



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

June 16, 2016

Vice President, Operations  
Entergy Operations, Inc.  
Grand Gulf Nuclear Station  
P.O. Box 756  
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION, UNIT 1 - RELIEF REQUEST  
GG-IST-2015-1 RELATED TO THE INSERVICE TESTING PROGRAM  
(CAC NO. MF7117)

Dear Sir or Madam:

By letter dated September 15, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15259A042), as supplemented by letters dated November 6, November 23, and December 2, 2015 (ADAMS Accession Nos. ML15310A220, ML15327A180, and ML15337A255, respectively), Entergy Operations, Inc. (Entergy, the licensee), submitted request for relief GG-IST-2015-1 to the U.S. Nuclear Regulatory Commission (NRC), proposing alternatives to certain requirements of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code), for the inservice testing (IST) program at Grand Gulf Nuclear Station, Unit 1 (GGNS) for the third 10-year IST program interval, which began on December 1, 2007, and is scheduled to end on November 30, 2017.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.55a(z)(2), the licensee requested to use the proposed alternatives in GG-IST-2015-1 on the basis that the ASME OM Code requirements present an undue hardship without a compensating increase in the level of quality or safety.

Based on the enclosed safety evaluation, the NRC staff determines that for alternative request GG-IST-2015-1, the proposed alternatives provide reasonable assurance that the affected components are operationally ready. The NRC staff concludes that complying with the specified ASME OM Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Therefore, the NRC staff authorizes alternative request GG-IST-2015-1 for Grand Gulf Nuclear Station, Unit 1 for the third 10-year IST program interval, which began on December 1, 2007, and is scheduled to end on November 30, 2017.

All other ASME OM Code requirements for which relief was not specifically requested and approved, remain applicable.

If you have any questions, please contact James Kim at (301) 415-4125 or by e-mail at [James.Kim@nrc.gov](mailto:James.Kim@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Shaun M. Anderson', with a stylized flourish at the end.

Shaun M. Anderson, Acting Chief  
Plant Licensing IV-2 and Decommissioning  
Transition Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosure: Safety Evaluation

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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 GG-IST-2015-1 RELATED TO THE

INSERVICE TESTING PROGRAM FOR THE THIRD 10-YEAR INTERVAL

GRAND GULF NUCLEAR STATION, UNIT 1

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated September 15, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15259A042), as supplemented by letters dated November 6, November 23, and December 2, 2015 (ADAMS Accession Nos. ML15310A220, ML15327A180, and ML15337A255, respectively), Entergy Operations, Inc. (Entergy, the licensee), submitted request for relief GG-IST-2015-1 to the U.S. Nuclear Regulatory Commission (NRC), proposing alternatives to certain requirements of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code), for the inservice testing (IST) program at Grand Gulf Nuclear Station, Unit 1 (GGNS) for the third 10-year IST program interval, which began on December 1, 2007, and is scheduled to end on November 30, 2017.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.55a(z)(2), the licensee requested to use the proposed alternatives in GG-IST-2015-1 on the basis that the ASME OM Code requirements present an undue hardship without a compensating increase in the level of quality or safety.

2.0 REGULATORY EVALUATION

The regulation in 10 CFR 50.55a(f), "Inservice testing requirements," requires, in part, that IST of certain ASME Code Class 1, 2, and 3 components must meet the requirements of the ASME OM Code and applicable addenda, except where alternatives have been authorized pursuant to 10 CFR 50.55a(z)(1) or 10 CFR 50.55a(z)(2).

The regulations in 10 CFR 50.55a(z), state, in part, that alternatives to the requirements of 10 CFR 50.55a(f) may be authorized by the NRC if the licensee demonstrates that: (1) the proposed alternative provides an acceptable level of quality and safety, or (2) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Enclosure

Based on the above, and subject to the NRC's findings with respect to authorizing the proposed alternatives to the ASME OM Code given below, the NRC staff concludes that regulatory authority exists for the licensee to request and the Commission to authorize the alternatives requested by the licensee.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Licensee's Alternative Request GG-IST-2015-1

##### Applicable Edition of OM Code

The GGNS third 10-year IST interval began on December 1, 2007, and is scheduled to end on November 30, 2017. The applicable ASME OM Code edition and addenda for the GGNS third 10-year IST program interval are the 2001 Edition with addenda through, and including, the 2003 Addenda, except that for main steam safety relief valve testing, GGNS implements Mandatory Appendix I, paragraphs 1-3410(a) and (d) of the 2004 Edition with no addenda.

##### Applicable Code Requirements

This request for relief applies to the frequency specification of the ASME OM Code for all pump and valve testing contained within the IST program scope. The applicable ASME OM Code sections include the following:

Code Paragraph	Description
ISTA-3120(a)	The frequency for the inservice testing shall be in accordance with the requirements of Section IST.
ISTB-3400	Frequency of Inservice Tests
ISTC-3510	Exercising Test Frequency
ISTC-3540	Manual Valves
ISTC-3630(a)	Frequency
ISTC-3700	Position Verification Testing
ISTC-5221(c)(3)	At least one valve from each group shall be disassembled and examined at each refueling outage; all valves in a group shall be disassembled and examined at least once every 8 years.
ISTC-5260	Explosively Actuated Valves

<b>Code Paragraph</b>	<b>Description</b>
Appendix I, I-1320	Test Frequencies - Class 1 Pressure Relief Valves
Appendix I, I-1330	Test Frequency - Class 1 Nonreclosing Pressure Relief Devices
Appendix I, I-1340	Test Frequency - Class 1 Pressure Relief Valves that are used for Thermal Relief Application
Appendix I, I-1350	Test Frequency - Classes 2 and 3 Pressure Relief Valves
Appendix I, I-1360	Test Frequency - Classes 2 and 3 Nonreclosing Pressure Relief Devices
Appendix I, I-1370	Test Frequency - Classes 2 and 3 Primary Containment Vacuum Relief Valves
Appendix I, I-1380	Test Frequency - Class 2 and 3 Vacuum Relief Valves Except for Primary Containment Vacuum Relief Valves
Appendix I, I-1390	Test Frequency - Classes 2 and 3 Pressure Relief Devices that are used for Thermal Relief Application
Appendix II, II-4000(a)(1)	Performance Improvement Activities
Appendix II, II-4000(b)(1)(e)	Optimization of Condition-Monitoring Activities

#### Reason for Request

In its letter dated December 2, 2015, the licensee stated, in part:

ASME OM Code Section IST establishes the inservice test frequency for all components within the scope of the Code. The frequencies (e.g., quarterly) have always been interpreted as "nominal" frequencies (generally as defined in Table 3.2 of NUREG 1482, Revision 1) and Owners applied the surveillance extension time period (i.e. grace period) contained in the plant Technical Specifications (TS) Surveillance Requirements (SRs). The TS allow for a less than or equal to 25% extension of the surveillance test interval to accommodate plant conditions that may not be suitable for conducting the surveillance (TS 3.0.2). However, Regulatory Issue Summary 2012-10, NRC Staff Position

on Applying Surveillance Requirements 3.0.2 and 3.0.3 to Administrative Controls Program Tests, states that SR 3.0.2 and 3.0.3 cannot be applied to TS 5.5 for tests that are not associated with a TS SR.

The lack of a tolerance band on the ASME OM Code inservice test frequency restricts operational flexibility. There may be times when a surveillance test could be required (i.e., its frequency could expire), but plant conditions are not risk conducive or the testing may not even be possible until sometime after a plant condition or associated Limited Condition Operation (LCO) is within its applicability.

...

Thus, just as with TS required surveillance testing, some tolerance is needed to allow adjusting OM Code testing intervals to better align with the plant conditions and other maintenance and testing activities. Providing a tolerance band assures operational flexibility for scheduling surveillance tests to minimize conflicts between the need to complete the surveillance and plant conditions.

Pursuant to 10 CFR 50.55a(z)(2), the licensee requested relief from the frequency specification of the ASME OM Code. The basis of the relief request is that the Code requirement presents an undue hardship without a compensating increase in the level of quality and safety.

#### Proposed Alternative

In its letter dated December 2, 2015, the licensee stated, in part:

The proposed alternative is OMN-20, "Inservice Test Frequency," which addresses testing periods for pumps and valves specified in ASME OM Section IST, 2009 Edition through OMa-2011 Addenda, and all earlier editions and addenda of ASME OM Code. This request is being made in accordance with 10 CFR 50.55a(z)(2) and is necessary as compliance with the OM Code requirements would result in hardship/unusual difficulty without a compensating increase in quality or safety.

- 1) For IST testing periods up to and including 2 years, Code Case OMN-20 provides an allowance to extend the IST testing periods by up to 25%. The period extension is to facilitate test scheduling and considers plant operating conditions that may not be suitable for performance of the required testing (e.g., performance of the test would cause an unacceptable increase in the plant risk profile due to transient conditions or other ongoing surveillance, test or maintenance activities). Period extensions are not intended to be used repeatedly merely as an operational convenience to extend test intervals beyond those specified. The test period extension and the statements regarding the appropriate use of the period extension are equivalent to the existing TS SR 3.0.2 allowance and the statements regarding its use in the SR 3.0.2 Bases.

Use of the SR 3.0.2 period extension has been a practice in the nuclear industry for many decades and there is no evidence that the period extensions affect component reliability.

- 2) For IST testing periods of greater than 2 years, OMN-20 allows an extension of up to 6 months. The ASME OM Committee determined that such an extension is appropriate. The 6-month extension will have a minimal impact on component reliability considering that the most probable result of performing any inservice test is satisfactory verification of the test acceptance criteria. As such, pumps and valves will continue to be adequately assessed for operational readiness when tested in accordance with the requirements specified in 10 CFR 50.55a(f) with the frequency extensions allowed by Code Case OMN-20.
- 3) As stated in EGM 2012-001, if an Inservice Test is not performed within its frequency, SR 3.0.3 will not be applied. The effect of a missed Inservice Test on the Operability of TS equipment will be assessed under the licensee's Operability Determination Program.

### 3.2 NRC Staff Evaluation

Historically, licensees have applied, and the NRC staff has accepted, the standard TS definitions for IST intervals (including allowable interval extensions) to ASME OM Code-required testing (NUREG-1482, Revision 2, Section 3.1.3, "Scheduling of Inservice Tests," October 2013 (ADAMS Accession No. ML13295A020)). Recently, the staff reconsidered the allowance of using TS testing intervals and interval extensions for IST not associated with TS SRs. As noted in Regulatory Issue Summary 2012-10, "NRC Staff Position on Applying Surveillance Requirements 3.0.2 and 3.0.3 to Administrative Controls Program Tests," dated August 23, 2012 (ADAMS Accession No. ML12079A393), the NRC determined that programmatic test frequencies can not be extended in accordance with the TS SR 3.0.2. This includes all IST described in the ASME OM Code not specifically required by the TS SRs.

Following this development, the NRC staff sponsored and co-authored an ASME OM Code inquiry and Code case to modify the ASME OM Code to include TS-like test interval definitions and interval extension criteria. The resultant ASME Code Case OMN-20 was approved by the ASME Operation and Maintenance Standards Committee on February 15, 2012, with the NRC representative voting in the affirmative. ASME Code Case OMN-20 was subsequently published in conjunction with the ASME OM Code, 2012 Edition. The licensee proposes to adopt ASME Code Case OMN-20.

Requiring the licensee to meet the ASME OM Code requirements, without an allowance for defined frequency and frequency extensions for IST of pumps and valves, results in a hardship without a compensating increase in the level of quality and safety. Based on the prior acceptance by the NRC staff of the similar TS test interval definitions and interval extension criteria, the staff finds that implementation of the test interval definitions and interval extension criteria contained in ASME OM Code Case OMN-20 is acceptable. Allowing usage of ASME Code Case OMN-20 provides reasonable assurance of operational readiness of pumps and valves subject to the ASME OM Code IST.

#### 4.0 CONCLUSION

As set forth above, the NRC staff determines that for alternative request GG-IST-2015-1, the proposed alternatives provide reasonable assurance that the affected components are operationally ready. The NRC staff concludes that complying with the specified ASME OM Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Therefore, the NRC staff authorizes alternative request GG-IST-2015-1 for Grand Gulf Nuclear Station, Unit 1 for the third 10-year IST program interval, which began on December 1, 2007, and is scheduled to end on November 30, 2017.

All other ASME Code, Section XI requirements for which relief was not specifically requested and approved, remain applicable.

Principal Contributor: John Billerbeck

Date: June 16, 2016



All other ASME OM Code requirements for which relief was not specifically requested and approved, remain applicable.

If you have any questions, please contact James Kim at (301) 415-4125 or by e-mail at [James.Kim@nrc.gov](mailto:James.Kim@nrc.gov).

Sincerely,

**/RA/**

Shaun M. Anderson, Acting Chief  
Plant Licensing IV-2 and Decommissioning  
Transition Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosure: Safety Evaluation

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**\*See memo dated May 31, 2016**

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