

November 21, 2003

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 - INSERVICE TESTING PROGRAM  
RELIEF REQUESTS VR-4 AND VR-8 (TAC NO. MC0639)

Dear Dr. Mecredy:

In letters dated August 8 and October 20, 2003, you stated that it was Rochester Gas and Electric Corporation's (RG&E's) intent to begin using Appendix I of the American Society of Mechanical Engineers Operation and Maintenance of Nuclear Power Plants Code-1998 (ASME OM Code -1998) for inservice testing (IST) of pressure relief valves before December 31, 2003. You stated that since ASME OM Code -1998 was incorporated by reference in 10 CFR 50.55a, that RG&E could implement it without Nuclear Regulatory Commission (NRC) approval. Your letters requested NRC approval of revisions to previously approved relief requests VR-4 and VR-8 to reflect the use of Appendix I of ASME OM Code -1998.

Pursuant to 10 CFR 50.55a(f)(4)(iv), licensees may meet the requirements of later editions and addenda of the ASME OM Code subsequent to those required by 10 CFR 50.55a(f)(4)(ii) for the applicable 120-month interval, subject to any limitations and modifications listed in 10 CFR 50.55a(b), subject to meeting any related requirements in the subsequent editions and addenda, and subject to Commission approval. Accordingly, the enclosed safety evaluation addresses your proposed use of Appendix I of ASME OM Code -1998 as well as your proposed revisions to relief requests VR-4 and VR-8.

Based on its review, the NRC staff has approved the implementation of Appendix I of ASME OM Code -1998 pursuant to 10 CFR 50.55a(f)(4)(iv). For VR-8, relief is granted from certain Appendix I IST requirements pursuant to 10 CFR 50.55a(f)(6)(i) on the basis that meeting the Code requirements is impractical. For VR-4, the proposed alternative is authorized pursuant to

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10 CFR 50.55a(a)(3)(ii) on the basis that meeting the Code requirements would result in a hardship without a compensating increase in the level of quality and safety. Both reliefs are granted for the remainder of the IST program fourth 10-year interval.

Sincerely,

*/RA/*

Richard J. Laufer, Chief, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosure: As stated

cc w/encl: See next page

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R.E. Ginna Nuclear Power Plant

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO THE INSERVICE TESTING PROGRAM, FOURTH 10-YEAR INTERVAL  
AT R. E. GINNA NUCLEAR POWER PLANT

1.0 INTRODUCTION

By letters dated August 8 and October 20, 2003, Rochester Gas and Electric Corporation, the licensee for the R.E. Ginna Nuclear Power Plant (Ginna), stated its intention to implement by December 31, 2003, the mandatory requirements of Appendix I of the American Society of Mechanical Engineers Operation and Maintenance of Nuclear Power Plants Code-1998 (ASME OM Code-1998), in lieu of the requirements in ASME OM Code-1987, Part 1, for inservice testing (IST) of pressure relief valves. The licensee determined that updating to a later ASME OM Code edition results in the need to revise two currently authorized relief requests. Therefore, the licensee requested authorization of its revised relief requests, VR-4 and VR-8.

2.0 REGULATORY EVALUATION

The *Code of Federal Regulations*, 10 CFR 50.55a, requires that IST of certain ASME Code Class 1, 2, and 3 pumps and valves be performed in accordance with the applicable edition of Section XI of the ASME Boiler and Pressure Vessel Code (ASME Code) or the ASME OM Code and applicable addenda, except where alternatives have been authorized or relief has been requested by the licensee and granted by the Commission pursuant to paragraphs (a)(3)(i), (a)(3)(ii), or (f)(6)(i) of 10 CFR 50.55a. In proposing alternatives or requesting relief, the licensee must demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance is impractical for its facility. Section 50.55a authorizes the Commission to approve alternatives and to grant relief from ASME Code requirements upon making the necessary findings. The Nuclear Regulatory Commission (NRC) guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to the Code requirements which are acceptable. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants."

By letter dated June 13, 2000, the NRC authorized several alternatives to the ASME Code requirements for the fourth 10-year interval IST program for pumps and valves. The fourth 10-year IST interval for Ginna began on January 1, 2000, and is scheduled to end December 31, 2009. The IST program was developed in accordance with the requirements of the 1989 Edition of the ASME Code, Section XI which references ASME OM Code-1987, Part 1, for IST of pressure relief devices. In the June 13, 2000, letter, the NRC specifically authorized the currently implemented relief requests, VR-4 and VR-8.

Enclosure

Appendix I of ASME OM Code-1998, which the licensee has stated it intends to implement by December 13, 2003, was incorporated by reference into 10 CFR 50.55a (67 FR 60520) and became effective on October 28, 2002. Pursuant to 10 CFR 50.55a(f)(4)(iv), licensees may meet the requirements of later editions and addenda of the ASME OM Code subsequent to those required by 10 CFR 50.55a(f)(4)(ii) for the applicable 120-month interval, subject to any limitations and modifications listed in 10 CFR 50.55a(b), subject to the meeting of any related requirements in the subsequent editions and addenda, and subject to Commission approval.

The licensee's proposed revisions to relief requests VR-4 and VR-8 from certain requirements of Appendix I of ASME OM Code-1998 are similar to the currently authorized alternatives.

The NRC's findings with respect to approving the use of Appendix I of ASME OM Code-1998 for pressure relief valves and granting or denying the IST program relief requests VR-4 and VR-8 are given below.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Implementation of Appendix I of ASME OM Code-1998 for Pressure Relief Valves

The NRC staff finds that there are no limitations or modifications listed in 10 CFR 50.55a(b) for meeting the IST requirements for pressure relief valves according to Appendix I of the ASME OM Code-1998. Further, the staff has identified no conflicts between the requirements of Appendix I of ASME OM Code-1998 and other existing IST program requirements. As a result, there are no known related requirements necessary for implementing Appendix I of the ASME OM Code-1998, other than to revise relief requests VR-4 and VR-8, which are discussed below. Therefore, pursuant to 10 CFR 50.55a(f)(4)(iv), the use of Appendix I of the ASME OM Code-1998 for IST of pressure relief valves is approved for the fourth 10-year IST interval.

#### 3.2 Relief Request VR-4

For the pressurizer safety relief valves, the licensee requests relief from paragraph I-7310(f) of Appendix I of ASME OM Code-1998 (Appendix I). This provision of the Code requires the operation and electrical characteristics of position indicators be determined after maintenance or set pressure adjustment of Class 1 safety valves. The licensee proposes to remotely verify the valve's position indication during refueling outages by simulating actuation using existing calibration procedures. The proposed relief request differs from the currently approved relief request VR-4 in that ASME OM-1987, Part 1 requires the above determination be made before maintenance or set pressure adjustment of the valves while Appendix I requires the determination be made after maintenance or set pressure adjustment of the valves. Also, the numbering of the ASME OM-1987, Part 1 paragraphs is different from Appendix I.

##### 3.2.1 Licensee's Basis for Requesting Relief

The licensee states:

These valves are mechanical spring-actuated valves with an externally-mounted LVDT [linear variable differential transformer] stem position indicator. The position indicator must be removed in order to permit removal of the safeties each refueling outage for shipment to an off-site vendor for set pressure testing. It would be necessary to

intentionally challenge RCS [reactor coolant system] pressure limits to actuate these safety valves in order to perform position indication testing. Also, if these safety valves were actuated for a position indication test following re-installation, they would again need to be retested to ensure the set pressure has not been adversely affected. This involves increased testing and unnecessary radiation exposure to testing personnel.

### 3.2.2 Alternative Testing

The licensee proposes:

These valves will be simulated to actuate using existing station calibration procedures. The procedure utilizes movement of the valve's LVDT coil (up/down) and verifies position via an alarm in the Control Room. Calibration of these position indicators is governed by plant calibration procedures and is performed on a refueling basis. These procedures verify that the proper clearance is obtained to ensure obturator motion is accurately represented.

### 3.2.3 Evaluation

The pressurizer safety relief valves, 434 and 435, provide overpressure protection for the RCS and pressurizer. Paragraph I-7310(f) of Appendix I requires the operation and electrical characteristics of position indicators be determined after maintenance or set pressure adjustment of Class 1 safety valves. The licensee proposes an alternative to remotely verify the valves' position indication during refueling outages by simulating actuation using existing calibration procedures.

These valves are mechanically actuated in response to pressurizer pressure. It would be necessary to intentionally challenge RCS pressure limits to actuate the valves to perform position indication testing after removal for set pressure testing. Actuating the valves for position indication verification following set pressure testing would necessitate a retest of the valves' set relief pressure. This would unnecessarily expose the test personnel to radiation and result in a hardship without a compensating increase in the level of quality and safety.

The licensee proposed an alternative to verify the valves' remote position indication by moving the valves' LVDT coils and observing the appropriate response of the control room indication. Although this procedure does not verify actual valve obturator position, it gives reasonable assurance that valve position is accurately indicated. The NRC's staff safety evaluation dated November 4, 1993, evaluated a similar request for relief for the third 10-year IST interval and determined that the procedural controls employed for the verification of the position indication accurately reflect the obturator position and will provide reasonable assurance of the valves' operational readiness.

### 3.2.4 Conclusion

The licensee's proposed alternative to the requirements of paragraph I-7310(f) of Appendix I for the pressurizer safety relief valves is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) for the fourth 10-year IST interval. Compliance with the Code requirements would result in a hardship without a compensating increase in the level of quality and safety.

### 3.3 Relief Request VR-8

The licensee has requested relief from the test sequence requirements of paragraph I-7360 of Appendix I for valve 392A in the chemical and volume control system charging flowpath. The licensee proposes to verify each refueling outage that the valve will open and pass the required flow at design differential pressure. The proposed relief request differs from the currently approved relief request VR-8 only in the numbering of the Appendix I paragraphs.

#### 3.3.1 Licensee's Basis for Requesting Relief

The licensee states:

Paragraph I-7360 of Appendix I of ASME OM Code-1998 requires that certain typical bench testing be performed on relief valves. This valve is a welded inline air-operated valve which also performs a relief function at a specific differential pressure. The bench tests listed in this paragraph cannot practically be performed on valve 392A.

#### 3.3.2 Alternative Testing

The licensee proposes:

Valve 392A will be tested in place each refueling outage by verifying that it will open and pass the required flow at design differential pressure.

#### 3.3.3 Evaluation

The licensee has requested relief from the test sequence requirements of Appendix I, paragraph I-7360 for valve 392A in the chemical and volume control system. The function of this pressure relief valve is to protect the charging header from over-pressurization. The relief valve opens at a set differential pressure across the valve to provide a flowpath from the charging system to the RCS loop B hot leg. The valve recloses after the differential pressure has decreased below the valve's setpoint. Although the valve functions as a relief valve, it is welded into the system piping and cannot be removed from the system to be bench tested in accordance with the Code. This makes complying with the requirements of paragraph I-7360 impractical.

As an alternative to the Code-required testing, the licensee proposes to verify each refueling outage that the valve will open and pass the required flow at design differential pressure. This alternative provides reasonable assurance of the valve's operational readiness. It would be burdensome to require the licensee to replace this valve or make system modifications that permit valve removal for bench testing to comply with the Code requirements.

#### 3.3.4 Conclusion

Relief from the requirements of Appendix I, paragraph I-7360 for valve 392A is granted pursuant to 10 CFR 50.55a(f)(6)(i) for the fourth 10-year IST interval. The alternative testing method provides reasonable assurance of the valve's operational readiness. The staff considered the impracticality of complying with the Code, and the burden on the licensee if those requirements were imposed, in granting relief.



#### 4.0 CONCLUSION

The proposed alternative is authorized for VR-4 for the fourth 10-year IST interval pursuant to 10 CFR 50.55a(a)(3)(ii) on the basis that the requirements would result in a hardship without a compensating increase in the level of quality and safety, and relief is granted for VR-8 for the fourth 10-year IST interval pursuant to 10 CFR 50.55a(f)(6)(i) on the basis of the impracticality of performing the required testing and the burden on the licensee if the requirements were imposed. This 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.

Principal Contributor: G. Hammer

Date: November 21, 2003