

Constellation Energy®

* Nine Mile Point Nuclear Station

P.O. Box 63
Lycoming, NY 13093

June 30, 2008

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

American Society of Mechanical Engineers (ASME) Code, Section XI, Inservice Inspection Program for the Third Ten-Year Inservice Inspection Interval and Associated 10 CFR 50.55a Requests – Response to NRC Requests for Additional Information (TAC No. MD7688)

- REFERENCES:**
- (a) Letter from G. J. Laughlin (NMPNS) to Document Control Desk (NRC), dated December 14, 2007, American Society of Mechanical Engineers (ASME) Code, Section XI, Inservice Inspection Program for the Third Ten-Year Inservice Inspection Interval and Associated 10 CFR 50.55a Requests
 - (b) Letter from R. V. Guzman (NRC) to K. J. Polson (NMPNS), dated May 20, 2008, Request for Additional Information Regarding Nine Mile Point Nuclear Station, Unit No. 2, Relating to Relief Request, 2ISI-007, Associated with the Third Inservice Inspection Interval (TAC No. MD7688)

Nine Mile Point Nuclear Station, LLC (NMPNS) hereby transmits supplemental information requested by the NRC in support of a previously submitted request for alternative (No. 2ISI-007) under the provision of 10 CFR 50.55a(a)(3). This 10 CFR 50.55a request was included within the Nine Mile Point Unit 2 Third Ten-Year Inservice Inspection Plan and Schedule that was submitted by letter dated December 14, 2007 (Reference a). The supplemental information, provided in the Attachment to this letter, responds to the request for additional information documented in the NRC's letter dated May 20, 2008 (Reference b). The supplemental information also responds to a request that was provided in an email from the NRC to NMPNS dated June 3, 2008 and was subsequently discussed in a telephone conference call between NRC and NMPNS staff members on June 11, 2008. This letter contains no new regulatory commitments.

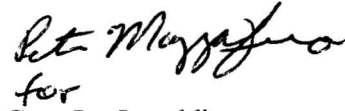
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Should you have any questions regarding the information in this submittal, please contact T. F. Syrell, Licensing Director, at (315) 349-5219.

Very truly yours,

A handwritten signature in black ink, appearing to read "R. V. Guzman" or similar, written over the word "for".

Gary Jay Laughlin
Manager Engineering Services

GJL/DEV

Attachment: Nine Mile Point Unit 2 – Response to NRC Requests for Additional Information
Regarding Third Ten-Year Inservice Inspection Interval Request No. 2ISI-007

cc: S. J. Collins, NRC
R. V. Guzman, NRC
Resident Inspector, NRC

ATTACHMENT

NINE MILE POINT UNIT 2
RESPONSE TO NRC REQUESTS FOR ADDITIONAL INFORMATION
REGARDING THIRD TEN-YEAR INSERVICE INSPECTION INTERVAL
REQUEST NO. 2ISI-007

ATTACHMENT

NINE MILE POINT UNIT 2 RESPONSE TO NRC REQUESTS FOR ADDITIONAL INFORMATION REGARDING THIRD TEN-YEAR INSERVICE INSPECTION INTERVAL REQUEST NO. 2ISI-007

By letter dated December 14, 2007, Nine Mile Point Nuclear Station, LLC (NMPNS) submitted the Nine Mile Point Unit 2 (NMP2) Third Ten-Year Inservice Inspection (ISI) Plan and Schedule and associated 10 CFR 50.55a requests pursuant to 10 CFR 50.55a(a)(3) or 10 CFR 50.55a(g)(6)(i). This attachment provides supplemental information in response to the request for additional information documented in the NRC's letter dated May 20, 2008, concerning request no. 2ISI-007 (alternate risk-informed ISI program). The supplemental information also responds to a request that was provided in an email from the NRC to NMPNS dated June 3, 2008 and was subsequently discussed in a telephone conference call between NRC and NMPNS staff members on June 11, 2008.

NRC Letter dated May 20, 2008

Each individual NRC question from the May 20, 2008 request for additional information is repeated (in italics), followed by the NMPNS response.

Question 1

Per Regulatory Guide 1.193, Revision 2 dated October 2007, Code Case N-578-1 is listed as an unacceptable Section XI Code Case. Please provide a justification for the application of Code Case N-578-1.

Response

The original NMP2 risk-informed inservice inspection (RI-ISI) program was submitted in 2000 as Relief Request RR-RI-ISI-2, and was approved for use during the second ten-year ISI interval pursuant to 10 CFR 50.55a(a)(3)(i), as documented by NRC letter dated May 31, 2001 (Reference 1). For the third ten-year ISI interval, request 2ISI-007 has been submitted for re-authorization to use the RI-ISI program. The program methodology remains unchanged and is based on EPRI TR-112657, Revision B-A (Reference 2), as supplemented by American Society of Mechanical Engineers (ASME) Code Case N-578-1. NMPNS recognizes that Regulatory Guide (RG) 1.193, Revision 2 (Reference 3), lists this code case as not acceptable for use on a generic basis. Thus, the use of Code Case N-578-1 is included in request 2ISI-007 as a plant-specific request for alternative, in accordance with 10 CFR 50.55a(a)(3)(i). The two concerns identified in RG 1.193 regarding Code Case N-578-1 are addressed below.

Inspection Strategy for Existing Augmented and Other Inspection Programs

The EPRI TR-112657 methodology is designed to be integrated with existing augmented examination programs for degradation mechanisms such as intergranular stress-corrosion cracking (IGSCC) and flow-accelerated corrosion (FAC). The NMPNS approach for existing augmented inspection programs for Class 1 and Class 2 piping systems is consistent with the EPRI TR-112657 guidelines:

- The augmented inspection program for Generic Letter (GL) 88-01 IGSCC Category A welds is integrated into the RI-ISI program;
- The IGSCC Category B through G welds continue to be inspected in accordance with the plant program under GL 88-01 and NUREG-0313 guidance; and

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- The augmented inspection program implemented in response to GL 89-08 associated with FAC is not affected or changed by the RI-ISI program.

System-Level Guidelines for Change in Risk Evaluation

The methodology described in EPRI TR-112657 is formulated such that no significant risk increase should be expected. It is applicable whether the scope of piping to be evaluated in the RI-ISI program includes a single system, selected systems, or all plant systems. The methodology refers to ASME Code Case N-560 for a scope covering B-J welds in Class 1 piping systems, and ASME Code Case N-578 for alternative scopes up to, and including, full plant evaluations. EPRI TR-112657 provides system-level decision guidelines for changes in Core Damage Frequency and Large Early Release Frequency. These changes in frequency are an order of magnitude less than those regarded as "very small" in RG 1.174 (Reference 4).

In Reference 5, the staff found that conformance to the system-level guidelines described in EPRI TR-112657 provides reasonable assurance that the risk from individual system failures will be kept small and dominant risk contributors will not be created. Conformance with the system-level guidelines also provides assurance that the aggregate impact of possible further application of RI-ISI would not be expected to exceed the aggregate risk change guidelines of RG 1.174. As described in request 2ISI-007, the NMP2 RI-ISI program has been developed in accordance with the methodology contained in EPRI TR-112657.

In conclusion, the use of ASME Code Case N-578-1 in conjunction with EPRI TR-112657 provides a complete RI-ISI program. The above discussion addresses the reasons that Code Case N-578-1 was found to be unacceptable for generic use in RG 1.193 and supports NMP2-specific use of the code case.

References for Question 1 Response:

1. Letter from R. P. Correia (NRC) to J. H. Mueller (NMPC), dated May 31, 2001, Nine Mile Point Nuclear Station, Unit No. 2 - Authorization to Use a Risk-Informed Inservice Inspection Program for the Second 10-Year Interval (TAC No. MB0297)
2. EPRI TR-112657, Revision B-A, Revised Risk-Informed Inservice Inspection Evaluation Procedure, Final Report, dated December 1999
3. Regulatory Guide 1.193, ASME Code Cases Not Approved for Use, Revision 2, October 2007
4. Regulatory Guide 1.174, An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis, Revision 1, November 2002

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5. Letter from W. H. Bateman (NRC) to G. L. Vine (EPRI), dated October 28, 1999, Safety Evaluation Report Related to EPRI Risk-Informed Inservice Inspection Evaluation Procedure (EPRI TR-112657, Revision B, July 1999)

Question 2

The number of welds selected for the nondestructive examination for the third interval has changed with an overall reduction in the number selected, especially for the reactor vessel nozzle. Please clarify/provide an explanation for these changes.

Response

The overall change from the second ISI interval to the third ISI interval is a reduction of five (5) inspection locations. The changes resulted from a reanalysis performed following completion of the second inspection period of the second ISI interval (as required by the NMPNS living program), which determined that the Crevice Corrosion (CC) degradation mechanism was no longer applicable. An explanation for the changes is summarized below.

Reactor Pressure Vessel (RPV) System

During the initial development of the RI-ISI program, twenty-one (21) RPV system welds were classified as Risk Category 2 with a degradation mechanism assignment of Crevice Corrosion (CC) and IGSCC, which initially required inspection of six (6) locations. The reanalysis performed following completion of the second inspection period of the second ISI interval determined that the CC degradation mechanism was no longer applicable. This resulted in moving the initial twenty-one (21) RPV system welds from Risk Category 2 to Risk Category 4. The change in risk category changed the number of inspection locations required from the initial six (6) to four (4) for the third interval, and decreased the number of inspection locations required for the RPV system from an initial eight (8) inspections to four (4) inspections for the third interval, for a reduction of four (4) inspection locations.

It should also be noted that in addition to the RI-ISI program, the RPV nozzle welds are classified as IGSCC Category D and all welds are inspected once every six years in accordance with the NMPNS IGSCC program.

Control Rod Drive Hydraulic (RDS) System

During the initial development of the RI-ISI program, one (1) RDS system weld was classified as Risk Category 2 with a degradation mechanism assignment of CC, which initially required inspection of one (1) location. The reanalysis performed following completion of the second inspection period of the second ISI interval determined that the CC degradation mechanism was no longer applicable. This resulted in moving the initial one (1) RDS system weld from Risk Category 2 to Risk Category 4. The change in risk category changed the number of inspection locations required from the initial one (1) to none for the third interval, for a reduction of one (1) inspection location.

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NRC Email dated June 3, 2008

The NRC request is paraphrased as follows:

Section 7.4 of the NMP2 Third Ten-Year Inservice Inspection (ISI) Plan and Schedule, "Alternative Risk-Informed In-service Inspection Plan and Schedule," states the following:

"One hundred forty five (145) element examinations have been scheduled for completion in the third ten-year in-service inspection interval."

However, Table 1 of request no. 2ISI-007 indicates that 120 elements have been selected under the RI-ISI plan. Please resolve this inconsistency.

Response

Both Section 7.4 of the NMP2 Third Ten-Year ISI Plan and Schedule and Table 1 of request 2ISI-007 are correct. The 120 inspection locations (welds) listed in Table 1 of request 2ISI-007 are based on the individual risk categories assigned by EPRI TR-112657. The 25 additional element selections are due to more than one degradation mechanism being assigned to an inspection location by Code Case N-578-1, as follows:

- There are 20 welds selected under the augmented IGSCC inspection program (classified as IGSCC Category D) that have also been scheduled under the RI-ISI program.
- There are 5 welds selected under the RI-ISI program that have dual degradation mechanisms assigned (i.e., TASCs (thermal stripping, cycling and stratification) and IGSCC).

Thus, there are 120 element locations (welds) selected with 145 element examinations selected.