



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

February 18, 2015

Vice President, Operations
Entergy Operations, Inc.
Waterford Steam Electric Station, Unit 3
17265 River Road
Killona, LA 70057-3093

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – REQUEST FOR
ADDITIONAL INFORMATION REGARDING THE REQUEST TO
PERMANENTLY EXTEND THE INTEGRATED LEAK RATE TEST
FREQUENCY TO 15 YEARS (TAC NO. MF4727)

Dear Sir or Madam:

By letter dated August 28, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14241A305), Entergy Operations, Inc., submitted a license amendment request (LAR) for Waterford Steam Electric Station, Unit 3, to change Technical Specification 6.15, "Containment Leakage Rate Testing Program," to allow a permanent extension of the Type A primary containment integrated leak rate test frequency from 10 years to 15 years.

The U.S. Nuclear Regulatory Commission staff has reviewed the LAR and has determined that additional information is needed to complete the review. Please provide the additional information requested in the enclosure within 60 days of receipt of this letter.

If you have any questions, please contact me at 301-415-3229 or via e-mail at Michael.Orenak@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael D. Orenak".

Michael D. Orenak, Project Manager
Plant Licensing IV-2 and Decommissioning
Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosure:
Request for Additional Information

cc w/encl: Distribution via Listserv



UNITED STATES
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REQUEST FOR ADDITIONAL INFORMATION

REGARDING THE LICENSE AMENDMENT REQUEST TO PERMANENTLY EXTEND THE

INTEGRATED

LEAK RATE TEST FREQUENCY TO 15 YEARS

ENTERGY OPERATIONS, INC.

WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NO. 50-382

By letter dated August 28, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14241A305), Entergy Operations, Inc. (Entergy, the licensee), submitted a license amendment request (LAR) to change Technical Specification (TS) 6.15, "Containment Leakage Rate Testing Program," for the Waterford Steam Electric Station, Unit 3 (WF3). The proposed change would allow a permanent extension of the Type A primary containment integrated leak rate test frequency from 10 years to 15 years.

The following questions were developed as a result of the U.S. Nuclear Regulatory Commission (NRC) staff's review of the licensee's LAR.

RAI 1

NRC Regulatory Issue Summary 2007-06 dated March 22, 2007 (ADAMS Accession No. ML070650428), states that the NRC staff expects that the licensees fully address all scope elements with Regulatory Guide (RG) 1.200, Revision 2, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment [PRA] Results for Risk-Informed Activities," dated March 2009 (ADAMS Accession No. ML090410014), by the end of its implementation period (i.e., one year after the issuance of Revision 2 of RG 1.200). Revision 2 of RG 1.200 endorses, with exceptions and clarifications, the combined American Society of Mechanical Engineers (ASME)/American Nuclear Society (ANS) PRA standard ASME/ANS RA-Sa-2009, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications."

Given that the implementation date of RG 1.200, Revision 2, was April 2010, and the LAR was submitted in August 2014, identify any gaps between the WF3 internal events PRA model used in this application and RG 1.200, Revision 2, requirements that are relevant to this LAR. Additionally, address the technical adequacy requirements of RG 1.200, Revision 2, that are applicable to this LAR, or explain why addressing the requirements would have no impact on this application.

Enclosure

RAI 2

Section 4.5.2 of the LAR states, in part, that "[t]he WF3 Fire PRA (FPRA) model has undergone a Reg. Guide 1.200 Peer Review against Sections 2 and 3 of the ASME PRA Standard." The ASME PRA Standard RA-Sa- 2009 contains ten parts, each with several sections. Clarify whether the above statement from the LAR refers to Sections 2 and 3 of Part 4, "Requirements for Fire At-Power PRA." If the Fire PRA has not been peer-reviewed against ASME/ANS RA-Sa-2009, clarify how the fire PRA was determined to be of sufficient quality for this application.

RAI 3

Section 4.5.2 of the LAR states, in part, that "[t]he industry peer review of the updated PRA model has been performed. The updated PRA model meets ASME Capability Category II requirements by addressing gaps identified by the peer review." Provide a list of all supporting requirements from the peer-review relevant to this LAR for which the PRA did not meet the ASME/ANS RA-Sa-2009 Capability Category 1 supporting requirements. Explain why these gaps would not impact this specific application. For gaps that did not impact another application (e.g., National Fire Protection Association NFPA-805), describe why the finding does not impact this LAR.

RAI 4

In the LAR, the licensee proposed to revise WF3, TS 6.15, as follows:

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in NEI 94-01, Revision 2-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR 50, Appendix J," dated October, 2008, except that the next Type A test performed after the May 21, 2005 Type A test shall be performed no later than May 20, 2020.

The term "except that" in the above proposed TS wording gives the appearance that the extension of the next Type A test is an exception to the guidelines contained in NEI 94-01, Revision 2A (ADAMS Accession No. ML100620847). Provide clarification for the term "except that."

The NRC staff notes that this was identified for similar applications previously submitted for the NRC review and Entergy had provided clarification in letters dated January 20, 2011, for Arkansas Nuclear One, Unit 2, and March 11, 2014, for Arkansas Nuclear One, Unit 1 (ADAMS Accession Nos. ML110210971 and ML14070A399, respectively).

RAI 5

Sections 4.0 and 4.3 of the LAR state that the ASME Boiler and Pressure Vessel (BPV) Code, Section XI, Subsection IWL, does not apply to WF3.

As described in Section 3.8 of the WF3 final safety analysis report, both the shield building and the containment vessel are supported on a common reinforced concrete foundation mat. The containment vessel is supported on the concrete fill, which transfers the loads by bearing to the foundation mat below.

Subsection IWL provides the examination requirements for reinforced concrete Class CC components. Considering that the containment vessel is supported on a concrete fill and a reinforced concrete foundation mat, provide clarification regarding the LAR's statement of Subsection IWL not being applicable to WF3.

RAI 6

Please provide information of instances, during implementation of the WF3 containment inservice inspection program, where existence of, or potential for, degraded conditions in inaccessible areas were identified and evaluated based on conditions found in accessible areas, as required by 10 CFR 50.55a(b)(2)(viii)(E) and 10 CFR 50.55a(b)(2)(ix)(A). If there were any instances of such conditions, discuss the findings and corrective actions taken to disposition the findings.

RAI 7

Section 9.2.3.2 of NEI 94-01, Revision 2-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," and Condition 2 in Section 4.1 of the NRC safety evaluation for NEI 94-01, Revision 2, require supplemental general visual inspections of accessible interior and exterior surfaces of the containment for structural deterioration that may affect the containment leak-tight integrity. These inspections must be conducted prior to each Type A test and during at least three other outages before the next Type A test if the interval for the Type A test has been extended to 15 years.

Provide a schedule for a typical 15-year interval (between the last Type A test in 2005 and the proposed next Type A test in 2020), in a tabular format, of inservice inspections that were and will be performed on the containment vessel, and explain how it meets the requirements in Section 9.2.3.2 of NEI 94-01, Revision 2-A, and Condition 2 in Section 4.1 of the NRC safety evaluation NEI 94-01, Revision 2. Please include the inservice inspection intervals with the start date and end date of each inspection period, and the corresponding refueling outages.

RAI 8

The LAR states that WF3 has three periods during each 10-year inservice inspection interval. Table 4-2 of the LAR presents the ASME BPV Code, Section XI, Subsection IWE, inspection results from 2003 to 2014. Please provide the following:

- a. The edition of the ASME BPV Code associated with each WF3 inservice inspection interval.
- b. It is not clear from the review of Table 4-2 of the LAR that 100 percent of the containment vessel accessible surface areas and the interior and exterior moisture barriers have been inspected since 2005. Please clarify or supplement the information

in Table 4-2 to demonstrate that the requirements of Table IWE-2500-1 of the ASME BPV Code have been satisfied.

RAI 9

Attachment 4 of the LAR states that Table 4-1 presents summaries of the results from the WF3 shield building interior and exterior structural inspections, which were performed during each refueling shutdown and prior to any integrated leak test. Contrary to this statement, Section 4.3 of the LAR states that Table 4-1 presents summaries of the results from the WF3 containment building interior and exterior structural inspections, which were performed every three years and the shield building inspection was performed prior to any integrated leak test. Also, the dates included in Table 4-1 do not appear to support the statement in Attachment 4 that the WF3 shield building was inspected during each refueling outage. Please provide clarification.

RAI 10

Table 4-2 of the LAR includes the results of the inspection of the containment vessel interior coating performed in 2003. Please discuss the highlights of findings from WF3 recent inspections of the containment vessel coating and actions taken to disposition them.

RAI 11

Please discuss NRC Information Notice 2014-07, "Degradation of Leak-Chase Channel Systems for Floor Welds of Metal Containment Shell and Concrete Containment Metallic Liner," dated May 5, 2014 (ADAMS Accession No. ML14070A114), as it may apply to WF3. If applicable, discuss the operating experience, inspection results, and any corrective actions taken.

RAI 12

Please provide the following information:

- a. Percent of the total number of Type B tested components that are on 120-month extended performance-based test interval.
- b. Percent of the total number of Type C tested components that are on 60-month extended performance-based test interval.

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Sincerely,

/RA/

Michael D. Orenak, Project Manager
Plant Licensing IV-2 and Decommissioning
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ADAMS Accession No. MLML15033A422

*via memo

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DATE	1/28/15	2/12/15	2/18/15

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