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February 16, 2001
NMP1L 1571

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

RE: Nine Mile Point Unit 1
 Docket No. 50-220
 DPR-63

Nine Mile Point Unit 2
Docket No. 50-410
NPF-69

Subject: ***Revisions to Performance Demonstration Initiative Inservice Inspection
Relief Requests and Response to Related Request for Additional
Information
TAC Nos. MA9803 (Unit 1) and MA9804 (Unit 2)***

Gentlemen:

By letters dated August 31, 2000 (NMP1L 1530), October 26, 2000 (NMP1L 1547), and December 1, 2000 (NMP1L 1559), Niagara Mohawk Power Corporation (NMPC) submitted Performance Demonstration Initiative (PDI) inservice inspection (ISI) relief requests for NRC review. Telephone discussions concerning several of these relief requests were held with the NRC staff on January 8 and January 16, 2001. A request for additional information (RAI) was issued by the Staff on January 30, 2001, pertaining to several of the items discussed in the previous telephone discussions.

NMPC has provided a response to the RAI in Attachment 1. Relief requests ISI-14 (Rev. 1), ISI-17 (Rev. 2) and ISI-18 (Rev. 1) are included in Attachment 2. These revised PDI relief requests supercede those submitted by the previously referenced submittals and address the items discussed in the telephone discussions. NMPC desires to utilize these relief requests during the upcoming Nine Mile Point Unit 1 refueling outage which begins in March 2001. Therefore, NRC approval is requested by March 9, 2001.

Sincerely,

Richard B. Abbott
Vice President Nuclear Engineering

RBA/JJD/cld

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Attachment 1: Response to RAI – 2 pages

Attachment 2: Revised Relief Requests

ISI-14 – 4 pages

ISI-17 – 2 pages

ISI-18 – 2 pages

xc: Mr. H. J. Miller, NRC Regional Administrator, Region I
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Ms. M. K. Gamberoni, Section Chief PD-I, Section 1, NRR
Mr. P. S. Tam, Senior Project Manager, NRR
Records Management

Attachment 1

Niagara Mohawk Power Corporation Response to NRC Request for Additional Information Dated January 30, 2001

Question #1:

Relief Request ISI-14 – NMPC proposed using a length sizing qualification of 0.75 root-mean-square (RMS) in lieu of Appendix VIII, Supplement 4, Subparagraph 3.2(b). Other licensees are also requesting to use the RMS value of 10 CFR 50.55a(b)(2)(xv)(C)(1) which modifies the depth sizing criterion of Appendix VIII, Supplement 4, Subparagraph 3.2(a), in lieu of Subparagraph 3.2(c). Was the omission to request the elimination of Subparagraph 3.2(c) an oversight that needs to be addressed?

Response:

Based on the telecon discussions of January 8 and January 16, 2001, Relief Request ISI-14 has been revised to request use of the RMS value of 10 CFR 50.55a(b)(2)(xv)(C)(1), which modifies the depth sizing criterion of Appendix VIII, Supplement 4, Subparagraph 3.2(a), in lieu of Subparagraph 3.2(c) in a manner consistent with requests from other licensees (i.e., Millstone 2 & 3 and Duane Arnold).

Question #2:

Relief Request ISI-17 – NMPC used specific terms in Sections B and C to describe the alternative and general terms in Section E stating the alternative. Based on the specific items, the proposal would be reducing examination volume to one-half (1/2) inch from each side of the weld crown in lieu of the one-half (1/2) through-wall thickness from each side of the weld requirement of Figures IWB-2500-7(a) and (b). NMPC proposed to use the above examination volume in lieu of the examination volume requirements specified in the 1989 Edition, Section XI, Table IWB-2500-1, Examination Category B-D, Item B3.90 for Section V, Article 4 of the 1989 Edition of the Code. Are the specific items described above the intent of the request? If not please clarify.

Response:

Yes, the specific items described in Sections B and C are the intent of the relief request.

Question #3:

Starting November 22, 2002, the 1995 Edition with 1996 Addenda, Appendix VIII, Supplement 7, as modified by 10 CFR 50.55a(b)(2)(xv)(K) will be required. Is it NMPC's intent to perform the examinations in accordance with the 1995 Edition with 1996 Addenda, Appendix VIII, Supplement 7, as modified by 10 CFR 50.55a(b)(2)(xv)(K) before that date?

Response:

No, NMPC does not intend to perform the examinations in accordance with the 1995 Edition with 1996 Addenda, Appendix VIII, Supplement 7, as modified by 10 CFR 50.55a(b)(2)(xv)(K) before the November 22, 2002, required start date.

Attachment 2

Revised Relief Requests

**NINE MILE POINT UNIT 1/2
INSERVICE INSPECTION INTERVAL
RELIEF REQUEST ISI-14, Revision 1**

A. COMPONENT IDENTIFICATION

System: Reactor Pressure Vessel

Class: Quality Group A, ASME Code Class 1

Component Description: Reactor Pressure Vessel Circumferential, Longitudinal, and Reactor Vessel Closure Head Welds

B. ASME SECTION XI EXAMINATION REQUIREMENTS

1. ASME Section XI, Table IWB-2500-1, Examination Category B-A, "Pressure Retaining Welds in Reactor Vessel, Examination Item Number B1.10, "Shell Welds", and B1.20, "Head Welds"

Code Item Number	Component Identification	Examination Description
B1.11	Circumferential Shell Welds	Volumetric Examination of all welds
B1.12	Longitudinal Shell Welds	Volumetric Examination of all welds
B1.21	Circumferential Head Welds	Volumetric Examination of accessible length of all welds
B1.22	Meridional Head Welds	Volumetric Examination of accessible length of all welds

2. 10 CFR 50.55a(b)(2) was amended to reference ASME Section XI, 1995 Edition, through 1996 Addenda (64 FR 51370), Appendix VIII, Supplement 4, Subparagraph 3.2(b), length sizing qualification criteria, that requires flaw lengths, estimated by ultrasonic examination be the true length -1/4 inch +1 inch.
3. As amended, 10 CFR 50.55a(b)(2)(xv)(C)(1) requires a depth sizing acceptance criteria of 0.15 inch root mean square (RMS) be used in lieu of the requirements of Subparagraphs 3.2(a) and 3.2(b) to Supplement 4 to Appendix VIII of Section XI, 1995 Edition through 1996 Addenda. Subparagraph 3.2(c) contains additional requirements for statistical parameters.

C. RELIEF REQUESTED

Pursuant to 10 CFR 50.55a(a)(3)(i), NMPC requests relief from the length sizing qualification criteria of Appendix VIII, Supplement 4, Subparagraph 3.2(b) as defined in B.2 and B.3 above, and to use the RMSE calculations of 3.2(a) and 3.2(b) in lieu of the statistical parameters of 3.2(c).

D. BASIS FOR RELIEF

Qualifications administered by the Performance Demonstration Initiative (PDI) have used a length sizing acceptance criteria of 0.75 inch root means square (RMS) error since the inception of these demonstrations in 1994.

The USNRC performed an assessment of the PDI program in 1995. As a part of this assessment, they reviewed exceptions to the ASME Code, which were part of the PDI Program. The Assessment report states that the USNRC "does not take exception" to the 0.75-inch RMS error length sizing tolerance,

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RELIEF REQUEST ISI-14, Revision 1

Reference 1.

As amended, 10 CFR 50.55a(b)(2)(xv)(C)(1) required a depth sizing acceptance criteria of 0.15 inch Root Mean Square Error (RMSE) be used in lieu of the requirements of Subparagraphs 3.2(a) and 3.2(b) to Supplement 4 to Appendix VIII of Section XI, 1995 Edition through 1996 Addenda. This depth sizing criterion of 0.15 inch RMS is appropriate to Subparagraph 3.2(a), but is not appropriate to Subparagraph 3.2(b) because Subparagraph 3.2(b) addresses length sizing, not depth sizing.

The USNRC staff requested that the length sizing difference between PDI and the ASME Code be resolved.

The difference between the PDI program and the ASME Code was resolved by the issuance of ASME Code Case N-622, "Ultrasonic Examination of RPV and Piping, Bolts and Studs, Section XI, Division 1", that incorporated the length sizing tolerance of 0.75 inch RMS, as required by PDI.

Discussions between the USNRC Staff and representatives from PDI were held on January 12, 2000. In this discussion, it was acknowledged that the 0.75-inch RMS length sizing criteria should have been included in the modifications provided for Supplement 4 to Appendix VIII in 10 CFR 50.55a(b)(2)(xv)(C), Reference 2. It was also stated that this would be corrected in future revisions.

E. ALTERNATIVE EXAMINATIONS

NMPC proposes to utilize a length sizing qualification criteria of 0.75 inch RMS error, in lieu of the length sizing requirements of the ASME Section XI, 1995 Edition through the 1996 Addenda, of Appendix VIII, Supplement 4, Subparagraph 3.2(b) and as modified by paragraph 10 CFR 50.55a(b)(2)(xv)(C)(1). The depth sizing RMSE calculation will be used in lieu of Subparagraph 3.2(c).

This length sizing criteria will be applicable to the welds identified in Table 1 and 2 attached to this request for relief.

This alternative to the requirements of the ASME Code will provide an acceptable level of quality and safety.

F. IMPLEMENTATION SCHEDULE

Third Ten-Year Inservice Inspection Interval for Unit 1
Second Ten-Year Inservice Inspection Interval for Unit 2

Note: Supplement 4 will be implemented by November 22, 2000, as required by the Final Rule (Reference 3)

G. REFERENCES

1. USNRC Assessment of the PDI Program, Jack R. Strosnider, Chief Materials and Chemical Engineering Branch, to Bruce J. Sheffel, Chairman, PDI, March 6, 1996, Table 2, Item 94-005, Page 34.
2. Meeting Summary, Teleconference between NRC and representatives from PDI, D. G. Naujock, Metallurgist, NDE & Metallurgy Section, to Edmund J. Sullivan, Chief NDE & Metallurgy Section, Chemical Engineering Branch, Division of Engineering, USNRC March 6, 2000.
3. Federal Register, Volume 64, Number 183, dated September 22, 1999, amendment to 10 CFR 50.55(a) Code of Federal Regulations..

**NINE MILE POINT UNIT 1/2
INSERVICE INSPECTION INTERVAL
RELIEF REQUEST ISI-14, Revision 1**

Table 1 APPLICABLE NMP1 WELD IDENTIFICATION		
RPV CIRCUMFERENTIAL WELDS	RPV CLOSURE HEAD WELDS	RPV BOTTOM HEAD WELDS
RV-WD-100	RV-WD-002	RV-WD-147
RV-WD-101	RPV CLOSURE MERIDIONAL HEAD WELDS	RV-WD-162
RV-WD-137	RV-WD-003	RPV BOTTOM HEAD MERIDIONAL WELDS
RV-WD-138	RV-WD-004	RV-WD-148
RPV AXIAL WELDS	RV-WD-005	RV-WD-149
RV-WD-130	RV-WD-006	RV-WD-150
RV-WD-131	RV-WD-007	RV-WD-151
RV-WD-132	RV-WD-008	RV-WD-152
RV-WD-133	RV-WD-009	RV-WD-153
RV-WD-134	RV-WD-010	RV-WD-154
RV-WD-135		RV-WD-155
RV-WD-139		RV-WD-156
RV-WD-140		RV-WD-157
RV-WD-141		RV-WD-158
RV-WD-142		RV-WD-159
RV-WD-143		RV-WD-160
RV-WD-144		RV-WD-161

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Table 2 APPLICABLE NMP2 WELD IDENTIFICATION		
RPV CIRCUMFERENTIAL WELDS	RPV CLOSURE HEAD WELDS	RPV BOTTOM HEAD WELDS
2RPV-AA	2RPV-AH	2RPV-AJ
2RPV-AB	2RPV-AG	
2RPV-AC	RPV CLOSURE MERIDIONAL HEAD WELDS	
2RPV-AD	2RPV-DH	RPV BOTTOM HEAD MERIDIONAL WELDS
2RPV-AE	2RPV-DJ	2RPV-DA
RPV AXIAL WELDS	2RPV-DK	2RPV-DB
2RPV-BA	2RPV-DM	2RPV-DC
2RPV-BB	2RPV-DN	2RPV-DD
2RPV-BC	2RPV-DP	2RPV-DE
2RPV-BD		2RPV-DF
2RPV-BE		2RPV-DG
2RPV-BF		2RPV-DR
2RPV-BG		
2RPV-BH		
2RPV-BJ		
2RPV-BK		
2RPV-BM		
2RPV-BN		

**NINE MILE POINT UNIT 1/2
INSERVICE INSPECTION INTERVAL
RELIEF REQUEST ISI-17, Revision 2**

A. COMPONENT IDENTIFICATION

System: Reactor Pressure Vessel

Class: Quality Group A, ASME Code Class 1

Component Description: Pressure-Retaining Nozzle-to-Vessel welds

B. ASME SECTION XI EXAMINATION REQUIREMENTS

ASME Section XI, 1989 Edition, No Addenda, Table IWB-2500-1, Examination Category B-D, "Full Penetration Welds Of Nozzles in Vessels - Inspection Program B

Code Item Number	Parts Examined	Extent and Frequency
B3.90	Nozzle-to-Vessel Welds	Volumetric Examination of all welds per Figure IWB-2500-7 (a) and (b)

ASME Section V, 1989 Edition, Article 4, Paragraphs; T-441.3.2.5 Angle Beam Scanning, T-441.3.2.6 Scanning for Reflectors Oriented Parallel to the Weld, and T-441.3.2.7 Scanning for Reflectors Oriented Transverse to the Weld.

C. RELIEF REQUESTED

Pursuant to 10 CFR 50.55a (a)(3)(i), NMPC requests relief from the examination volume requirements of ASME Section XI Figures IWB-2500-7 (a) and IWB-2500-7 (b).

NMPC also requests relief from the reference to ASME Section V, Article 4 for scanning requirements.

D. BASIS FOR RELIEF

NMPC is currently required to perform in-service examinations of selected welds in accordance with the requirements of 10 CFR 50.55a(g)(4) and (g)(5), and the 1989 Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components. This Code Edition invokes the examination volume requirements of Figures IWB-2500-7 (a) and IWB-2500-7 (b). This Code Edition also invokes the examination requirements of Appendix I, Article I-2000 which reference ASME Section V, Article 4 that essentially prescribes a twenty (20) year old examination methodology.

The examination volume for the Reactor Vessel pressure retaining nozzle-to-vessel welds extends far beyond the weld into the base metal, and is unnecessarily large. This extends the examination time significantly, and results in no net increase in safety, as the area being examined is a base metal region which is not prone to inservice cracking and has been extensively examined before the vessel was put into service and during the First Inservice examination.

The implementation of this request for relief would reduce the examination volume next to the widest part of the weld from half of the vessel wall thickness to one-half (1/2) inch from the weld. This reduction is applicable to base metal examination volume that was extensively interrogated during the construction and preservice inspections and is not located in the high stressed areas of the nozzle-to-vessel weld. The high stressed areas are included in the examination volume as defined above and are subject to examination.

Implementation of this request for relief is also expected to reduce on-vessel examination time, which translates

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RELIEF REQUEST ISI-17, Revision 2**

to significant cost savings and reduced personnel radiation exposure.

E. ALTERNATIVE EXAMINATIONS

NMPC proposes to use the reduced volume of one-half (1/2") inch from the weld crown, in lieu of the 1/2t (through wall) requirements of ASME Section XI Figures IWB-2500-7 (a) and IWB-2500-7 (b).

F. IMPLEMENTATION SCHEDULE

Third Ten-Year Inservice Inspection Interval for Unit 1
Second Ten-Year Inservice Inspection Interval for Unit 2

G. ATTACHMENT TO THE RELIEF:

None

**NINE MILE POINT UNIT 1/2
INSERVICE INSPECTION INTERVAL
RELIEF REQUEST ISI-18, Revision 1**

A. COMPONENT IDENTIFICATION

System: Various

Class: Quality Group A and B, Code Class 1 and 2

Component Description: All components subject to ultrasonic examination in accordance with the 1995 Edition and 1996 Addenda of ASME Section XI, Appendix VIII.

B. ASME SECTION XI EXAMINATION REQUIREMENTS

The 1995 Edition with the 1996 Addenda of ASME Section XI, Sub-article VII-4240 requires a minimum of 10 hours of annual training.

10 CFR 50.55a(b)(2)(xiv) requires that all personnel qualified for performing ultrasonic examination in accordance with Appendix VIII shall receive 8 hours of annual hands-on training on specimens that contain cracks. This training must be completed no earlier than 6 months prior to performing ultrasonic examinations at a licensee's facility.

C. RELIEF REQUESTED

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested from the provisions of Sub-article VII-4240, that requires a minimum of 10 hours Annual Training .

D. BASIS FOR RELIEF

10 CFR 50.55a was amended in the Federal Register (Volume 64, No. 183 dated September 22, 1999) to require the 1995 Edition, with the 1996 Addenda of Section XI for Appendix VIII qualification requirements. This amendment also imposes the requirements of Appendix VII of the 1995 Edition, with 1996 Addenda of Section XI, which includes Sub-article VII-4240, that requires training on an annual basis to impart knowledge of new developments, material failure modes, and any pertinent technical topics as determined by NMPC. The extent of training shall be a minimum of 10 hours per year.

Paragraph 2.4.1.1.1 in the Federal Register stated that the USNRC had determined that the requirement [10 hours of training on an annual basis] was inadequate for the following reasons:

1. The training does not require laboratory work and examination of flawed specimens. Signals can be difficult to interpret and, as detailed in the regulatory analysis for this rule making, experience and studies indicate that the examiner must practice on a frequent basis to maintain the capability for proper interpretation.
2. Studies on the length of training and its frequency have shown that an examiner's capability begins to diminish within approximately 6 months if skills are not maintained.

The USNRC had determined in order to maintain skills, an examiner must practice on a more frequent basis to maintain proper skill level.

The PDI program has adopted a requirement for 8 hours of training, but it is required to be hands-on practice. In addition, the training must be taken no earlier than 6 months prior to performing examinations at a licensee's facility. PDI believes that 8 hours will be acceptable relative to an examiner's abilities in this highly specialized skill area because personnel can gain knowledge of new developments, material failure modes, and other pertinent technical topics through other means.

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Therefore, the USNRC has decided to adopt in the final rule the PDI position on this matter. These changes are reflected in § 50.55a(b)(2)(xiv).

Paragraph 50.55a(b)(2)(xiv) of the final rule states all personnel qualified for performing ultrasonic examinations in accordance with Appendix VIII shall receive 8 hours of annual hands-on training on specimens that contain cracks. This training must be completed no earlier than 6 months prior to performing ultrasonic examinations at a licensee's facility.

Implementation of the requirements contained in ASME Section XI and 10 CFR 50.55a will result in redundant training programs. The use of the regulatory requirements in lieu of additional requirements will simplify record keeping, satisfy needs for maintaining skills, and provide an acceptable level of quality and safety.

E. ALTERNATIVE EXAMINATIONS

NMPC proposes to use the annual ultrasonic training required by 10 CFR 50.55a(b)(2)(xiv) in lieu of ASME Section XI, Appendix VII, paragraph VII-4240. This training will be completed no earlier than 6 months prior to performing ultrasonic examinations at a licensee's facility. In addition, NMPC proposes to use the 8 hours annual training requirement for Appendix VII (non-Appendix VIII UT) personnel.

F. IMPLEMENTATION SCHEDULE

Third Ten-Year Inservice Inspection Interval for Unit 1
Second Ten-Year Inservice Inspection Interval for Unit 2

G. ATTACHMENTS

None