

September 5, 2003

Mr. John L. Skolds, Chairman
and Chief Executive Officer
AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: THREE MILE ISLAND NUCLEAR STATION, UNIT 1 (TMI-1) RE: REQUEST
FOR RELIEF FROM SELECTED ASPECTS OF ASME CODE, (TAC NO.
MB9471)

Dear Mr. Skolds:

By letter dated May 30, 2003, AmerGen Energy Company, LLC, submitted a request for relief for Three Mile Island Nuclear Station, Unit 1, which proposed an alternative to the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) requirements. Specifically, you requested an alternative to the crack depth sizing error value of 0.125" root mean square specified in the 1995 Edition of ASME Code with 1996 Addenda, Section XI, Appendix VIII, Supplement 10, qualification requirements for inspection of dissimilar metal piping welds. You requested that this relief be in effect for up to 18 months beginning September 16, 2003.

The staff has reviewed your proposed alternative and finds it to be acceptable as documented in the enclosed safety evaluation. Pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted for TMI-1 for a period of 18 months beginning September 16, 2003. 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 giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Sincerely,

/RA/

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

Docket No. 50-289

Enclosure: Safety Evaluation

cc w/encl: See next page

September 5, 2003

Mr. John L. Skolds, Chairman
and Chief Executive Officer
AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: THREE MILE ISLAND NUCLEAR STATION, UNIT 1 (TMI-1) RE: REQUEST
FOR RELIEF FROM SELECTED ASPECTS OF ASME CODE, (TAC NO.
MB9471)

Dear Mr. Skolds:

By letter dated May 30, 2003, AmerGen Energy Company, LLC, submitted a request for relief for Three Mile Island Nuclear Station, Unit 1, which proposed an alternative to the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) requirements. Specifically, you requested an alternative to the crack depth sizing error value of 0.125" root mean square specified in the 1995 Edition of ASME Code with 1996 Addenda, Section XI, Appendix VIII, Supplement 10, qualification requirements for inspection of dissimilar metal piping welds. You requested that this relief be in effect for up to 18 months beginning September 16, 2003.

The staff has reviewed your proposed alternative and finds it to be acceptable as documented in the enclosed safety evaluation. Pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted for TMI-1 for a period of 18 months beginning September 16, 2003. 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 giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Sincerely,

/RA/

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

Docket No. 50-289

Enclosure: Safety Evaluation

cc w/encl: See next page

DISTRIBUTION

| | | | |
|----------|------------------|----------|------------|
| PUBLIC | PDI-1 R/F | RLaufer | DSkay |
| MO'Brien | TChan | JCollins | OGC |
| GHill(2) | BPlatchek, RGN-I | ACRS | JJolicoeur |

ACCESSION NO.: ML032320548

*SE provided

| | | | | | |
|--------|----------|----------|----------|-------------|----------|
| OFFICE | PDI-1\PM | PDI-2\LA | EMEB\SC | OGC | PDI-1\SC |
| NAME | DSkay | MO'Brien | TChan* | RHoefling** | RLaufer |
| DATE | 9/4/03 | 8/26/03 | 08/13/03 | 6/4/03 | 9/5/03 |

OFFICIAL RECORD COPY

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR RELIEF

AMERGEN ENERGY COMPANY, LLC

THREE MILE ISLAND NUCLEAR STATION, UNIT 1

DOCKET NO. 50-289

1.0 INTRODUCTION

The inservice inspection of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Class 1, Class 2, and Class 3 components is to be performed in accordance with Section XI of the ASME Code and applicable edition and addenda as required by Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). Section 50.55a(a)(3) states in part that alternatives to the requirements of paragraph (g) may be used, when authorized by the U.S. Nuclear Regulatory Commission (NRC), if the licensee demonstrates that: (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

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 pre-service examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection (ISI) 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) twelve months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The ISI Code of record for Three Mile Island Nuclear Station, Unit 1 (TMI-1), third 10-year ISI interval, which began April 20, 2001, is the 1995 Edition with 1996 Addenda. The components (including supports) may meet the requirements set forth in subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein and subject to commission approval.

By letter dated May 30, 2003, AmerGen Energy Company, LCC, (licensee) requested relief from certain ASME Code requirements at TMI-1. Specifically, the licensee proposed to use the

ENCLOSURE

root mean square value for crack depth sizing error of 0.154 inches achieved during the Electric Power Research Institute, Performance Initiative Program (PDI), Supplement 10, performance demonstration in lieu of the ASME Code, Section XI, Appendix VIII, Supplement 10, requirement.

2.0 REGULATORY EVALUATION

2.1 Components For Which Relief is Requested

Dissimilar metal piping welds subject to examination using procedures, personnel, and equipment qualified to the 1995 Edition 1996 Addenda of ASME Code, Section XI, Appendix VIII, Supplement 10.

2.2 Code Requirements

ASME Code, Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, Paragraph 3.2(b) of Supplement 10 which states: "Examination procedures, equipment, and personnel are qualified for depth sizing when the root mean square (RMS) error of the flaw depth measurements, as compared to the true flaw depths, is less than or equal to 0.125 inch."

2.3 Proposed Alternative

The licensee proposes the use of an RMS error value for flaw depth measurements of 0.154-inch RMS in lieu of the 0.125-inch RMS value required by the ASME Code as discussed in Section 1.0 above. This request applies only to Unit 1 for a duration of 18 months starting September 16, 2003. To account for this difference, the licensee proposes, for purposes of flaw evaluation, to add the difference between the RMS error of 0.154-inch RMS (i.e., value currently achieved by vendor) and the value required by the ASME Code (0.125-inch RMS) to the measured flaw depth to arrive at the flaw depth to be used in the analysis.

2.4 Licensee Basis For Relief

Personnel qualifying to Supplement 10 procedures were not capable of qualifying to an overall error less than or equal to a 0.125-inch RMS for crack depth sizing capability. Based on the performance of vendor automated procedure qualification results, an error of up to 0.154-inch RMS should be considered during fracture mechanics calculations utilizing automated depth-sizing measurements obtained with this procedure.

2.5 Staff Evaluation

Supplement 10 of Appendix VIII to the ASME Code, Section XI, requires that examination procedures, equipment, and personnel meet specific criteria for flaw depth sizing accuracy. The ASME Code specifies that the maximum error of flaw depth measurements, as compared to the true flaw depths, must be less than or equal to 0.125-inch RMS. The industry is in the process of qualifying personnel to Supplement 10 as implemented by the PDI program. However, the licensee's vendor personnel have not been successful at achieving the 0.125-inch RMS sizing criterion for depth sizing. The vendor personnel have only been capable of achieving an accuracy of 0.154-inch RMS. The vendor will continue to make its best effort to

meet the 0.125-inch RMS criterion at the next PDI Supplement 10 performance demonstration. However, at this time it is impractical for the vendor to meet the ASME Code requirement.

The licensee proposes that if a flaw is detected during the performance of an ultrasonic test examination, the flaw will be sized using the depth sizing value of 0.154-inch RMS demonstrated during the PDI performance demonstration. To take into account for the increase in allowable depth sizing error, the licensee proposes to add the difference between the ASME Code-required RMS error (0.125 inch) and the demonstrated RMS error (0.154 inch) to measurements acquired from flaw sizing. This action will ensure the flaw evaluation is conservatively bounded by the increased RMS error value.

3.0 CONCLUSION

Based on the above evaluation, the NRC staff has determined that requiring the licensee to qualify personnel and equipment to meet the maximum error of 0.125-inch RMS for crack depth sizing is impractical. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted for TMI-1 for a period of 18 months beginning September 16, 2003. 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 giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. All other ASME Code, Section XI, requirements for which relief was not specifically requested and approved in this relief request remain applicable, including third party review by the authorized nuclear inservice inspector.

Principal Contributor: J. Collins

Three Mile Island Nuclear Station, Unit 1

cc:

Site Vice President - Three Mile Island Nuclear
Station, Unit 1
AmerGen Energy Company, LLC
P. O. Box 480
Middletown, PA 17057

Senior Vice President Nuclear Services
AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Vice President - Mid-Atlantic Operations Support
AmerGen Energy Company, LLC
200 Exelon Way, KSA 3-N
Kennett Square, PA 19348

Senior Vice President -
Mid Atlantic Regional Operating Group
AmerGen Energy Company, LLC
200 Exelon Way, KSA 3-N
Kennett Square, PA 19348

Vice President -
Licensing and Regulatory Affairs
AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Regional Administrator
Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Chairman
Board of County Commissioners
of Dauphin County
Dauphin County Courthouse
Harrisburg, PA 17120

Chairman
Board of Supervisors
of Londonderry Township
R.D. #1, Geyers Church Road
Middletown, PA 17057

Senior Resident Inspector (TMI-1)
U.S. Nuclear Regulatory Commission

P.O. Box 219
Middletown, PA 17057

Director - Licensing - Mid-Atlantic Regional
Operating Group
AmerGen Energy Company, LLC
Nuclear Group Headquarters
Correspondence Control
P.O. Box 160
Kennett Square, PA 19348

Rich Janati, Chief
Division of Nuclear Safety
Bureau of Radiation Protection
Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105-8469

Three Mile Island Nuclear Station, Unit 1
Plant Manager
AmerGen Energy Company, LLC
P. O. Box 480
Middletown, PA 17057

Regulatory Assurance Manager - Three Mile
Island Nuclear Station, Unit 1
AmerGen Energy Company, LLC
P.O. Box 480
Middletown, PA 17057

John F. Rogge, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Michael A. Schoppman
Framatome ANP
Suite 705
1911 North Ft. Myer Drive
Rosslyn, VA 22209

Three Mile Island Nuclear Station, Unit 1

cc: continued

Vice President, General Counsel and Secretary
AmerGen Energy Company, LLC
2301 Market Street, S23-1
Philadelphia, PA 19101

Dr. Judith Johnsrud
National Energy Committee
Sierra Club
433 Orlando Avenue
State College, PA 16803

Eric Epstein
TMI Alert
4100 Hillsdale Road
Harrisburg, PA 17112

Correspondence Control Desk
AmerGen Energy Company, LLC
200 Exelon Way, KSA 1-N
Kennett Square, PA 19348

Manager Licensing - Oyster Creek and Three Mile
Island
AmerGen Energy Company, LLC
Nuclear Group Headquarters
Correspondence Control
P.O. Box 160
Kennett Square, PA 19348