

From: Vaidya, Bhalchandra
Sent: Friday, September 13, 2013 3:03 PM
To: 'Darling, Theresa H'; Kristensen, Kenneth J
(Kenneth.Kristensen@cengllc.com)
Cc: McLellan, Thomas; Rosenberg, Stacey; Poehler, Jeffrey; Beall, Robert; Jackson, Christopher; Parks, Benjamin; Hardgrove, Matthew
Subject: REVISED DRAFT FOLLOW-UP RAIs, MF0345, LAR Re: Revising and Relocating PT Limit Curves to PTLR

SUBJECT: REVISED DRAFT FOLLOW-UP RAIs. Nine Mile Point Nuclear Station, Unit No. 2, Docket No. 50-410, License Amendment Request Pursuant to 10 CFR 50.90: Relocation of Pressure and Temperature Limit Curves to the Pressure and Temperature Limits Report (TAC NO.MF0345)

By letter dated November 21, 2012, as supplemented by letter dated March 25, 2013, Nine Mile Point Nuclear Station, LLC (NMPNS, the Licensee), submitted a license amendment request (LAR) for Nine Mile Point Unit 2. The proposed amendment would modify Technical Specification (TS) Section 3.4.11, "RCS Pressure and Temperature (P/T) Limits," by replacing the existing reactor vessel heatup and cooldown rate limits and the pressure and temperature (P-T) limit curves with references to the Pressure and Temperature Limits Report (PTLR). In addition, a new definition for the PTLR would be added to TS Section 1.1, "Definitions," and a new section addressing administrative requirements for the PTLR would be added to TS Section 5.0, "Administrative Controls." By letter dated July 31, 2013, the licensee provided the responses, to the RAIs transmitted by NRC on June 20, 2013 (ADAMS Accession Package No. ML13214A396). The Licensee's Responses contained Proprietary information. (Agencywide Document Access and Management System (ADAMS) Accession Nos. ML123380336 for November 21, 2012, submission, and ML13214A396 for July 31, 2012, submission respectively).

The Nuclear Regulatory Commission (NRC) staff has reviewed the information provided in the licensee's letter dated July 31, 2013, and has determined that additional information is needed to complete its review.

Based on September 12, 2013, telephone discussion to clarify previously transmitted DRAFT FOLLOW-UP RAIs (ML13253A215, Dated September 10, 2013), **the NRC staff's Revised Follow-up Draft request for additional information (RAIs) is provided below.**

This request supersedes, in entirety, the previously transmitted DRAFT FOLLOW-UP RAIs (ML13253A215, Dated September 10, 2013).

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REVISED SRXB – RAI 4.

Section 1 of the enclosure to the NMPNS2 letter dated November 21, 2012 (ML123380336), states that "[r]elocation of the P-T [Pressure-Temperature] limit curves to the PTLR [pressure-temperature limits report] is consistent with the guidance provided in NRC approved General Electric Hitachi Nuclear Engineering (GEH) Licensing Topical Report, [NEDO-33178-A], Revision 1, "General Electric Methodology for Development of Reactor Pressure Vessel Pressure-Temperature Curves..." (NEDO-33178-A: ML092370487)

Regarding reactor vessel neutron fluence, NEDO-33178-A, Section 4.2.1.2, "Fluence," states that "It is assumed that such fluence methods would be utilized to develop the necessary and appropriate *inputs* [emphasis added] for use in the P-T curve development methodology outlined in this report."

In regards to the fluence methodology in use for NMPNS2 for P-T curve development, the enclosure to the November 21, 2012, request letter states, "NMP2 maintains an NRC approved RG [Regulatory Guide] 1.190 fluence monitoring program... and review actual fluence on a routine basis. The fluence projections have been confirmed to be conservative using the NMP2 fluence methods." Further clarification is provided in a letter dated July 31, 2013 (ML13214A396), in which Attachment 1, response to SRXB – RAI 1, explains that fluence calculations were performed as described in GEH Licensing Topical Report NEDO-32983-A, Revision 2, "General Electric Methodology for Reactor Pressure Vessel Fast Neutron Flux Evaluations" (ML072480121). The response states, "The P/T limit curves were developed based on the more conservative GEH fluence rate."

In consideration of information contained in both the request letter and its supplement, it appears that, while the basis for the proposed PT limits is a GEH fluence calculation, the licensee intends to adjust the applicability of the PT limits by performing ongoing fluence monitoring using calculations in accordance with the current NMPNS plant-specific methods furnished by MPM Technologies, Inc. This approach appears somewhat different than that delineated in NEDO-33178-A. It would appear that NEDO-33178-A establishes an approach whereby a PTLR is developed with a specific applicability period, set forth in effective full power years (EFPY) of exposure. However, the method proposed by NMPNS2 appears not to constrain the PTLR to such an applicability period, but rather to the applicability of fluence values.

Please provide additional information related to the above approach:

1. Confirm the accuracy of the information outlined above. If different, please provide additional information to clarify the proposed approach.
2. Provide a clear reference to the fluence method on which the PT limits are based. It is necessary to reference a single, NRC-approved fluence methodology that forms the basis for the PT limits, in order to satisfy the condition/limitation for approval of NEDO-33178-A. As discussed in Section 4.2.1.2 of the LTR, this must be the fluence method used for input to the PTLR.
3. Provide information to establish the applicability of the draft PT limits.
4. Revise the draft PTLR as necessary to clearly delineate said applicability.
5. Explain in greater detail how the fluence monitoring program will be used in relation to the PTLR. For example:
 - a. Explain whether the applicability of the PTLR could be adjusted beyond 32 EFPY.
 - b. Explain what would happen in the event that a non-limiting fluence value, such as that for a nozzle location, is shown by the fluence monitoring program to be non-conservative, while the limiting fluence value remains bounded by the GEH calculation.
6. Explain what aspects of this approach differ from that delineated in NEDO-33178-A. As necessary, revise the proposed citation in TS 5.6 to reflect use of plant-specific methodology (i.e., potential use of plant-specific fluence monitoring program to extend applicability of PTLR) consistent with GL 88-16, "Removal of Cycle-Specific Parameter Operating Limits from Technical Specifications" (note that GL 96-03 and TSTF-419-A are based on GL 88-16).

SRXB – RAI 5 remains as written and still requires response. It is repeated again for completeness.
SRXB – RAI 5.

NEDC-33178P-A requires the licensee to identify the "report used to calculate the neutron fluence." The licensee primarily references MPM-402781 and NEDC-32983P-A; however, the NRC determined that additional documents describe the fluence methods:

- MPM-402781, "Benchmarking of Nine Mile Point Unit 1 and Unit 2 Transport Calculations," September 2003.
- Letter NMP1L 1749, "Request for Additional Information (RAI) – Amendment Application Re: Pressure-Temperature Limit Curves," including Attachment 1, "Response to Request for Additional Information," and Attachment 2, MPM-703782, "Response to NRC Request for Additional Information: Nine Mile Point Unit 1 P-T Limit Curves."
- "Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 183 to Facility Operating License No. DPR-63," insofar as it establishes that the methods described in MPM-402781, as supplemented, are acceptable to support P-T limits at NMPNS Unit 1 for up to 28 EFPYs.
- "Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 240 to Facility Operating License No. NPF-69," insofar as it establishes that the methods described in MPM-402781, as supplemented, are acceptable to support P-T limits at NMPNS Unit 2 for up to 22 EFPYs.
- "Nine Mile Point Nuclear Station License Amendment Request to Relocate the Pressure and Temperature Limit Curves to the Pressure and Temperature Limits Report – Supplemental Information In Response to NRC Request for Additional Information," including Attachment 1, "Response to NRC Request for Additional Information SRXB – RAI 1, SRXB – RAI 2, and SRXB – RAI 3," insofar as it describes additional assumptions and conservatisms applied to reactor vessel fluence, and provides references to additional reports to update the NMPNS Unit 2 fluence methods.

Please confirm whether the licensee-referenced methodology is complete, or provide supplemental information to provide a succinct description of the fluence methodology in use. If the methodology is complete, provide information justifying such a conclusion in light of the information provided above.

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The NRC staff would like to receive the responses to the RAIs on an expedited basis, by COB September 30, 2013. Please contact me, ASAP, to schedule a tele-conference between the licensee and the NRC staff ON Monday, September 16, 2013, @ 11am or 1 pm, or September 17, 2013, @ 11am or 1 pm, to ensure that the licensee clearly understands the RAIs and also, to obtain a firm commitment from the licensee for the Responses to these RAIs by COB September 30, 2013, as committed in the September 12, 2013 tele-conference.

Thanks,

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