

James A. Spina
Vice President

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July 18, 2008

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit No. 1; Docket No. 50-317
Additional Information for the Long-Term Carborundum Coupon Surveillance
Program

REFERENCES:

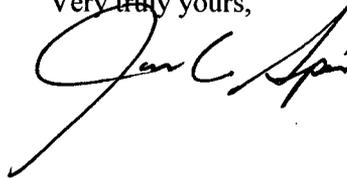
- (a) Letter from Mr. J. A. Spina (CCNPP) to Document Control Desk (NRC), dated May 10, 2007, Long-Term Coupon Surveillance Program for the Unit 1 Spent Fuel Pool
- (b) Letter from Mr. J. A. Spina (CCNPP) to Document Control Desk (NRC), dated January 10, 2008, Request for Additional Information re: Long-Term Carborundum Coupon Surveillance Program

Calvert Cliffs Nuclear Power Plant, Inc. submitted a request to implement a long-term carborundum coupon surveillance program at Calvert Cliffs Unit 1 (Reference a) and responded to the Nuclear Regulatory Commission staff's questions (Reference b). The Nuclear Regulatory Commission staff has determined that additional information is required to complete their review of the coupon surveillance program. The requested additional information is attached.

A001
MRK

Should you have questions regarding this matter, please contact Mr. Jay S. Gaines at (410) 495-5219.

Very truly yours,



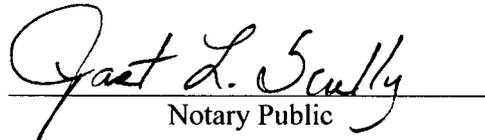
STATE OF MARYLAND :
: TO WIT:
COUNTY OF CALVERT :

I, James A. Spina, being duly sworn, state that I am Vice President - Calvert Cliffs Nuclear Power Plant, Inc. (CCNPP), and that I am duly authorized to execute and file this License Amendment Request on behalf of CCNPP. To the best of my knowledge and belief, the statements contained in this document are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other CCNPP employees and/or consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.



Subscribed and sworn before me, a Notary Public in and for the State of Maryland and County of St. Mary's, this 18th day of July, 2008.

WITNESS my Hand and Notarial Seal:



Notary Public

My Commission Expires:



Date

JAS/PSF/bjd

Attachment: (1) Additional Information Concerning the Carborundum Coupon Surveillance Program

cc: D. V. Pickett, NRC
S. J. Collins, NRC

Resident Inspector, NRC
S. Gray, DNR

ATTACHMENT (1)

**ADDITIONAL INFORMATION CONCERNING THE
CARBORUNDUM COUPON SURVEILLANCE PROGRAM**

ATTACHMENT (1)

ADDITIONAL INFORMATION CONCERNING THE CARBORUNDUM COUPON SURVEILLANCE PROGRAM

Request

The licensee's current surveillance program includes:

- Surveillance every four years: 2009, 2013, 2017, 2021, 2025, 2029, 2033, 2037, 2041, 2045, 2049, and 2053
- One coupon extracted from the spent fuel pool each surveillance
- Inspections performed during each surveillance:
 - Visual
 - Weight
 - Dimensional: Length and Width

Based on prior staff approvals of neutron absorption material surveillance programs, the following information should be included and discussed in the surveillance program. Examples of prior approvals include: Clinton (ML052930404) and ANO-2 (ML072620412).

Given that areal density measurements should be performed to verify the results of the visual, weight, and dimensional inspections and to ensure the performance of the carborundum, the staff requests the following schedule for areal density measurements (based on prior staff approvals).

- a) 2009, 2017, 2025, 2037 and 2053

Response

Calvert Cliffs agrees to perform areal density measurements on the coupons removed in 2009, 2017, 2025, 2037, and 2053.

Request

The acceptance criteria for each inspection should be provided as part of the surveillance program. Based on prior staff approvals for use of neutron absorption materials, the staff suggests the following:

- a. Visual: no gross changes or deterioration
- b. Weight: +/- X percent and compared to the baseline
- c. Length and Width: +/- X inches or +/- X percent and compared to the baseline
- d. Areal: \geq X percent decrease in B-10 and compared to the baseline

Response

The acceptance criteria for the surveillance program will be as follows:

- a. Visual: No gross changes or deterioration
- b. Weight: $>$ +/- 26% compared to baseline
- c. Length and Width: +/- 0.5 inches compared to baseline
- d. Areal: \geq 0.0177 g/cm²

Request

Corrective actions for each inspection should be provided as part of the surveillance program. Based on prior staff approvals for use of neutron absorbing materials, the staff suggests the following:

- a. If visual, weight, or dimensional acceptance criteria are not met, then perform areal density, regardless if it was scheduled or not.

ATTACHMENT (1)

ADDITIONAL INFORMATION CONCERNING THE CARBORUNDUM COUPON SURVEILLANCE PROGRAM

- b. If visual, weight, dimensional, or areal density acceptance criteria are not met, then expand the scope of the surveillance to include additional coupons. Expanded inspections should include visual, weight, dimensional, and areal density.

Response

Calvert Cliffs concurs with performing an areal density measurement on a coupon that does not meet visual, weight, or dimensional acceptance criteria. If the areal density measurement meets the acceptance criteria, then expansion of the surveillance program will be determined by evaluations done as part of the corrective action program. If the areal density measurement does not meet the acceptance criteria, then additional coupons will be removed for visual, weight, and dimensional inspections.

Request

A discussion of the corrective actions that will be taken if acceptance criteria are not met for the expanded inspections should also be included in the surveillance program.

Response

If the acceptance criteria are not met for an expanded inspection we will perform an investigation (including using any areal density measurement taken) evaluating the neutron absorbing capabilities. If the areal density testing reveals degradation, the impact on k_{eff} would be evaluated. The intent of the evaluation would be to confirm that the value of k_{eff} for spent fuel storage in the spent fuel pool remains less than 0.95. After testing, coupons will be returned to the coupon tree, if possible, to support long-term testing.

Request

Please discuss your statement "The objection to performing areal density measurements on withdrawn coupons was that coupons subjected to such measurements would be unavailable for reinsertion."

Response

Areal density testing cannot be performed on site and the coupon must be shipped to an appropriately equipped laboratory. The coupons are very brittle and any handling beyond the minimum necessary to take on-site measurements and weight cause the coupon to abrade and flake. These abrasions and flaking change the surface of the coupon, as well as the dimension and weight, thus making the coupon unsuitable for reinsertion.