



Constellation Energy[®]

Nine Mile Point Nuclear Station

P.O. Box 63
Lycoming, NY 13093

March 5, 2009

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

ATTENTION: Document Control Desk

SUBJECT: Nine Mile Point Nuclear Station
Unit No. 1; Docket No. 50-220

Extension of Permanent Relief from Inservice Inspection Requirements for Volumetric Examination of Reactor Pressure Vessel Shell Circumferential Welds – Response to NRC Request for Additional Information (TAC No. MD9704)

- REFERENCES:**
- (a) Letter from G. J. Laughlin (NMPNS) to Document Control Desk (NRC), dated September 16, 2008, Extension of Permanent Relief from Inservice Inspection Requirements of 10 CFR 50.55a(g) for the Volumetric Examination of Reactor Pressure Vessel Shell Circumferential Welds for the License Renewal Period of Extended Operation
 - (b) Letter from R. V. Guzman (NRC) to K. J. Polson (NMPNS), dated January 13, 2009, Request for Additional Information Regarding Nine Mile Point Nuclear Station, Unit No. 1, Extension of Permanent Relief from Inservice Inspection Requirements for Volumetric Examination of Reactor Pressure Vessel (RPV) Shell Circumferential Welds (TAC No. MD9704)

Nine Mile Point Nuclear Station, LLC (NMPNS) hereby transmits supplemental information requested by the NRC in support of a previously submitted request for alternative (number 1ISI-001A) under the provision of 10 CFR 50.55a(a)(3). The initial request, dated September 16, 2008 (Reference a), would allow permanent relief from the inservice inspection requirements of 10 CFR 50.55a(g) for the volumetric examination of Nine Mile Point Unit 1 reactor pressure vessel shell circumferential welds for the license renewal period of extended operation. The supplemental information, provided in the attachment to this letter, responds to the request for additional information documented in the NRC's letter dated January 13, 2009 (Reference b). This letter contains no new regulatory commitments.

A047
NRR

Document Control Desk

March 5, 2009

Page 2

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. Whalen', with a large, sweeping flourish extending to the right.

Robert J. Whalen
Manager Engineering Services

RJW/DEV

Attachment: Nine Mile Point Unit 1 – Response to NRC Request for Additional Information
Regarding 10 CFR 50.55a Request Number 1ISI-001A

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

ATTACHMENT

**NINE MILE POINT UNIT 1
RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION
REGARDING 10 CFR 50.55a REQUEST NUMBER 11SI-001A**

ATTACHMENT

NINE MILE POINT UNIT 1 RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION REGARDING 10 CFR 50.55a REQUEST NUMBER 11SI-001A

By letter dated September 16, 2008, Nine Mile Point Nuclear Station, LLC (NMPNS) submitted 10 CFR 50.55a request number 11SI-001A for Nine Mile Point Unit 1 (NMP1). This request would allow permanent relief from the inservice inspection requirements of 10 CFR 50.55a(g) for the volumetric examination of reactor pressure vessel (RPV) shell circumferential welds for the license renewal period of extended operation. This attachment provides a response to the request for additional information documented in the NRC letter dated January 13, 2009. Each NRC request is repeated (in italics), followed by the NMPNS response.

RAI-1

It is stated in the NMPNS submittal that the fluence projection covering the end of the facility operating license is based on the accrual of 46 effective full power years (EFPY) of exposure. However, certain passages of the NMPNS license renewal application, dated July 14, 2005, presented limiting fluence projections based on accrual of 54 EFPY of exposure. Please explain this apparent inconsistency.

Response

In Section 4.2.1 of the NMPNS license renewal application (Reference 1), a reactor vessel irradiation value of 54 Effective Full Power Years (EFPY) was used in the assessment of NMP1 RPV upper-shelf energy. This value was based on 60 years of plant operation with an average capacity factor of 90 percent, and was consistent with the value used in the generic evaluations contained in the Boiling Water Reactor Vessel and Internals Project technical report BWRVIP-74-A (Reference 2).

NMP1 has not operated at an average capacity factor of 90 percent since the time of initial licensing. The NMP1 evaluations contained in license renewal application Section 4.2.2, "Pressure-Temperature (P-T) Limits," were based on a reactor vessel irradiation of 46 EFPY. This value was determined by adding irradiation corresponding to an assumed average capacity factor of 90 percent during the 20-year period of extended operation to the 28 EFPY of exposure that was projected for the end of the original 40-year license term. An exposure of 46 EFPY continues to be projected for the end of 60 years of plant operation and was therefore used as the basis for the analyses performed to support 10 CFR 50.55a request number 11SI-001A.

RAI-2

The enclosure to the NMPNS submittal states, "The fluence values in Table 1 for 28 EFPY and 46 EFPY (from Reference 15) bound the highest fluence beltline circumferential weld..." Please clarify this statement. How was it determined that the listed fluence values bound the highest fluence beltline circumferential weld? What is the location that corresponds to the listed fluence value?

Response

The fluence values listed in Table 1 of 10 CFR 50.55a request number 11SI-001A for 28 EFPY and 46 EFPY of exposure were obtained from the calculation documented in Reference 15 of the request. The fluence calculations were performed using methods that are in accordance with Regulatory Guide 1.190,

ATTACHMENT

NINE MILE POINT UNIT 1 RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION REGARDING 10 CFR 50.55a REQUEST NUMBER 11SI-001A

and have been previously reviewed and approved by the NRC (as documented in References 5 and 6 of request number 11SI-001A). The Table 1 fluence values bound the peak values calculated in Reference 15 at any point on the circumferential weld between the lower and lower intermediate courses. This weld is located within the beltline region; 29.8 inches above the bottom of active fuel (weld no. RVWD-137 at elevation 239'-0", shown on Figure 1 of request number 11SI-001A). The maximum calculated fluence for weld no. RVWD-137 occurs at an azimuthal angle of 17 degrees with octant symmetry. As discussed on page ISI 001A-5 of the request, the failure probability calculations were performed conservatively assuming that the maximum fluence anywhere in the beltline circumferential weld exists throughout the circumferential weld. In reality, the fluence varies circumferentially. If analyses were performed considering these fluence variations, the resulting probability of failures would be lower than calculated using the peak fluence at all weld locations.

References

1. Letter from J. A. Spina (NMPNS) to Document Control Desk (NRC) dated July 14, 2005, "Recovery of Nine Mile Point License Renewal Application Quality (TAC Nos. MC3272 and MC3273)"
2. BWRVIP-74-A: BWR Vessel and Internals Project, BWR Reactor Pressure Vessel Inspection and Flaw Evaluation Guidelines for License Renewal, June 2003