

October 27, 2006

Mr. James A. Spina, Vice President  
Calvert Cliffs Nuclear Power Plant, Inc.  
Calvert Cliffs Nuclear Power Plant  
1650 Calvert Cliffs Parkway  
Lusby, MD 20657-4702

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1 - REQUEST FOR  
ADDITIONAL INFORMATION REGARDING FLAW EVALUATION OF  
DISSIMILAR METAL WELDS (TAC NO. MD2351)

Dear Mr. Spina:

By letter dated May 31, 2006, Calvert Cliffs Nuclear Power Plant, Inc. (the licensee) provided its evaluation of flaw indications found in the nozzle-to-safe end welds of the hot leg surge line and drain line during the 2006 refueling outage at Calvert Cliffs Nuclear Power Plant, Unit No. 1. The flaw evaluation was provided to the Nuclear Regulatory Commission (NRC) in accordance with the requirements contained in Article IWB-3640, "Evaluation Procedures and Acceptance Criteria for Austenitic Piping," of Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code.

The NRC staff has reviewed the information provided and has determined that additional information is needed to complete its review. Enclosed is the NRC staff's request for additional information (RAI). This RAI was discussed with your staff on October 23, 2006, and it was agreed that your response would be provided within 60 days from the date of this letter.

If you have any questions, please contact me at 301-415-1457.

Sincerely,

*/RA/*

Patrick D. Milano, Senior Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-317

Enclosure: RAI

cc w/encl: See next page

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Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2

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REQUEST FOR ADDITIONAL INFORMATION

FLAW EVALUATION OF HOT LEG SURGE LINE AND DRAIN LINE NOZZLE WELDS

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1

DOCKET NO. 50-317

By letter dated May 31, 2006, Calvert Cliffs Nuclear Power Plant, Inc. (the licensee), submitted its evaluation of flaw indications found in the nozzle-to-safe end welds of the hot leg surge line and drain line during the 2006 refueling outage at Calvert Cliffs Nuclear Power Plant, Unit No. 1. In order to complete its review, the Nuclear Regulatory Commission (NRC) staff requests the following additional information. The specific references in the questions relate to the information in the flaw evaluation in Attachment 1 of the May 31, 2006, submittal.

1. In Table 1, the wall thicknesses of the surge line and drain line are identified as 1.313 inches and 0.375 inches, respectively. In Table 2, the wall thicknesses of the surge line and drain line are identified as 1.6 inches and 0.54 inch, respectively.
  - (a) Discuss whether the discrepancies of the wall thickness between Tables 1 and 2 are due to cladding in the pipe.
  - (b) Discuss which thicknesses were used in the flaw evaluation.
2. The surge nozzle piping loads, as shown in Table 3, did not include loads from the transients such as heatup, cooldown and reflood. Discuss why transient loads were not considered in the flaw evaluation of the surge line nozzle.
3. In Figures 2 and 3, the NRC staff observed that if the ratio of flaw depth (a) versus wall thickness (t) of the indication in the surge line were 1.0 (i.e., 100% through wall), the flaw would still be acceptable. The same observation is true for the drain line in Figures 10 and 11. This observation contradicts the limit (i.e., 0.75) on the a/t ratio as specified in Table C-5310-1 of Appendix C to Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code). Discuss whether the upper limit of 0.75 for the a/t ratio should be included in Figures 2, 3, 10, and 11.
4. On page 2, it is stated that Article C-5321 and Tables C-5310-1 through C-5310-4 of Appendix C to the ASME Code, Section XI, were used for the flaw evaluation. However, prior to the use of the flaw evaluation methodology in the Article C-5000 procedures, certain screening criteria in Article C-4000 should be satisfied. Provide information to show that the screening criteria of Article C-4000 have been satisfied such that the flaw evaluation methodology of Article C-5000 can be appropriately applied to the surge and drain line nozzles.
5. Provide sketches or diagrams to show the locations of the indications in the surge and drain line nozzles. The sketches should include the nozzle, safe end, weld, and pipe. The sketches should show whether the indications are surface-connected or embedded.

Enclosure

6. Identify the ASME Code material specifications of the nozzle, safe end, weld, and pipe.
7. Submit copies of References 1, 2a, 2b, and 2c.