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INFORMAL REPORT

TECHNICAL EVALUATION REPORT ON THE SECOND 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN: NIAGARA MOHAWK POWER CORPORATION, NINE MILE POINT NUCLEAR STATION UNIT 1, DOCKET NUMBER 50-220

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EG&G Idaho

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ABSTRACT

This report presents the results of the evaluation of the Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval Inservice Inspection (ISI) Program Plan through Revision 0, submitted December 16, 1985, including the Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval ISI Program Plan for Component Supports, submitted February 21, 1986. The ISI Program Plan was evaluated for (a) compliance with the appropriate edition of Section XI, (b) acceptability of examination sample, (c) exclusion criteria, and (d) compliance with ISI-related commitments identified during the NRC's previous PSI and ISI reviews. The requests for relief from the ASME Code requirements which the Licensee has determined to be impractical for the second 10-year inspection interval were not submitted at the time this evaluation was performed and, therefore, have not been evaluated in this report. It has been concluded that the ISI Program Plan is acceptable and in compliance with 10 CFR 50.55a(g)(4).

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Operating Reactor Licensing Issues Program,
Review of ISI for ASME Code Class 1, 2, and 3 Components

SUMMARY

The Licensee, Niagara Mohawk Power Corporation, has prepared the Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval Inservice Inspection (ISI) Program Plan, Revision 0, to meet the requirements of the 1983 Edition, Summer 1983 Addenda (83S83) of the ASME Code Section XI except that the extent and frequency of examination for Code Class 2 piping welds has been determined by Code Case N-408, "Alternative Rules for Examination of Class 2 Piping, Section XI, Division 1". The second inspection interval began June 1986 and ends June 1996.

The information in the Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval ISI Program Plan, through Revision 0, submitted December 16, 1985, including the Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval ISI Program Plan for Components Supports, submitted February 21, 1986, was reviewed. As a result of this review, a Request for Additional Information (RAI) was prepared describing the information and/or clarification required from the Licensee in order to complete the review. The Licensee's response to the RAI stated that any requests for relief from the ASME Code requirements which the Licensee has determined to be impractical will be submitted at a later date.

Based on the review of the Second 10-Year Interval ISI Program Plan, Revision 0, and the Licensee's response to the NRC's Request for Additional Information, it has been concluded that the Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval Inservice Inspection Program Plan, Revision 0, is acceptable and in compliance with 10 CFR 50.55a(g)(4) contingent upon satisfactory resolution of any requests for relief submitted by the Licensee subsequent to this evaluation.

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TECHNICAL EVALUATION REPORT ON THE
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1. INTRODUCTION

Throughout the service life of a water-cooled nuclear power facility, 10 CFR 50.55a(g)(4) (Reference 1) requires that components (including supports) which are classified as American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Class 1, Class 2, and Class 3 meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in ASME Code Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," (Reference 2) to the extent practical within the limitations of design, geometry, and materials of construction of the components. This section of the regulations also requires that inservice examinations of components and system pressure tests conducted during the second 120-month inspection interval shall comply with the requirements in the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) on the date 12 months prior to the start of the second 120-month inspection interval, subject to the limitations and modifications listed therein. The components (including supports) may meet requirements set forth in subsequent editions and addenda of this Code which are incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein. The Licensee, Niagara Mohawk Power Corporation, has prepared the Nine Mile Point Nuclear Station Second 10-Year Interval Inservice Inspection (ISI) Program Plan, Revision 0, to meet the requirements of the 1983 Edition, Summer 1983 Addenda (83S83) of the ASME Code Section XI except that the extent and frequency of examination for Class 2 piping welds has been determined by Code Case N-408, "Alternative Rules for Examination of Class 2 Piping, Section XI, Division 1". The second inspection interval began June 1986 and ends June 1996.

The information in the Nine Mile Point Nuclear Station Second 10-Year Interval ISI Program Plan, through Revision 0 (Reference 3), submitted December 16, 1985, including the Nine Mile Point Nuclear Station Second

10-Year Interval ISI Program Plan for Component Supports (Reference 4), submitted February 21, 1986, was reviewed. The review of the ISI Program Plan was performed using the Standard Review Plans of NUREG-0800 (Reference 5), Section 5.2.4, "Reactor Coolant Boundary Inservice Inspections and Testing," and Section 6.6, "Inservice Inspection of Class 2 and 3 Components".

In a letter dated July 15, 1986 (Reference 6), the Nuclear Regulatory Commission (NRC) requested the additional information that was required in order to complete the review of the ISI Program Plan. The requested information was provided by the Licensee in a letter dated September 30, 1986 (Reference 7). In this response, the Licensee provided Boundary Diagrams which define the ASME Class 1, 2, and 3 boundaries for the systems being examined, made corrections to the ISI Program Plan, and stated that the requests for relief from the ASME Code requirements which the Licensee has determined to be impractical will be submitted at a later date. As stated above, the requests for relief for the second 10-year inspection interval were not submitted at the time this evaluation was performed and, therefore, are not addressed in this report.

The Nine Mile Point Nuclear Station Second 10-Year Interval ISI Program Plan is evaluated in Section 2 of this report. The ISI Program Plan is evaluated for (a) compliance with the appropriate edition of Section XI, (b) acceptability of examination sample, (c) exclusion criteria, and (d) compliance with ISI-related commitments identified during the NRC's previous PSI and ISI reviews. Unless otherwise stated, references to the Code refer to the ASME Code, Section XI, 1983 Edition including Addenda through Summer 1983. Specific inservice test (IST) programs for pumps and valves are being evaluated in other reports.

2. EVALUATION OF INSERVICE INSPECTION PROGRAM PLAN

This evaluation consisted of a review of the applicable program documents to determine whether or not they are in compliance with the Code requirements and any license conditions pertinent to ISI activities. This section describes the submittals reviewed and the results of the review.

2.1 Documents Evaluated

Review has been completed on the following information:

(a) Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval ISI Program Plan, Revision 0, submitted December 16, 1985;

(b) Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval ISI Program Plan for Component Supports, Revision 0, submitted February 21, 1986;

(c) Licensee's "Response to NRC's Request for Additional Information" submitted September 30, 1986.

2.2 Compliance with Code Requirements

2.2.1 Compliance with Applicable Code Editions

The ISI Program Plan shall be based on the Code editions defined in 10 CFR 50.55a(b). Based on the starting date of June 1986 for the second 10-year inspection interval, the Code applicable to the second 10-year inspection interval ISI program is the 1980 Edition with Addenda through Winter 1981. As stated in Section 1 of this report, the Licensee has written the Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval ISI Program Plan to meet the requirements of the 1983 Edition, Summer 1983 Addenda of the Code except that the extent and frequency of examinations for Class 2 piping welds has been determined by the requirements of Code Case N-408, "Alternative Rules for Examination of Class 2 Piping, Section XI, Division 1". The use of later approved Code editions and

addenda is allowed by 10 CFR 50.55a(g)(4)(iv). Code Case N-408 is referenced in Regulatory Guide 1.147, Revision 5 (Reference 8), as an NRC-approved code case and, therefore, may be used.

2.2.2 Acceptability of the Examination Sample

Inservice volumetric, surface, and visual examinations shall be performed on ASME Code Class 1, 2, and 3 components and their supports using sampling schedules described in Section XI of the ASME Code and 10 CFR 50.55a(b). Sample size and weld selection have been implemented in accordance with the Code and appear to be correct.

2.2.3 Exclusion Criteria

The criteria used to exclude components from examination shall be consistent with Paragraphs IWB-1220, IWC-1220, IWC-1230, IWD-1220, and 10 CFR 50.55a(b). The exclusion criteria have been applied by the Licensee in accordance with the Code as discussed in Section 3.2 of the ISI Program Plan and appear to be correct.

2.2.4 Augmented Examination Commitments

The following augmented examinations will be implemented during the second 10-year inspection interval:

(a) Intergranular Stress Corrosion Cracking (IGSCC) - An augmented ultrasonic examination of stainless steel piping welds which are considered susceptible to IGSCC will be performed as required in NUREG-0313, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping" (Reference 9). Both "nonconforming nonservice sensitive" and "nonconforming service sensitive" welds exist at Nine Mile Point Unit 1. The former have been scheduled for examination every 80 months, the latter at each scheduled plant outage but not more frequently than every 6 months.

In addition, the Licensee states that the requirements of Generic

Letter 84-11 (Reference 10) will be met with regard to the inspection of "nonconforming nonservice sensitive piping".

(b) Core Spray Spargers - A visual inspection of the Core Spray Spargers and the segment of piping between the inlet nozzle and the vessel shroud will be performed at each scheduled refueling outage.

(c) NUREG-0619 "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking" (Reference 11) - For inservice inspection, an external ultrasonic examination of all feedwater nozzle safe ends, bores, and inside blend radii will be performed at every second scheduled refueling outage. The same areas will receive an internal liquid penetrant examination at every sixth scheduled refueling outage (on or after 90 startup/shutdown cycles). In addition, the feedwater spargers will receive a visual inspection at every fourth scheduled refueling outage.

(d) Scram Discharge Volume Piping - The classification of the Scram Discharge Volume Piping has been revised as recommended by NUREG-0803 "Generic Safety Evaluation Report Regarding Integrity of BWR Scram System Piping" (Reference 12).

2.3 Conclusions

Based on the review of the documents listed above, it is concluded that the Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval Inservice Inspection Program Plan, Revision 0, is acceptable and in compliance with 10 CFR 50.55a(g)(4).

3. EVALUATION OF RELIEF REQUESTS

As required by 10 CFR 50.55a(g)(5), if the licensee determines that certain Code examination requirements are impractical and requests relief from them, the licensee shall submit information and justifications to the NRC to support that determination. No requests for relief from the ASME Code requirements were submitted at the time this evaluation was performed.

4. CONCLUSION

Based on the review of the Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval Inservice Inspection Program Plan, Revision 0, and the Licensee's response to the NRC's Request for Additional Information, it has been concluded that the Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval Inservice Inspection Program Plan, Revision 0, is acceptable and in compliance with 10 CFR 50.55a(g)(4) contingent upon satisfactory resolution of any requests for relief submitted by the Licensee subsequent to this evaluation.

5. REFERENCES

1. Code of Federal Regulations, Volume 10, Part 50.

2. American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Division 1, 1983 Edition through Summer 1983 Addenda, including Code Cases for Nuclear Components.

3. Letter, C.V. Mangan [Niagara Mohawk Power Corporation (NMPC)] to J.A. Zwolinski (NRC), "Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval Inservice Inspection Program Plan, Revision 0," submitted December 16, 1985.

4. Letter, C.V. Mangan (NMPC) to J.A. Zwolinski (NRC), "Nine Mile Point Nuclear Station Unit 1 Second 10-Year Interval Inservice Inspection Program Plan for Component Supports, Revision 0," submitted February 21, 1986.

5. NUREG-0800, Standard Review Plans, Section 5.2.4, "Reactor Coolant Boundary Inservice Inspection and Testing," and Section 6.6, "Inservice Inspection of Class 2 and 3 Components," July 1981.

6. Letter, J.A. Zwolinski (NRC) to C.V. Mangan (NMPC), "Request for Additional Information with regard to the Second 10-Year Interval ISI Program Plan," dated July 15, 1986.

7. Letter, C.V. Mangan (NMPC) to J.A. Zwolinski (NRC), "Response to NRC's Request for Additional Information," dated September 30, 1986.

8. Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 5, August 1986.

9. NUREG-0313, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping," Revision 1, July 1980.

10. Generic Letter 84-11, "Inspections of BWR Stainless Steel Piping," April 19, 1984.

11. NUREG-0619, "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking," November 1980.

12. NUREG-0803, "Generic Safety Evaluation Report Regarding Integrity of BWR Scram System Piping," August 1981.

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