November 27, 2000

Dr. Robert C. Mecredy
Vice President, Nuclear Operations
Rochester Gas and Electric Corporation
89 East Avenue
Rochester, NY 14649

SUBJECT: R.E. GINNA NUCLEAR POWER PLANT - RELIEF REQUEST NO. 44 FOR THE THIRD 10-YEAR INSERVICE INSPECTION INTERVAL AND REQUEST NO. 16 FOR THE FOURTH 10-YEAR INSERVICE INSPECTION INTERVAL (TAC NO. MA8059)

Dear Dr. Mecredy:

By letter dated January 13, 2000, you submitted one request for relief pursuant to the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(g)(5)(iii) from the American Society of Mechanical Engineers Boiler Pressure and Vessel (ASME Code), Section XI requirements for inservice inspection (ISI) covering two ISI intervals. The NRC staff has reviewed and evaluated the information provided in Relief Request No. 44 for the third 10-year ISI interval and Relief Request No. 16 for the fourth 10-year ISI interval.

The staff's safety evaluation is enclosed. The relief requests were reviewed against the requirements of the 1989 Edition of the ASME Code, Section XI for component welds, and 10 CFR 50.55a(g)(6)(i).

The staff finds your requests for relief acceptable. In making this determination, the staff considered the impracticality of performing the required inspections and the burden on you if the Code requirements were imposed. Therefore, the staff concludes that certain inservice examinations are impractical and cannot be performed to the extent required by the Code at R.E. Ginna Nuclear Power Plant. Your proposed examinations provide reasonable assurance of structural integrity of the subject welds. Therefore, relief is granted pursuant to 10 CFR 50.55a(g)(6)(i) for Relief Request No. 44 for your third 10-year ISI interval and for Relief Request No. 16 for your fourth 10-year ISI interval. This grant of relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Sincerely,

/RA by Alexander W. Dromerick for/

Marsha Gamberoni, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosure: Safety Evaluation

cc w/encl: See next page

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Vice President, Nuclear Operations
Rochester Gas and Electric Corporation
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Rochester, NY 14649

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE THIRD AND FOURTH 10-YEAR INSERVICE INSPECTION INTERVALS

RELIEF REQUEST NOS. 44 AND 16

R.E. GINNA NUCLEAR POWER PLANT

ROCHESTER GAS AND ELECTRIC CORPORATION

DOCKET NO. 50-244

1.0 INTRODUCTION

By letter dated January 13, 2000, Rochester Gas and Electric Corporation (the licensee) submitted one request for relief from the volumetric examination requirement of the American Society of Mechanical Engineers Boiler Pressure and Vessel Code (ASME Code), Section XI. The relief request covers two 10-year inservice inspection (ISI) intervals. The information provided by the licensee in support of the requests for relief from Code requirements has been evaluated pursuant to the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(g)(6)(i) and the basis for disposition is documented below.

2.0 BACKGROUND

Inservice inspection of the ASME Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Code and applicable addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(6)(g)(i).

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, “Rules for Inservice Inspection of Nuclear Power Plant Components,” to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. For the R.E. Ginna Nuclear Power Plant the applicable edition of Section XI of the ASME Code for the third 10-year ISI interval is the 1986 Edition and the applicable edition of Section XI of the ASME Code for the fourth 10-year ISI is the 1995 Edition, through the 1996 Addenda.

3.0 EVALUATION

3.1 Relief Request Number 44 for the Third 10-Year ISI Interval
Relief Request Number 16 for the Fourth 10-Year ISI Interval

The components for which relief is requested:

The relief request pertains to two (2) Residual Heat Removal (RHR) Heat Exchanger component supports containing integral attachments, ASME Class 2, Category C-C, Item Number C3.10. Each component support on the heat exchangers are identical and contains three (3) channel iron integral attachments. ASME Section XI Code, requires that for multiple vessels, only one welded attachment of only one of the multiple vessels shall be selected for surface examination. Inservice examination capability for the supports is limited as follows:

Component	Weld ID	Exam Coverage	Limitations
EACO2A	1A-1	65%	Inside of Channel Iron
EACO2A	1A-2	65%	Inside of Channel Iron
EACO2A	1A-3	65%	Inside of Channel Iron
EACO2B	1B-1	67%	Inside of Channel Iron
EACO2B	1B-2	64%	Inside of Channel Iron
EACO2B	1B-3	65%	Inside of Channel Iron

ASME Section XI Code Requirement from which relief is requested (as stated):

ASME Section XI Code requires essentially 100% of the weld length or area to be examined. ASME Section XI Code Case N-460 states that if the entire examination volume or area cannot be examined due to interference by another component or part geometry, a reduction in coverage is acceptable provided that the lack of coverage is less than 10%.

Relief is requested from examining 100% of the weld length or areas for these identified items. Examining 100% of the weld length or areas would be impractical due to original design configuration.

Licensee's Basis for Requesting Relief (as stated):

Relief is requested pursuant to the provisions of 10 CFR 50.55a(g)(5)(iii), in that the required examination coverage for the identified items are impractical and would require redesign to allow examination.

The two identical Residual Heat Removal (RHR) Heat Exchangers were designed and constructed to ASME Section VIII, 1965 Edition. This Code did not contain requirements to ensure that items be accessible for future examinations. The ASME Class 2 Integral

Attachments identified above were installed utilizing this construction code which did not provide for accessibility for future ISI NDE [Non Destructive Examination]. The ISI ASME Section XI requirement[s] are identified within Table IWC-2500-1, Category C-C, Item Number C3.10.

Licensee's Proposed Alternative (as stated):

R.E. Ginna Nuclear Power Plant proposes that the surface examination coverage identified above be acceptable in fulfilling the required examination coverage.

Licensee's Justification for Relief (as stated):

The Residual Heat Removal (RHR) Heat Exchangers were designed and constructed to ASME Section VIII, 1965 Edition construction code. This code did not contain requirements to ensure that items be made accessible for future NDE examinations. Due to the original design configuration, examination coverage [cannot] be obtained to the extent required by the current ASME Code. The Integral Attachment welded configuration consist of a channel iron which is on an angle and welded all around to the curved Lower Head of the Heat Exchanger. The inside area of the channel iron to the Lower Head is an acute angle which prevents access for surface examination.

The Residual Heat Removal (RHR) Heat Exchangers are part of the ASME Section XI VT-2 Leakage Examination boundary. In addition to the ASME Section XI leakage examinations, operator walkdowns as specified by Plant Operating Procedures are also performed. The combination of operator walkdowns, period leakage examinations and inservice examination of all accessible areas of the weld lengths and areas (~65%) provide additional assurances for maintaining system boundary integrity.

Staff Evaluation

The ASME Code, Section XI, Table IWC-2500-1, examination Category C-C, item number C3.10 requires 100% surface examination of integrally-welded attachments to pressure vessels as defined by Figure IWC-2500-5. Complete examination coverage of the subject integrally-welded attachments is restricted. The examination of the subject channel iron integral attachments on the heat exchangers was limited due to the angle at which the channel irons are attached and welded all around to the curved lower head of the heat exchanger. The inside area of the channel iron to the lower head is an acute angle which prevents access for the required surface examination. Gaining additional access for examination of the subject welds would require design modifications. Imposition of this requirement would impose a significant burden on the licensee.

The NRC staff has determined that the licensee examined the subject welds to the extent practical. The licensee examined a significant portion of the subject welds, in addition to completing the ASME Section XI leakage examinations and operator walkdowns as specified by the plant operating procedures. Based on the licensee's achievement of 64% - 67% surface examination coverage and performance of a VT-2 leak examination and operator walkdowns, the NRC staff concludes that any patterns of significant degradation, if present, would be detected, and that the licensee's actions provide reasonable assurance of structural integrity of

the subject welds. Therefore, relief is granted pursuant to 10 CFR 50.55a(g)(6)(i) for the licensee's third and fourth 10-year ISI interval.

4.0 CONCLUSION

The staff concludes that certain inservice examinations are impractical and cannot be performed to the extent required by the Code at R.E. Ginna Nuclear Power Plant. The licensee's proposed examinations provide reasonable assurance of structural integrity of the subject welds. Therefore, relief is granted pursuant to 10 CFR 50.55a(g)(6)(i) for Relief Request No. 44 for the licensee's third 10-year ISI interval and for Relief Request No. 16 for the licensee's fourth 10-year ISI interval. This grant of relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Principal Contributor: Andrea Keim

Date: November 27, 2000

R.E. Ginna Nuclear Power Plant

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