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

November 25, 2013

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

SUBJECT: PILGRIM NUCLEAR POWER STATION - REQUEST FOR ADDITIONAL INFORMATION REGARDING RELIEF REQUEST PRR-22 (TAC NO. MF1428)

Dear Sir or Madam:

By letter dated April 10, 2013, Entergy Nuclear Operations, Inc. submitted relief request PRR-22 for authorization of a proposed alternative to the nondestructive examination requirements for Class 1 and 3 piping of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Examination Categories B-F, B-J, C-F-1, and C-F-2 for Pilgrim Nuclear Power Station.

The Nuclear Regulatory Commission (NRC) staff is reviewing the submittal and has determined that additional information is needed to complete its review. The specific questions are found in the enclosed request for additional information (RAI). The NRC staff is requesting a response to the RAI by December 20, 2013.

If you have any questions regarding this issue, please contact me at (301) 415-1016.

Sincerely,

Nadiyah S. Morgan, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-293

Enclosure: Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION

REGARDING RELIEF REQUEST PRR-22

ENTERGY NUCLEAR OPERATIONS, INC.

PILGRIM NUCLEAR POWER STATION

DOCKET NO. 50-293

By letter dated April 10, 2013 (Agencywide Documents Access and Management System Accession No. ML13114A053), Entergy Nuclear Operations, Inc., the licensee, submitted relief request PRR-22 for authorization of a proposed alternative to the nondestructive examination requirements for Class 1 and 3 piping of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI, Examination Categories B-F, B-J, C-F-1, and C-F-2 for Pilgrim Nuclear Power Station (Pilgrim). The Nuclear Regulatory Commission (NRC) staff is reviewing the submittal and requests the following additional information:

1. Regulatory Position 4.1 of Regulatory Guide (RG) 1.178, Revision 1, "An Approach for Plant-Specific Risk-Informed Decisionmaking for Inservice Inspection [ISI] of Piping," states that the results of the licensee's ISI specific analysis should include the degradation mechanisms for each segment used to develop the failure potential of each segment.

   In Section 3.4.1, "Quantitative Analysis," of PRR–22, it is stated that a review was conducted that verified that the low safety significant piping was not susceptible to water hammer. However, the NRC staff could not find a similar statement about high safety-significant (HSS) piping in PRR–22.

   Confirm that HSS piping that has a degradation mechanism potential (as identified in Table 3.4, "Risk Impact Analysis Results," of PRR–22) is not susceptible to water hammer, such that the pipe failure frequency would increase to the high failure potential rank to be used in the change in risk evaluation.

2. Regulatory Position 4.1 of RG 1.178, Revision 1, states that the licensee should include reference to NRC-approved topical report on implementing risk-informed ISI (RI-ISI) and supporting documents and variations from the topical reports and supporting documents should be clearly identified.

   The second commitment identified in Attachment 2 to PRR-22 states, "Upon approval of the RIS_B Program, procedures that comply with the guidelines described in EPRI TR-112657 [Electric Power Research Institute Topical Report] will be prepared to implement and monitor the program." The use of EPRI TR-112657 makes this commitment inconsistent with a similar statement in the first sentence of Section 3.5, "Implementation," of PRR–22.

   Clarify whether the second identified commitment should reflect the use of ASME Code Case N-716 instead of EPRI TR-112657.

Enclosure

3. The PRR-22 states that the Class 1 Category B-F and B-J piping weld ISI examinations for the first and second inspection periods of the fourth 10-year interval were performed in accordance with your RI-ISI program based on ASME Code Case N-578. The Class 2 Category C-F-1 and C-F-2 piping weld ISI examinations for the first and second inspection periods of the fourth 10-year interval were performed in accordance with the ASME Code Section XI requirements of the 1998 Edition through the 2000 Addenda. The proposed RI-ISI program based on ASME Code Case N-716 will be used to perform the remaining Class 1 and Class 2 piping ISI exams for the third inspection period. Provide details of how the requirements of IWB-2412 will be met with regard to the percentage of exams performed in each period.

4. Section 3.1 (4) of PRR-22 and ASME Code Case N-716 require piping within the break exclusion region greater than 4 inches nominal pipe size for high-energy piping systems to be assigned HSS, and state that this may include Class 3 or Non-class piping. Confirm that Pilgrim has no Class 3 or Non-Class piping that met this criterion.

5. Section 3.1 (5) of PRR-22 and ASME Code Case N-716 require any piping segment whose contribution to core damage frequency is greater than 1E-06 [and in accordance with NRC feedback on previous applications, 1E-07 for large early release frequency based upon a plant-specific probabilistic safety assessment of pressure boundary failures] be classified as HSS, and state this may include Class 3 or Non-Class piping. Confirm that Pilgrim has no Class 3 or Non-Class piping that met this criterion.

6. Section 3.3 (1) of PRR-22 and ASME Code Case N-716 stated that with regard to examination locations selected, examinations shall be prorated equally among systems to individually meet the following requirements:

   (a) A minimum of 25 percent of the population identified as susceptible to each degradation mechanism and degradation mechanism combination shall be selected.

   From reviewing Table 4 of PRR-22, the NRC staff cannot determine if this requirement has been met. Please explain how this requirement is met.

   (b) At least 10% of the Reactor Coolant Pressure Boundary (RCPB) welds shall be selected.

   This paragraph listed for completeness, no further information required on this item.

   (c) For the RCPB, at least two-thirds of the examinations shall be located between the inside first isolation valve and the reactor pressure vessel.

   This paragraph listed for completeness, no further information required on this item.

   (d) A minimum of 10% of the welds in that portion of the RCPB that lies outside containment shall be selected.

From reviewing Table 3.3 of PRR-22, the NRC staff cannot determine if this requirement has been met by the welds selected for examination. Please confirm that this requirement is met by the welds selected for examination.

(e) A minimum of 10% of the welds within the break exclusion region (BER) shall be selected.

From reviewing Table 3.3 of PRR-22, it appears that Pilgrim does not have any BER piping. Please confirm that Pilgrim does not have any BER piping.

7. Please provide a Table similar to Table 4 of PRR-22 that compares the selections of the current RI-ISI program for Class 1 piping welds with the selections of the proposed RIS_B program.

8. Of the welds not selected for future examinations in the RIS_B program, have previous examinations of any of these welds identified service induced degradation? If so, what was the degradation mechanism and what was done to mitigate the degradation?

9. In PRR-22, it is stated that the RIS_B Program is a living program monitored continuously for changes, where this monitoring includes numerous facets. Please confirm that vendor issued communications, such as General Electric-Hitachi Safety Communications are included as part of the reviews done for the living program aspects of the program.

10. Have any of the welds selected for examination in the RIS_B been previously examined and resulted in limited examination coverage (i.e. less than 90%)? If so, please explain why other welds have not been selected to minimize the number of examinations with limited exam coverage.

November 25, 2013

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/ra/
Nadiyah S. Morgan, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
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Enclosure:
RAI

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