UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 28, 2012

Mr. George H. Gellrich, Vice President
Calvert Cliffs Nuclear Power Plant, LLC
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 2 – STAFF EVALUATION OF THE WESTINGHOUSE REACTOR VESSEL SURVEILLANCE CAPSULE REPORT WCAP-17501-NP (TAC NO. ME8056)

Dear Mr. Gellrich:

Appendix H to Part 50 of Title 10, *Code of Federal Regulations* (10 CFR), "Reactor Vessel Material Surveillance Program Requirements" provides the Nuclear Regulatory Commission's (NRC) surveillance and testing requirements for ferritic components of the reactor vessels (RVs) of operating light-water reactors. The rule requires licensed owners of light-water reactor facilities to install a number of surveillance capsules within the cavities of their RVs and to remove capsules and test the capsule materials in accordance with the withdrawal schedule and testing requirements of the American Society for Testing and Materials (ASTM) Standard Practice E-185. Paragraph IV.A of the rule requires the RV material surveillance capsule test results to be the subject of a summary technical report that is required to be submitted to the NRC within one year of the capsule withdrawal date. Paragraph IV.B of the rule requires that the report include all data specified by ASTM Standard Practice E-185-82 and the results of all fracture toughness tests conducted on the surveillance capsule materials in both the unirradiated and irradiated condition.

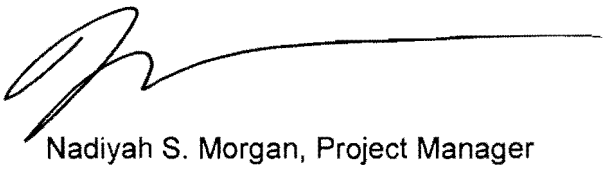
By letter dated February 22, 2012 (Agencywide Documents Access and Management System Accession No. ML12055A165), Calvert Cliffs Nuclear Power Plant, LLC, the licensee, submitted WCAP-17501-NP, "Analysis of Capsule 104° from the Calvert Cliffs Nuclear Power Plant, Unit No. 2 [Calvert Cliffs] Reactor Vessel Radiation Surveillance Program" to comply with the above requirements. WCAP-17501-NP provides the applicable fracture toughness test data for surveillance capsule 104° that was removed from Calvert Cliffs, having received a fluence ($E > 1.0$ MeV) of 2.44×10^{19} n/cm^2 ($E > 1.0$ MeV).

The surveillance program for the Calvert Cliffs RV currently utilizes the plant's own surveillance capsules as the basis for monitoring the embrittlement trends for the RV beltline materials. The surveillance weld material being irradiated was fabricated from Mil B-4 weld filler wire, Heat No. 10137 weld wires. The Heat No. 10137 surveillance weld is representative of the intermediate-to-lower shell circumferential weld. The surveillance plate materials being irradiated are representative of RV intermediate shell plate D-8907-2.

The NRC staff has performed its review of WCAP-17501-NP and has confirmed that the report includes all of the data and test results that are required by Paragraph IV.B of 10 CFR Part 50, Appendix H and ASTM Standard Practice E185-82. Furthermore, based on this review, the NRC staff has not identified any immediate safety issues associated with the information provided in WCAP-17501-NP. The licensee will be expected to incorporate the updated surveillance data into the next revision of the plant's pressure-temperature limits report, as required by 10 CFR Part 50, Appendix G.

Please contact me at (301) 415-1016, if you have any questions regarding this issue.

Sincerely,



Nadiyah S. Morgan, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-318

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The NRC staff has performed its review of WCAP-17501-NP and has confirmed that the report includes all of the data and test results that are required by Paragraph IV.B of 10 CFR Part 50, Appendix H and ASTM Standard Practice E185-82. Furthermore, based on this review, the NRC staff has not identified any immediate safety issues associated with the information provided in WCAP-17501-NP. The licensee will be expected to incorporate the updated surveillance data into the next revision of the plant's pressure-temperature limits report, as required by 10 CFR Part 50, Appendix G.

Please contact me at (301) 415-1016, if you have any questions regarding this issue.

Sincerely,

/RA/

Nadiyah S. Morgan, Project Manager
Plant Licensing Branch I-1
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