



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

July 16, 2014

Mr. Joseph H. Plona
Senior Vice President
and Chief Nuclear Officer
DTE Electric Company
Fermi 2 – 210 NOC
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMI 2 – ALTERNATIVE REQUEST PVRR-001 CONCERNING THE THIRD
10-YEAR INSERVICE TESTING PROGRAM (TAC NO. MF2967)

Dear Mr. Plona:

By letter dated October 22, 2013, DTE Electric Company (DTE, the licensee) submitted alternative request PVRR-001 to the U.S. Nuclear Regulatory Commission (NRC). The licensee proposed an alternative to certain inservice testing (IST) requirements of the American Society of Mechanical Engineers Code for *Operation and Maintenance* of Nuclear Power Plants (ASME OM Code) at the Fermi 2 Power Plant (Fermi 2) for the third IST interval.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(a)(3)(ii), the licensee requested to use the proposed alternative on the basis that the Code requirement presents an undue hardship without a compensating increase in the level of quality and safety.

The NRC staff has reviewed the subject request and concludes, as set forth in the enclosed safety evaluation, that DTE has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(ii) for alternative request PVRR-001, and is in compliance with the ASME OM Code requirements.

Therefore, the NRC staff authorizes alternative request PVRR-001 for Fermi 2 for the remainder of the third 10-year IST interval, which began on February 17, 2010, and is scheduled to end on February 16, 2020. All other ASME OM Code requirements for which relief was not specifically requested and approved in the subject request remain applicable.

J. Plona

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If you have any questions, please contact the NRC Project Manager, Scott Wall, at 301-415-2855, or via e-mail at Scott.Wall@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "David L. Pelton". The signature is stylized with a large initial "D" and a long horizontal stroke at the end.

David L. Pelton, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosure:
Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REGARDING ALTERNATIVE REQUEST NO. PVRR-001

FOR THE THIRD 10-YEAR INTERVAL INSERVICE TESTING PROGRAM

DTE ELECTRIC COMPANY

FERMI 2 POWER PLANT

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated October 22, 2013 (Agencywide Document Access and Management System (ADAMS) Accession No. ML13296A533), DTE Energy Company (DTE, the licensee), submitted alternative request PVRR-001 to the U.S. Nuclear Regulatory Commission (NRC). The licensee proposed an alternative to certain inservice testing (IST) requirements of the American Society of Mechanical Engineers (ASME) Code for *Operation and Maintenance* of Nuclear Power Plants (OM Code), for the IST program at Fermi Unit 2 for the third 10-year IST program interval, which began on February 17, 2010, and is scheduled to end on February 16, 2020.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(a)(3)(ii), the licensee requested to use the proposed alternative in PVRR-001 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 at 10 CFR 50.55a(f), "Inservice Testing Requirements," states, 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.

The regulation at 10 CFR 50.55a(a)(3), states, in part, that alternatives to the requirements of paragraph (f) of 10 CFR 50.55a may be authorized by the NRC if the licensee demonstrates that: (i) the proposed alternative provides 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.

The Fermi Unit 2 third 10-year IST interval began on February 17, 2010, and is scheduled to end on February 16, 2020. The third 10-year interval IST program code of record complies with the ASME OM Code, 2004 Edition.

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 finds that regulatory authority exists for the licensee to request and the Commission to authorize the alternative requested by the licensee.

3.0 TECHNICAL EVALUATION

3.1 Licensee's Alternative Request PVRR-01

This request applies to the test frequency specifications of the ASME OM Code. The frequencies for tests given in the ASME OM Code include the following, but do not include a tolerance band:

Code Paragraph	Description
ISTA-3120(a)	"The frequency for inservice testing shall be in accordance with the requirements of Section IST."
ISTB-3400	Frequency of Inservice Tests
ISTB-6200	Corrective Action (Frequency)
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-5222	Condition-Monitoring Program for Check Valves, Appendix II (Frequency)
ISTC-5230	Vacuum Breaker Valves, Appendix I (Frequency)
ISTC-5240	Safety Relief Valves, Appendix I (Frequency)
ISTC-5260	Explosively Actuated Valves
Appendix I*, I-1320	Test Frequency, Class 1 Pressure Relief Valves
Appendix I, I-1340	Test Frequency, Class 1 Pressure Relief Valves that are used for Thermal Relief Application
Appendix I, I-1350	Test Frequencies, Class 2 and 3 Pressure Relief Valves
Appendix I, I-1370	Test Frequencies, Class 2 and 3 Primary Containment Vacuum Relief Valves
Appendix I, I-1380	Test Frequencies, Class 2 and 3 Pressure Relief Valves that are used for Thermal Relief Application
Appendix I, I-1390	Test Frequencies, Class 2 and 3 Pressure Relief Valves that are used for Thermal Relief Application
Appendix II**, II-4000(a)(1)	Performance Improvement Activities Interval
Appendix II, II-4000(b)(1)(e)	Optimization of Condition Monitoring Activities Interval
Notes *Appendix I is for Pressure Relief Valves	
**Appendix II is for Check Valve Condition Monitoring Program	

Reason for Request

The ASME OM Code Section IST establishes the inservice test frequency for all components within the scope of the ASME OM Code. The frequencies (e.g., quarterly) have always been interpreted as “nominal” frequencies and are defined in plant technical specification (TS) Section 5.5.6, “Inservice Testing and Inspection Program.” The licensee routinely applied the surveillance extension time period (i.e., “grace period”) contained in the plant TS Surveillance Requirements (SRs), specifically SR 3.0.2. The TS allows for a less than or equal to 25 percent extension of the surveillance test interval to accommodate plant conditions that may not be suitable for conducting the surveillance. However, regulatory issues have been raised concerning the applicability of the TS grace period to ASME OM Code-required IST frequencies, irrespective of allowances provided under TS SR 3.0.2.

The lack of a tolerance band on the ASME OM Code IST frequencies restricts operational flexibility. There may be a conflict where IST could be required (i.e., the frequency could expire), but where it is not possible or not desired that it be performed until sometime after a plant condition or associated Limiting Condition for Operation is within its applicability.

The NRC recognized this potential issue in the TSs by allowing a frequency tolerance as described in TS SR 3.0.2. The lack of a similar tolerance applied to the ASME OM Code testing places an unusual hardship on the plant to adequately schedule work tasks without operational flexibility.

Thus, just as with TS-required surveillance testing, some tolerance is needed to allow adjusting ASME OM Code testing intervals to suit the plant conditions and other maintenance and testing activities. This assures operational flexibility when scheduling ISTs, minimizing the conflicts between the need to complete the testing and plant conditions.

Proposed Alternative

The licensee proposes to adopt ASME OM Code Case OMN-20, *Inservice Test Frequency*, which was published in conjunction with ASME OM Code, 2012 Edition. The purpose of this code case is to prescribe a methodology for determining acceptable tolerances for pump and valve test frequencies. This alternative will apply to the various frequency specifications of the ASME OM Code for all pumps and valves contained within the IST program. The text of Code Case OMN-20 is shown below:

Code Case OMN-20 – Inservice Test Frequency

1 Test Frequency Grace

ASME OM, Division 1, Section IST and all earlier editions and addenda specify component test frequencies based either on elapsed time periods (e.g., quarterly, 2 yr, etc.) or the occurrence of plant conditions or events (e.g., cold shutdown, refueling outage, upon detection of a sample failure, following maintenance, etc.).

(a) Components whose test frequencies are based on elapsed time periods shall be tested at the frequencies specified in Section IST with a specified time period between tests as shown in Table 1. The specified time period between tests may be reduced or extended as follows:

- 1) For periods specified as fewer than 2 years, the period may be extended by up to 25 percent for any given test.
- 2) For periods specified as greater than or equal to 2 years, the period may be extended by up to 6 months for any given test.
- 3) All periods specified may be reduced at the discretion of the owner (i.e., there is no minimum period requirement).

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.

Period extensions may also be applied to accelerated test frequencies (e.g., pumps in alert range) and other fewer than 2-year test frequencies not specified in Table 1.

Period extensions may not be applied to the test frequency requirements specified in Subsection ISTD, Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers) in Light-water Reactor Nuclear Power Plants, as Subsection ISTD contains its own rules for period extensions.

b) Components whose test frequencies are based on the occurrence of plant conditions or events may not have their period between tests extended except as allowed by ASME OM, Division 1, Section IST, 2009 Edition through OMa-2011 Addenda and all earlier editions and addenda.

Table 1 Specified Test Frequencies

Frequency	Specified Time Period Between Tests
Quarterly (or every 3 mo)	92 days
Semiannually (or every 6 mo)	184 days
Annually (or every year)	366 days
x years	x calendar years where x is a whole number of years ≥ 2

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 (Reference: NUREG-1482 Revision 2, Section 3.1.3). Recently, the NRC 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 Control Program Tests*" (ADAMS Accession No. ML12079A393), the NRC determined that programmatic test frequencies cannot 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, as shown above, 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, and its use is allowed with the ASME OM Code, 2009 Edition through OMA-2011 Addenda and all earlier editions and addenda. 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 NRC 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 alternative request PVRR-001 provides reasonable assurance that the affected components are operationally ready. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(ii). Therefore, the NRC staff authorizes alternative request PVRR-001 at Fermi Unit 2 for the remainder of the third 10-year IST interval, which began on February 17, 2010, and is scheduled to end on February 16, 2020.

All other ASME OM Code requirements for which alternatives or relief was not specifically requested and approved in the subject request remain applicable.

Principal Contributor: Gurjendra S. Bedi, NRR

Date: July 16, 2014

J. Plona

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If you have any questions, please contact the NRC Project Manager, Scott Wall, at 301-415-2855, or via e-mail at Scott.Wall@nrc.gov.

Sincerely,

/RA/

David L. Pelton, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosure:
Safety Evaluation

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