

July 6, 2004

Mr. Michael Kansler
President
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT, INDIAN POINT NUCLEAR GENERATING UNITS NO. 2 AND NO. 3, PILGRIM NUCLEAR POWER STATION, AND VERMONT YANKEE NUCLEAR POWER STATION - RELIEF REQUEST TO USE AMERICAN SOCIETY OF MECHANICAL ENGINEERS BOILER AND PRESSURE VESSEL CODE CASE N-600 (TAC NOS. MC0303, MC0336, MC0337, MC0338, AND MC0339)

Dear Mr. Kansler:

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated August 11, 2003, as supplemented by letters dated March 4, and March 18, 2004, Entergy Nuclear Operations, Inc. (the licensee) submitted requests for relief pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a(a)(3)(i). The licensee sought relief from the requirements of the American Society of Mechanical Engineers (ASME) Code, Section XI, 1989 Edition, Article IWA-4440(b), for the James A. FitzPatrick Nuclear Power Plant (JAF), Indian Point Nuclear Generating Units No. 2 and No. 3 (IP2 and IP3) and the Pilgrim Nuclear Power Station (PNPS). The licensee also sought relief from the requirements of ASME Code, Section XI, 1998 Edition, through the 2000 Addenda, Articles IWA-4440(c) and (d), for the Vermont Yankee Nuclear Power Station (VY). These articles require that the Owner/Repair Organization shall qualify all welders, welding operators, brazers, and brazing operators in accordance with the ASME Code specified in the Repair/Replacement Plan. The licensee proposed to use the alternative welding qualification requirements provided in ASME Code Case N-600, "Transfer of Welder, Welding Operator, Brazer, and Brazing Operator Qualifications Between Owners."

The NRC staff reviewed the proposed alternative as discussed in the enclosed safety evaluation. Based on its review, the NRC staff concludes that the proposed alternative welding and brazing personnel qualification requirement of the Code Case would provide a comparable level of quality and safety as that of the ASME Code, Section XI, Article IWA-4440(b), for the JAF, IP2 & IP3, and PNPS, and Articles IWA-4440(c) and (d) for VY. Therefore, the use of ASME Code Case N-600 is authorized pursuant to 10 CFR 50.55a(a)(3)(i) at the JAF, IP2 & IP3, and PNPS during the remainder of the third 10-year inservice inspection interval (ISI) and during the fourth 10-year ISI interval at VY. The licensee is authorized to use ASME Code Case N-600 until such time as the code case is included in a future revision of Regulatory Guide (RG) 1.147, "Inservice inspection ASME Code Case Acceptability, ASME Section XI Division I." At that time, the licensee must follow all provisions and any limitations that may be described in RG 1.147 concerning the use of ASME Code Case N-600.

M. Kansler

- 2 -

All other requirements of the ASME Code, Section III and XI, for which relief has not been specifically requested and approved remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

A copy of the related safety evaluation is enclosed.

Sincerely,

/RA/

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

Docket Nos. 50-333, 50-247, 50-286, 50-293, and 50-271

Enclosure: As stated

cc w/encl: See next page

M. Kansler

- 2 -

All other requirements of the ASME Code, Section III and XI, for which relief has not been specifically requested and approved remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

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Docket Nos. 50-333, 50-247, 50-286, 50-293, and 50-271

Enclosure: As stated

cc w/encl: See next page

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ACCESSION NUMBER: ML041070088

*Safety evaluation provided - no significant changes made

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FOR JAMES A. FITZPATRICK NUCLEAR POWER PLANT

INDIAN POINT NUCLEAR GENERATING UNITS NO. 2 AND NO. 3

PILGRIM NUCLEAR POWER STATION AND

VERMONT YANKEE NUCLEAR POWER STATION

RELIEF REQUEST TO USE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

BOILER AND PRESSURE VESSEL CODE CASE N-600

BY ENERGY NUCLEAR OPERATIONS, INC.

DOCKET NOS. 50-333, 50-247, 50-286, 50-293, AND 50-271

1.0 INTRODUCTION

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated August 11, 2003, as supplemented by letters dated March 4, and March 18, 2004, Entergy Nuclear Operations, Inc. (the licensee) submitted requests for relief pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(a)(3)(i). The licensee sought relief from the requirements of American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, 1989 Edition, Article IWA-4440(b), for the James A. FitzPatrick Nuclear Power Plant (JAF), Indian Point Nuclear Generating Units No. 2 and No. 3 (IP2 & IP3), and the Pilgrim Nuclear Power Station (PNPS). The licensee also sought relief from the requirements of ASME Code, Section XI, 1998 Edition, through the 2000 Addenda, Articles IWA-4440(c) and (d), for the Vermont Yankee Nuclear Power Station (VY). These articles require that the Owner/Repair Organization shall qualify all welders, welding operators, brazers, and brazing operators in accordance with the ASME Code specified in the Repair/Replacement Plan. The licensee proposed to use the alternative welding qualification requirements provided in ASME Code Case N-600, "Transfer of Welder, Welding Operator, Brazer, and Brazing Operator Qualifications Between Owners." Specifically, ASME Code Case N-600 permits welders, welding operators, brazers, and brazing operators qualified by one owner to be used by another owner provided that the owner which qualified the welding and/or brazing personnel certifies in writing that Welder/Welding Operator/Brazer/Brazing Operator Performance Qualifications (WPQ/BPQ) were conducted in accordance with a Quality Assurance Program that satisfies the requirements of ASME Code, Section XI, IWA-1400. The owner accepting the WPQ/BPQ must accept responsibility for the completed WPQ/BPQ. In addition, the owner accepting the WPQ/BPQ shall require each welder, welding operator, brazer, or brazing operator to demonstrate proficiency by completing a renewal qualification test in accordance with ASME Code, Section IX, QW 322.2(a) or QB-322(b). ASME Code Case N-600 was approved by the

Enclosure

ASME Code in January 2001. The proposed relief is sought for the remainder of the third 10-year inservice inspection (ISI) interval for JAF, IP2 & IP3, and PNPS and the fourth 10-year ISI interval for VY.

The regulation at 10 CFR 50.55a(g) specifies that ISI of nuclear power plant components shall be performed in accordance with the requirements of the ASME Code, Section XI, except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). The regulation at 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the Nuclear Regulatory Commission (NRC), if (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.

2.0 REGULATORY EVALUATION

The information provided by the licensee in support of the requests has been evaluated and the bases for disposition are documented below.

James A. FitzPatrick Nuclear Power Plant
Indian Point Generating Unit No. 2
Indian Point Generating Unit No. 3
Pilgrim Nuclear Power Station

Relief Request RR-32, Revision 1
Relief Request RR-64, Revision 1
Relief Request RR 3-33 (A), Revision 1
Relief Request PRR-33, Revision 1

ASME Code Component(s) Affected:

Component Numbers: All
Examination Category: All
Item Number: All

Code Edition and Addenda:

The Code of Record for the third 10-year ISI interval is ASME Code, Section XI, 1989 Edition, No Addenda.

Code Requirements:

Article IWA-4400(b) - "All welders shall be qualified by the repair organization in accordance with the requirements of the codes specified in the Repair Program in accordance with IWA-4120."

Duration of Proposed Alternative:

It is proposed to use the alternative for the remainder of the third 10-year ISI interval for JAF, IP2, IP3, and PNPS.

Proposed Alternative:

The following alternative requirements will be implemented as defined by ASME Code Case N-600, "Transfer of Welder, Welding Operator, Brazer, and Brazing Operator Qualifications

Between Owners, Section XI, Division 1," when using welders qualified by other licensees or owners, i.e., non-Entergy (as stated below):

1. Entergy will perform a technical review of the supplying Owner's records of Welder Performance Qualification (WPQ), Welding Operator Performance Qualification (WOPQ), or Brazer/Brazing Operator Performance Qualification (BPQ).
2. The supplying Owner will state in writing that the WPQ, WOPQ, or BPQ was performed under an acceptable Nuclear Quality Assurance program that meets ASME Section XI, IWA-1400, and that the tests were performed in accordance with ASME Section XI.
3. Entergy will obtain any necessary supporting information to satisfy the requirements of ASME Section XI, QW-301.4 or QB-301.4.
4. Entergy will require each welder, welding operator, brazer, or brazing operator to demonstrate proficiency by completing a renewal qualification test in accordance with ASME Section XI, QW-322.2(a) or QB-322(b), as applicable, with the following additional requirements.
 - a) When the WPQ transfer involves prior groove tests, the renewal test shall use a groove configuration.
 - b) When the WPQ transfer involves prior fillet tests, the renewal tests may use either a groove or a fillet configuration.
5. Entergy will accept the responsibility for the Performance Qualification Test(s), and will document this acceptance on the renewal test record(s) for the WPQ/WOPQ/BPQ. The renewal test record(s) will reference the original WPQ/WOPQ/BPQ test record(s) supplied by the Owner that provided the qualification.
6. Entergy will accept the responsibility for compliance with ASME Section XI, QW-322 or QB-322, as applicable.
7. Entergy will not accept qualifications from any Owner that was not the qualifying organization nor transfer the supplied qualifications to any other Owner.
8. Entergy will comply with the Quality Assurance requirements of ASME Section XI, 1998 Edition, Article IWA-4142(a).
9. Entergy will document the use of this Case on the record of the WPQ/WOPQ/BPQ for the renewal qualification test(s).

Vermont Yankee Nuclear Power Station Relief Request No. ISI-012, Revision 2

ASME Code Component(s) Affected: (As stated)

Component Numbers: All
Examination Category: All
Item Number: All

Code Edition and Addenda:

The Code of Record for the fourth 10-year ISI interval is ASME Section XI Code, 1998 Edition, through the 2000 Addenda.

Code Requirements:

Articles IWA-4440(c) and (d), 1998 Edition, 2000 Addenda, require that the Owner/Repair Organization shall qualify all welders, welding operators, brazers, and brazing operators in accordance with the codes specified in the Repair/Replacement Plan.

Duration of Proposed Alternative:

It is proposed to use the alternative for the remainder of the Fourth ISI for VY.

Proposed Alternative:

The following alternative requirements will be implemented as defined by ASME Code Case N-600, "Transfer of Welder, Welding Operator, Brazer, and Brazing Operator Qualifications Between Owners, Section XI, Division 1," when using welders qualified by other licensees or owners (i.e., non-Entergy):

1. Entergy will perform a technical review of the supplying Owner's records of Welder Performance Qualification (WPQ), Welding Operator Performance Qualification (WOPQ), or Brazer/Brazing Operator Performance Qualification (BPQ).
2. The supplying Owner will state in writing that the WPQ, WOPQ, or BPQ was performed under an acceptable Nuclear Quality Assurance program that meets ASME Section XI, IWA-1400, and that the tests were performed in accordance with ASME Section IX.
3. Entergy will obtain any necessary supporting information to satisfy the requirements of ASME Section IX, QW-301.4 or QB-301.4.
4. Entergy will require each welder, welding operator, brazer, or brazing operator to demonstrate proficiency by completing a renewal qualification test in accordance with ASME Section IX, QW-322.2(a) or QB-322(b), as applicable, with the following additional requirements.
 - a) When the WPQ transfer involves prior groove tests, the renewal test shall use a groove configuration.
 - b) When the WPQ transfer involves prior fillet tests, the renewal tests may use either a groove or a fillet configuration.
5. Entergy will accept the responsibility for the Performance Qualification Test(s), and will document this acceptance on the renewal test record(s) for the WPQ/WOPQ/BPQ. The renewal test record(s) will reference the original WPQ/WOPQ/BPQ test record(s) supplied by the Owner that provided the qualification.

6. Entergy will accept the responsibility for compliance with ASME Section IX, QW-322 or QB-322, as applicable.
7. Entergy will not accept qualifications from any Owner that was not the qualifying organization nor transfer the supplied qualifications to any other Owner.
8. Entergy will comply with the Quality Assurance requirements of ASME Section XI, 1998 Edition, Article IWA-4142(a).
9. Entergy will document the use of this Case on the record of the WPQ/WOPQ/BPQ for the renewal qualification test(s).

Basis for Relief

ASME Code Section IX, "Welding Qualifications," requires that each organization qualify its own welders. Welder qualification responsibility cannot be subcontracted, and welder qualifications administered by one organization cannot be transferred to another organization. The basis for this requirement has become the subject of close scrutiny as the demand for efficiency, particularly among nuclear plant owners, has increased. Section IX's requirements for welder qualification are based, in part, on the fact that organizations with minimal welding experience may use Section IX. By requiring each organization to qualify its own welders, Section IX assures that all users attain some proficiency in evaluating welder skills. Welder qualification proficiency among nuclear owners, however, is not an issue. Extensive quality assurance programs mandate and continually reassess this proficiency.

The use of ASME Code Case N-600 improves an owner's ability to attract quality welders by eliminating the obstacle of redundant performance qualification testing. It enables Owners to rely on each other's experience in selecting welders, permitting candidate selection to be based on actual field performance rather than qualification tests. It also builds the resource pool of welders who, in addition to welding skills, understand and can comply with the extensive documentation and quality assurance requirements associated with nuclear work. These skills as well as a variety of other skills unique to nuclear power (e.g., radiation control, site security programs, NRC interface, etc.) are retained when experienced nuclear welders are transferred between sites.

Based on the above described detailed qualification and testing requirements on using welders qualified by other licensees or owners (i.e., non-Entergy), Entergy believes the proposed alternative to use ASME Code Case N-600 in its entirety provides an acceptable level of quality and safety, pursuant to 10 CFR 50.55a(a)(3)(i).

3.0 TECHNICAL EVALUATION

The licensee has proposed to use the provisions included in ASME Code Case N-600. ASME Code Case N-600 was approved by the ASME Code in January 2001. The specific requirements listed in ASME Code Case N-600 are:

- a) The Owner who performed the qualification test shall certify that testing was performed in accordance with ASME Code, Section IX by signing the record of Welder/Welding Operator, Brazer, Brazing Operator Performance Qualification (WPQ/BPQ).

- b) The Owner who performed the qualification test shall certify, in writing, that the qualification was conducted in accordance with a Quality Assurance Program that satisfies the requirements of ASME Code, Section XI, IWA-1400.
- c) The Owner accepting the WPQ/BPQ, shall obtain any necessary supporting information to satisfy ASME Code, Section IX, QW-301.4 (e.g., Welding Procedure Specification, type of tests).
- d) The Owner accepting the WPQ/BPQ, shall require each welder, welding operator, brazer, or brazing operator to demonstrate proficiency by completing a renewal qualification test in accordance with QW-322.2(a) or QB-322(b).
 - (1) When WPQ transfer involves prior groove tests, the renewal test shall use a groove configuration.
 - (2) When WPQ transfer involves fillet tests, the renewal test may be either fillet or groove configuration.
- e) The Owner accepting the WPQ/BPQ, shall accept responsibility for the Performance Qualification Test, and shall document acceptance on the WPQ/BPQ for the renewal test. This WPQ/BPQ shall reference the WPQ/BPQ supplied by the Owner that performed the qualification.
- f) The Owner accepting the WPQ/BPQ shall accept responsibility for compliance with ASME Section IX, QW-322.
- g) The Owner may accept and use a WPQ/BPQ only when it is received directly from the Owner who performed the qualification.
- h) The Owner accepting the WPQ/BPQ shall comply with the Quality Assurance requirements of IWA-4142(a).

Paragraph "E-8" in relief requests, RR-32 (JAF), RR-64 (IP2), RR-3-33(A) (IP3), and PRR-33 (PNPS) states, "Entergy will comply with the Quality Assurance requirements of ASME Code Section XI, 1998 Edition, Article IWA-4142(a)." This requirement is from ASME Code Case N-600, paragraph (h). However, for JAF, IP2, IP3, and PNPS, the applicable Code of Record is ASME Code, Section XI, 1989 Edition, no Addenda. The 1989 Edition does not have a subparagraph IWA-4142(a). Instead, the applicable Quality Assurance requirements are included in Article IWA-1400 of the 1989 Edition of the ASME Code, Section XI. In this specific application only, the NRC authorizes the implementation of a later approved edition of this paragraph in the ASME Code for these repair/replacement activities, since Section XI, 1998 Edition IWA-4142(a)(1) specifies that the Quality Assurance Program shall comply with the following: "IWA-1400(n) when the owner is the Repair/Replacement organization." Since the owner is the Repair/Replacement organization, then these ASME Code sections are essentially equivalent. Therefore, Entergy will implement ASME Code Case N-600 in its entirety, including the IWA-4142(a) requirements of the later edition of the ASME Code. Revision 1 of the request for relief for IP2, IP3, JAF, and PNPS reflect this code case requirement.

Based upon our review of the information provided by the licensee, the NRC staff finds that the above listed alternative requirements of ASME Code Case N-600 specify an acceptable level of control for the owner accepting a WPQ/BPQ. For example, the licensee would be required to: (1) review and accept the responsibility of the WPQ/BPQ, and (2) demonstrate technical competence in application of the received WPQ/BPQ by completing a renewal performance qualification test in accordance with article QW-322.2(a) of ASME Code, Section IX. These actions will ensure the acceptability of the WPQ/BPQ prior to it being used at JAF, IP2, IP3, PNPS, and VY. The NRC staff also finds that qualification of a WPQ/BPQ for the purpose of welding or brazing may be performed by any Owner provided the applicable requirements for WPQ/BPQ qualification are maintained. The Owners may use WPQ/BPQ qualified by other Owners provided the conditions/requirements listed in ASME Code Case N-600 are met. Therefore, the proposed alternative will provide an acceptable level of quality and safety.

4.0 CONCLUSION

The NRC staff has determined that the proposed alternative welding and brazing personnel qualification requirement of the code case would provide a comparable level of quality and safety as that of the ASME Code, Section XI, Article IWA-4440(b), for the JAF, IP2, IP3, PNPS, and Articles IWA-4440(c) and (d) for VY. Therefore, the use of ASME Code Case N-600 is authorized pursuant to 10 CFR 50.55a(a)(3)(i) at the JAF, IP2 & IP3, and PNPS during the remainder of the third 10-year ISI interval and during the remainder of the fourth 10-year ISI interval at VY. The licensee is authorized to use ASME Code Case N-600 until such time as the code case is included in a future revision of RG 1.147. At that time, the licensee must follow all provisions and any limitations that may be described in RG 1.147 concerning the use of ASME Code Case N-600.

All other requirements of the ASME Code, Section III and XI, for which relief has not been specifically requested and approved remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

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