

March 30, 2005

Mr. George Vanderheyden, 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 (RAI) RE: STEAM GENERATOR INSERVICE  
INSPECTION SUMMARY REPORT (TAC NO. MC6320)

Dear Mr. Vanderheyden:

By letters dated May 6, 2004, and February 25, 2005, you submitted steam generator inservice inspection reports for Calvert Cliffs Nuclear Power Plant, Unit No. 1. In reviewing your submittals, the Nuclear Regulatory Commission (NRC) staff has determined that additional information contained in the enclosure to this letter is needed to complete its review. The NRC staff discussed these questions with your staff on March 25, 2005. As agreed to by your staff, we request you respond within 30 days of the date of this letter.

If you have any questions, please contact me at 301-415-1030.

Sincerely,

*/RA/*

Richard V. Guzman, Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-317

Enclosure: RAI

cc w/encl: See next page

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\* Provided RAI input by memo. No substantive changes made.

ACCESSION NUMBER: ML050880031

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DATE	3/29/05	3/30/05	3/16/05	3/30/05

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REQUEST FOR ADDITIONAL INFORMATION  
REGARDING STEAM GENERATOR INSERVICE INSPECTION SUMMARY REPORT FOR  
CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1  
DOCKET NOS. 50-317 AND 50-318

By letters dated February 25, 2005 (ADAMS Accession No. ML050610714) and May 6, 2004 (ADAMS Accession No. ML041330142), Calvert Cliffs Nuclear Power Plant, Inc. (the licensee) submitted steam generator inservice inspection reports for Calvert Cliffs Nuclear Power Plant, Unit No. 1. The Nuclear Regulatory Commission (NRC) staff has reviewed the information the licensee provided and determined that additional information is required in order to complete the evaluation.

1. A number of tubes were identified that are experiencing wear at upper bundle tube support locations. Please discuss whether the number of locations with wear is consistent with other similarly designed operational units. If the number of wear locations is not consistent, discuss any insights as to the reason for the difference. Please discuss whether the extent to which these wear indications are considered "typical fan bar wear," "atypical U-bend wear," or "localized U-bend wear." Typical fan bar wear refers to wear caused by the thermal hydraulic conditions and tube-to-support clearances which can vary because of manufacturing tolerances. Atypical U-bend wear refers to pit-like indications found at flat-bar supports and theorized to be the result of asperities on the flat bars introduced during fabrication. Localized U-bend wear refers to wear "localized" to specific columns of tubes and possibly the adjacent column as a result of arch-bar distortion instead of a more random manufacturing tolerance issue (which causes typical fan bar wear).
2. Tube-to-tube contact is an area of concern for the replacement steam generators at several operational units. Have any tubes at Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 (CCNPP 1 and 2) been identified as being in close proximity to other tubes and/or coming in contact with adjacent tubes? If so, please discuss how many tubes are currently considered to be in close proximity and whether any tube wear has been observed at the location of "close proximity." In addition, please discuss whether the number of tubes affected by tube-to-tube contact has increased, decreased, or remained the same since the steam generators were installed. If the number of tubes in close proximity is increasing with time, please discuss the cause (the staff understands that the tube proximity issue is a result of manufacture and that it was expected that the "condition" may correct itself with time).
3. Please discuss whether your steam generator tubes have any dents/dings. If your steam generator tubes contain dents/dings, please discuss whether any rotational probe inspections were performed at these locations and the potential for a through-wall or near through-wall flaw to exist at these locations (e.g., are there any anomalous dents/ding signals). Please discuss your primary-to-secondary leakage history since installation of the steam generators.

Enclosure

4. General information concerning the design of your replacement steam generators was provided in previous submittals. Each replacement steam generator at CCNPP 1 and 2 contains 8471 tubes composed of thermally treated alloy 690 material. The tube supports are lattice grids composed of type 410 stainless steel. In order for the NRC staff to better understand the design of your replacement steam generators, please provide the following information for both units: (a) model number for the replacement steam generators, (b) tube manufacturer, (c) tube support thickness, (d) tube pitch and pattern, (e) anti-vibration bar (fan bar) design, (f) number of tubes plugged (if any) in each steam generator prior to installation, (g) tube expansion method in tubesheet, (h) tubesheet thickness (with and without clad), (i) tubesheet map, and (j) a sketch of the steam generator depicting your tube support plate naming convention. In addition, please clarify the smallest U-bend radius in your steam generator (e.g. row 3 has a radius of 3.6 inches). Are there any major differences between the Unit 1 and Unit 2 replacement steam generators?

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

cc:

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