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NINE MILE POINT  
NUCLEAR STATION

July 15, 2011

U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**ATTENTION:** Document Control Desk

**SUBJECT:** Nine Mile Point Nuclear Station  
Unit No. 2; Docket No. 50-410

Revised Response to Request for Additional Information Regarding Nine Mile Point Nuclear Station, Unit No. 2 – Re: The License Amendment Request for Extended Power Uprate Operation (TAC No. ME1476) – BORAL<sup>®</sup> Monitoring Program

- REFERENCES:**
- (a) Letter from K. J. Polson (NMPNS) to Document Control Desk (NRC), dated May 27, 2009, License Amendment Request (LAR) Pursuant to 10 CFR 50.90: Extended Power Uprate
  - (b) E-mail from R. Guzman (NRC) to J. J. Dosa (NMPNS), dated June 23, 2011, Supplemental Information Needed for RAI-3
  - (c) Letter from M. A. Philippon (NMPNS) to Document Control Desk (NRC) dated June 13, 2011, Response to Request for Additional Information Regarding Nine Mile Point Nuclear Station, Unit No. 2 – Re: The License Amendment Request for Extended Power Uprate Operation (TAC No. ME1476) – Steam Dryer and BORAL<sup>®</sup> Monitoring Program

Nine Mile Point Nuclear Station, LLC (NMPNS) hereby transmits revised and supplemental information in support of a previously submitted request for amendment to Nine Mile Point Unit 2 (NMP2) Renewed Operating License (OL) NPF-69. The request, dated May 27, 2009 (Reference a), proposed an amendment to increase the power level authorized by OL Section 2.C.(1), Maximum Power Level, from 3467 megawatts-thermal (MWt) to 3988 MWt.

A001  
NRC



**ATTACHMENT**

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**REVISED RESPONSE TO REQUEST FOR ADDITIONAL  
INFORMATION REGARDING LICENSE AMENDMENT REQUEST FOR  
EXTENDED POWER UPRATE OPERATION**

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By letter dated May 27, 2009, as supplemented on August 28, 2009, December 23, 2009, February 19, 2010, April 16, 2010, May 7, 2010, June 3, 2010, June 30, 2010, July 9, 2010, July 30, 2010, October 8, 2010, October 28, 2010, November 5, 2010, December 10, 2010, December 13, 2010, January 19, 2011, January 31, 2011, February 4, 2011, March 23, 2011, May 9, 2011, and June 13, 2011, Nine Mile Point Nuclear Station, LLC (NMPNS) submitted for Nuclear Regulatory Commission (NRC) review and approval, a proposed license amendment requesting an increase in the maximum steady-state power level from 3467 megawatts thermal (MWt) to 3988 MWt for Nine Mile Point Unit 2 (NMP2).

By e-mail dated June 23, 2011, the NRC staff requested supplemental information regarding the response to a request for additional information (RAI) submitted on June 13, 2011, regarding the BORAL<sup>®</sup> Monitoring Program. This attachment provides the supplemental information in the form of a revised response to CSGB-RAI-3.a.

The NRC request is repeated (in italics), followed by the NMPNS response.

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**RAI#1 from NRC E-mail dated April 14, 2011**

Supplemental CSGB-RAI-3.a

*On page 6 of Attachment 1 of its letter dated March 23, 2011, the licensee states that, "NMPNS does not intend to utilize these coupons [for the initial 10 [BORAL<sup>®</sup>] spent fuel racks] since the coupon tree was not installed at the same time as the associated racks." The NRC staff is uncertain whether the [BORAL<sup>®</sup>] material installed in 2001 has an effective surveillance monitoring program. Please provide the surveillance approach and testing for these 10 [BORAL<sup>®</sup>] spent fuel racks.*

**Revised NMPNS Response**

In an e-mail dated May 12, 2011, the NRC provided the following feedback regarding the response to CSGB-RAI-3.a:

*Specifically, after review of the response to RAI-3.a, the staff understands that NMPNS would like to use the inspection and testing of coupons installed in 2007 to monitor [BORAL<sup>®</sup>] spent fuel racks installed in 2001. However, the staff does not think that using coupons (installed 6 years after the [BORAL<sup>®</sup>] material it's supposed to monitor) is an appropriate surveillance monitoring approach/program because the racks have had more exposure to spent fuel pool conditions than the coupons. The NMPNS response appears to be inconsistent with what the staff understood was the licensee's intended approach for answering the question (when presented in the previous phone call). If a new analysis has been performed to justify using the 2007 coupons to represent the 2001 [BORAL<sup>®</sup>], the staff requests the licensee to provide it as additional explanation to support the RAI-3.a supplemental response.*

On May, 18, 2011, NMPNS and the NRC discussed the NMP2 monitoring program regarding the BORAL<sup>®</sup> spent fuel racks, and the NRC feedback provided in an e-mail dated May 12, 2011. NMPNS understands that the coupon tree installed in 2007, comprised of the same lot of material as our Phase 1 BORAL<sup>®</sup> spent fuel racks installed at NMP2 in 2001, does not have as much exposure to the NMP2 spent fuel pool conditions as the spent fuel racks installed in 2001. As such, NMPNS will conduct in-situ Boron-10 Areal Density Gauge for Evaluating Racks (BADGER) testing on the Phase 1 BORAL<sup>®</sup> spent fuel racks installed at NMP2 in 2001 on a 10-year frequency, beginning in 2012. The BADGER testing program will be the surveillance program for the Phase 1 BORAL<sup>®</sup> spent fuel racks installed at NMP2 in 2001.

In an e-mail dated June 23, 2011, the NRC requested supplemental information regarding the response to CSGB-RAI-3.a. The NRC e-mail states:

*In its response dated June 13, 2011, the licensee states that, "NMPNS will conduct in-situ Boron -10 Areal Density Gauge for Evaluating Racks (BADGER) testing on the Phase 1 Boral Spent fuel racks installed at NMP2 in 2001 on a 10-year frequency, beginning in 2012."*

*Based on this response, the NRC staff understands that the licensee plans to perform in-situ testing of their Boral spent fuel pool racks installed in 2001; however, the staff notes that NMPNS did not provide information regarding the acceptance criteria for the in-situ test. While the NRC staff views the licensee's proposed plan to conduct in-situ testing as acceptable, the staff has determined that the acceptance criteria information is needed to complete its safety evaluation for the Boral monitoring*

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*program. Please note that the original RAI-3 in NRC letter dated February 3, 2011, requested the licensee to provide the acceptance criteria for its surveillance/monitoring program. Accordingly, the staff requests NMPNS to provide the acceptance criteria for the in-situ test, including the corrective actions taken if the acceptance [criterion] is not met.*

For the Phase 1 BORAL<sup>®</sup> spent fuel racks installed at NMP2 in 2001, the BADGER tests will confirm that the minimum Boron-10 areal density assumed in the spent fuel pool criticality analyses is met. Currently, the spent fuel pool criticality analyses assume a minimum Boron-10 areal density of 20 mg Boron-10/cm<sup>2</sup>. Thus, the acceptance criterion for the BADGER tests will be to ensure a Boron-10 areal density  $\geq 20$  mg Boron-10/cm<sup>2</sup>.

If the acceptance criterion is not met, the following actions would be taken:

1. The condition would be entered into the site's Corrective Action Program.
2. Administrative controls would be implemented to ensure that fuel is not stored within the impacted location(s) until the condition is resolved.
3. An evaluation would be conducted to determine if more frequent and expanded surveillance of the spent fuel storage racks is needed.