of the nozzle to safe end welds that are included for weld overlay in Alternative Request IR-2-47, Revision 1. There is no presumptive need to assume flaws in these base metals. Therefore, the full t2 dimension can be used for the volumes identified in Fig 1c to accept flaws in the weld overlay in accordance with Table IWB-3514-2.

NRC Question No. 6

This question was withdrawn as a result of the referenced telephone conference call.