



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 30, 2009

Site Vice President
Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, MA 02360-5508

SUBJECT: RELIEF REQUEST ISI-2008-1, USE OF LATER EDITION AND ADDENDA OF ASME CODE, SECTION XI FOR REPAIR AND REPLACEMENT, PRESSURE TESTING, AND DESTRUCTIVE TESTING ACTIVITIES - PILGRIM NUCLEAR POWER STATION (TAC NO. ME0238)

Dear Sir or Madam:

By letter dated December 1, 2008 (Agencywide Document and Management System (ADAMS) Accession No. ML083500367), as supplemented by letter dated March 17, 2009 (ML090900519), Entergy Nuclear Operations, Inc. (the licensee) requested permission to use: (a) the 2001 Edition through 2003 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Section XI for inservice inspection (ISI) related activities associated with repairs, replacements, pressure testing, and nondestructive examination (NDE), and (b) the 2001 Edition of the ASME Code, Section XI for performance demonstration of ultrasonic examinations, in its Pilgrim Nuclear Power Station. The licensee's request relates to the ASME Code Class 1, 2, 3 and metal containment components, component supports, and welds in the ASME Code, Section XI pressure boundary. The duration of this request is for remainder of the fourth 10-year ISI interval which ends on July 30, 2015. The results of the Nuclear Regulatory Commission staff's review are provided in the enclosed safety evaluation.

If you have any questions regarding this approval, please contact the Pilgrim Project Manager, James Kim, at 301-415-4125.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard V. Guzman".

Richard V. Guzman, Acting Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-293

Enclosure:
As stated

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR RELIEF ISI-2008-1

ENTERGY NUCLEAR OPERATIONS, INC.

PILGRIM NUCLEAR POWER STATION

DOCKET NO. 50-293

1.0 INTRODUCTION

By letter dated December 1, 2008, as supplemented by letter dated March 17, 2009, Entergy Nuclear Operations, Inc. (the licensee) submitted Request ISI-2008-1 for Nuclear Regulatory Commission (NRC) review and approval. In the letter, the licensee requested permission to use the 2001 Edition through 2003 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Section XI for inservice inspection (ISI) related activities associated with repairs, replacements, pressure testing, and nondestructive examination (NDE), as specified in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(g)(4)(iv). In addition, the licensee requested to use the 2001 Edition of the ASME Code, Section XI for performance demonstration of ultrasonic examinations, as specified in 10 CFR 50.55a(b)(2)(xxiv). This request is applicable to Pilgrim Nuclear Power Station (PNPS) and relates to the ASME Code Class 1, 2, 3 and metal containment (MC) components, component supports, and welds in the ASME Code, Section XI pressure boundary. This request is submitted in accordance with Regulatory Issue Summary (RIS) 2004-16, dated October 19, 2004. The duration of this request is for the remainder of the fourth 10-year ISI interval which ends on July 30, 2015.

2.0 REGULATORY REQUIREMENTS

Pursuant to 10 CFR 50.55a(b)(2), the use of ASME Code, Section XI "Rules for Inservice Inspection of Nuclear Power Plant Components" 1970 Edition through 1976 Winter Addenda and 1977 Edition (Division 1) through 2004 Edition (Division 1) are approved, subjected to limitations and modifications.

Pursuant to 10 CFR 50.55a(g), the ISI of components including supports that are classified as ASME Code Class 1, 2, and 3 is to be performed in accordance with the ASME Code, Section XI of applicable editions and addenda, except where specific written relief has been granted by the NRC.

Pursuant to 10 CFR 50.55a(g)(4), throughout the service life of a boiling or pressurized nuclear power facility, components (including supports) which are classified as the ASME Code Class 1, 2, and 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI of the ASME Code and Addenda that become effective subsequent to editions specified in paragraphs (g)(2) and (g)(3) of this section and that are incorporated by reference in 10 CFR 50.55a(b), to the extent practical within the limitations of design, geometry and materials of construction of the components.

Enclosure

Pursuant to 10 CFR 50.55a(g)(4), the ISI of Class MC pressure retaining components and their integral attachments must meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI and its Addenda incorporated by reference in paragraph (b)(2) and subject to the limitations listed in paragraph (b)(2)(vi) and the modifications listed in paragraphs (b)(2)(viii) and (b)(2)(ix) of 10 CFR 50.55a. These requirements shall be met to the extent practical within the limitations of design, geometry, and materials of construction of the components.

According to the 10 CFR 50.55a(g)(4)(ii), the ISI examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements of the latest Edition and Addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month inspection interval, subject to the limitations and modifications listed therein.

10 CFR 50.55a(g)(4)(iv) states that ISI examination of components of system pressure tests may meet the requirements set forth in subsequent Editions and Addenda of the ASME Code, Section XI provided that they are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed in 10 CFR 50.55a(b), and subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective Editions or Addenda are met.

Regulatory Issue Summary (RIS) 2004-16, dated October 19, 2004, maintains that although the repair, replacement, and modification of plant components activities in the ASME Code, Section XI are not explicitly mentioned in 10 CFR 50.55a(g)(4) and associated subparagraphs, these activities are not separate and distinct and are included under in-service examinations requirements of the 10 CFR 50.55a(g)(4)(iv).

3.0 PROPOSED REQUEST ISI-2008-1

3.1 ASME Code Components Affected

The licensee has stated that its request relates to the ASME Code Class 1, 2, and 3 components and MC components, component supports, and welds in the ASME Code, Section XI pressure boundary at PNPS.

3.2 Applicable Code Edition and Addenda

The licensee has stated that the ISI related activities such as repairs, replacements, pressure testing, and NDE at PNPS are currently performed in accordance with the 1998 Edition through 2000 Addenda of the ASME Code, Section XI with various NRC approved alternatives which are specified in the PNPS ISI programs.

3.3 Proposed Alternative

The licensee has proposed to use, at its PNPS, the 2001 Edition through 2003 Addenda of the ASME Code, Section XI for ISI related activities associated with repairs, replacements, pressure testing, and NDE, as specified in 10 CFR 50.55a(g)(4)(iv). In addition, the licensee has proposed to use, at its PNPS, the 2001 Edition of the ASME Code, Section XI for performance demonstration of ultrasonic examinations, as specified in 10 CFR 50.55a(b)(2)(xxiv).

The licensee has proposed to utilize all "Articles" (e.g. IWA-4000, IWA-5000) from every "Subsection" (e.g. IWA, IWB, etc.) of the 2001 Edition through 2003 Addenda of the ASME Code, Section XI that could be used or referenced for the performance of repair, replacement, pressure testing, and NDE activities. The licensee has also proposed to comply with all "Mandatory Appendices" of the 2001 Edition through 2003 Addenda of the ASME Code, Section XI.

The licensee stated that it will comply with all applicable 10 CFR 50.55a conditions and limitations including:

- With regard to the performance of ISI examinations and tests, the licensee will continue to select, plan, and schedule these ISI inspection activities as specified in IWA-IWB-IWC-, IWD-, IWE-, and IWF-2500 or NRC approved ISI alternatives in accordance with the PNPS current ISI Program Plan.
- Performance demonstration of ultrasonic examinations will be conducted in accordance with the 2001 Edition, No Addenda, of Appendix VIII of the ASME Code, Section XI to comply with 10 CFR 50.55a(b)(2)(xxiv).
- The NDE provision in IWA-4540(a)(2) of the 2001 Edition through 2002 Addenda of the ASME Code, Section XI are applied when performing system leakage tests after repair and replacement activities involving welding or brazing to comply with 10 CFR 50.55a(b)(2)(xx)(B).
- Pressure testing of mechanical joints of Class 1, 2, and 3 items are performed in accordance with IWA-4540(c) of the 1998 Edition, No Addenda, of the ASME Code, Section XI to comply with 10 CFR 50.55a(b)(2)(xxvi).
- All NRC conditions, limitations, and restrictions in 10 CFR 50.55a that are applicable to the 2001 Edition through 2003 Addenda of the ASME Code, Section XI will be met.

4.0 STAFF EVALUATION

The NRC staff has evaluated the licensee's Request ISI-2008-1, dated December 1, 2008, with a supplement dated March 17, 2009, pursuant to 10 CFR 50.55a(g)(4)(iv). In response to the NRC staff's request for additional information, the licensee has provided in its supplement, (a) correction to two inadvertent typographical errors in its Request ISI-2008-1 regarding the citation of paragraphs 10 CFR 50.55a(b)(2)(xxiv) and 10 CFR 50.55a(b)(2)(xxvi), and (b) response to the NRC staff's question regarding Article IWA-2000, for which the licensee has requested to use certain subarticles of both the 1998 Edition through 2000 Addenda and the 2001 Edition through 2003 Addenda of the ASME Code, Section XI.

The NRC staff finds acceptable that the licensee will follow the requirements of system leakage tests in 10 CFR 50.55a(b)(2)(xx)(B) which states that the NDE provision in IWA-4540(a)(2) of the 2002 Addenda of the ASME Code, Section XI must be applied when performing system leakage tests after repair and replacement activities performed by welding or brazing on a pressure retaining boundary using the 2003 Addenda through the latest edition and addenda incorporated by reference in paragraph 10 CFR 50.55a(b)(2).

The NRC staff finds acceptable that the licensee will follow the incorporation of the performance demonstration initiative and addition of ultrasonic examination criteria in 10 CFR 50.55a(b)(2)(xxiv) which prohibits the use of Appendix VIII and its supplements and Article I-3000 of Section XI of the ASME Code, 2002 Addenda through the latest Edition and Addenda incorporated by reference in paragraph 10 CFR 50.55a(b)(2).

The NRC staff finds acceptable that the licensee will follow the requirements in 10 CFR 50.55a(b)(2)(xxvi). This paragraph states that the repair and replacement activity provisions in IWA-4540(c) of the 1998 Edition of the ASME Code, Section XI for pressure testing Class 1, 2, and 3 mechanical joints must be applied when using the 2001 Edition through the latest Edition and Addenda of the ASME Code, Section XI incorporated by reference in paragraph 10 CFR 50.55a(b)(2).

The NRC staff finds acceptable that Articles IWE-3000 and IWE-5000 will be used for the ISI activities associated with the performance of repair/replacement and pressure testing of Class MC components. The licensee stated that it will comply with all related requirements in ASME Code, Section XI, by utilizing all articles from every applicable subsection, including all mandatory appendices, of the 2001 Edition through the 2003 Addenda of ASME Code, Section XI, that could be used or referenced for the performance of repair/replacement and pressure testing activities of Class MC components.

The NRC staff finds acceptable that ISI of snubbers are performed in accordance with IWF-5000 except that the preservice and ISI examinations and tests are performed in accordance with Subsection ISTD of the OM Code, 1998 Edition/2000 Addenda as required by IWF-5200 and IWF-5300. The alternative use of Subsection ISTD of the OM Code is acceptable pursuant to 10 CFR 50.55a(b)(3)(v).

In its letter dated March 17, 2009, the licensee stated that Request ISI-2008-1 does not apply to the selection, planning, or scheduling of ISI examinations and tests at PNPS. The licensee intends to continue to perform activities related to the selection, planning, or scheduling of ISI examinations and tests at PNPS in accordance with the 1998 Edition through 2000 Addenda of the ASME Code, Section XI which is the present Code of Record for PNPS. Request ISI-2008-1 applies only to the performance of ISI related activities such as repairs, replacements, pressure testing, and NDE using the 2001 Edition through 2003 Addenda of the ASME Code, Section XI at PNPS.

The NRC staff is satisfied that the licensee has listed all related requirements in the 2001 Edition through 2003 Addenda of the ASME Code, Section XI, that are relevant to repairs, replacements, pressure testing, and NDE activities. The NRC staff is satisfied that the licensee has satisfactorily identified the conditions specified in 10 CFR 50.55a(b) on the use of 2001 Edition through 2003 Addenda of the ASME Code, Section XI in Request ISI-2008-1. The NRC staff has already determined the acceptability of using the 2001 Edition through 2003 Addenda of the ASME Code, Section XI as reflected in 10 CFR 50.55a(b). In addition, the licensee has agreed to all of the conditions in 10 CFR 50.55a(b)(2) related to the use of the 2001 Edition through 2003 Addenda of the ASME Code, Section XI. Therefore, the NRC staff finds the use of Request ISI-2008-1 to be acceptable.

5.0 CONCLUSION

The NRC staff concludes that the proposed Request ISI-2008-1 for the ASME Code Class 1, 2, and 3 piping, MC components, component supports, and welds provides an acceptable level of quality and safety at PNPS. Therefore, pursuant to 10 CFR 50.55a(g)(4)(iv), the use of Request ISI-2008-1 for the ASME Code Class 1, 2, and 3 piping, MC components, component supports, and welds at PNPS for the remainder of the fourth 10-year ISI interval which ends on July 30, 2015, is approved.

Principal Contributors: Ali Rezai
Farhad Farzam

Date: April 30, 2009

April 30, 2009

Site Vice President
Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, MA 02360-5508

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Sincerely,
/RA/

Richard V. Guzman, Acting Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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*See memos dated

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