

George H. Gellrich
Vice President

Calvert Cliffs Nuclear Power Plant, LLC
1650 Calvert Cliffs Parkway
Lusby, Maryland 20657
410.495.5200
410.495.3500 Fax

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a joint venture of



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CALVERT CLIFFS
NUCLEAR POWER PLANT

NRC 11-005

January 18, 2011

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Supplement to the License Amendment Request: Transition from Westinghouse
Nuclear Fuel to AREVA Nuclear Fuel

REFERENCES:

- (a) Letter from Mr. G. H. Gellrich (CCNPP) to Document Control Desk (NRC), dated July 23, 2010, Response to Request for Additional Information Re: Proposed Transition from Westinghouse to AREVA Fuel
- (b) Letter from Mr. T. E. Trepanier (CCNPP) to Document Control Desk (NRC), dated November 23, 2009, License Amendment Request - Transition from Westinghouse Nuclear Fuel to AREVA Nuclear Fuel

Reference (a) provided additional information related to the proposed license amendment to support the transition from Westinghouse fuel to AREVA Advanced CE-14 High Thermal Performance fuel. A phone call was held with the Nuclear Regulatory Commission (NRC) staff on November 19, 2010 to clarify information contained in Reference (a). The supplemental information requested in the phone call is provided below.

The current design basis radiological source term for Westinghouse fuel used for radiological analysis of design bases accidents that was discussed in Reference (a) is that which was submitted to the NRC on November 3, 2005 (ML053210289) and approved by the NRC on August 29, 2007 (ML072130521). In that analysis, the core inventory for each core power distribution scenario analyzed was used to calculate an effective TEDE dose and dose rate, which was then compared against a reference TEDE dose and dose rate calculated for the default pressurized water reactor core inventory file supplied with the RADTRAD 3.03 code. The bounding case (CRCB) was determined to yield doses and dose rates that were a factor of 1.7222 and 1.3416 greater, respectively, than those calculated using the default RADTRAD pressurized water reactor inventory file. For the AREVA fuel transition, the same methodology and core power distribution scenarios were used to evaluate the AREVA fuel design, as discussed in Reference (a). The bounding case for the AREVA fuel was found to be the same core power

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distribution as for the CRCB case, and yielded doses and dose rates that were factors of 1.7038 and 1.3254 greater, respectively, than those for the default RADTRAD pressurized water reactor inventory file. Therefore, it was determined that the current Westinghouse fuel-based source term input for the radiological design basis accidents did not need to be updated since it yielded greater doses than an AREVA fuel-based source term.

This Response does not change the No Significant Hazards determination previously provided in Reference (b).

Should you have questions regarding this matter, please contact Mr. Douglas E. Lauver at (410) 495-5219.

Very truly yours,

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

I, George H. Gellrich, being duly sworn, state that I am Vice President - Calvert Cliffs Nuclear Power Plant, LLC (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 January, 2011.


Notary Public

My Commission Expires:

March 1, 2011
Date

GHG/PSF/bjd

cc: D. V. Pickett, NRC
W. M. Dean, NRC

Resident Inspector, NRC
S. Gray, DNR