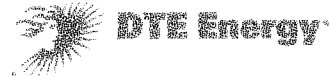


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10 CFR 50.55a

March 16, 2016  
NRC-16-0001

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

References: Fermi 2  
NRC Docket No. 50-341  
NRC License No. NPF-43

Subject: Request for Relief from ASME OM Code 5-year Test Interval  
for Safety Relief Valves (Relief Request VRR-014)

Pursuant to 10 CFR 50.55a, "Codes and Standards," paragraph (z)(1), DTE Electric Company (DTE) hereby requests NRC approval of the enclosed relief request, VRR-014, for the Fermi 2 Power Plant.

Specifically, DTE requests relief from the American Society of Mechanical Engineers (ASME) OM Code Mandatory Appendix I, "Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants," Section I-1320, "Test Frequencies, Class 1 Pressure Relief Valves," paragraph (a), "5-Year Test Interval" which states that Class 1 pressure relief valves shall be tested at least once every 5 years. Relief request VRR-014 proposes to increase the Safety Relief Valve (SRV) test interval from 5 to 6.5 years (i.e., 6 years with a grace period of 6 months). Approval of the proposed alternative is requested for the remaining duration of the Fermi 2 third IST 10-year interval which started on February 17, 2010.

DTE requests NRC approval of this relief request within one calendar year of the date of this letter.

No new commitments are being made in this submittal.

USNRC  
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Should you have any questions or require additional information, please contact Mr. Alan I. Hassoun of my staff at (734) 586-4287.

Sincerely,



Keith J. Polson  
Site Vice President

Enclosure: Inservice Testing Relief Request VRR-014, Increase SRV Test Interval from 5 to 6.5 Years

cc: NRC Project Manager  
NRC Resident Office  
Reactor Projects Chief, Branch 5, Region III  
Regional Administrator, Region III  
Michigan Public Service Commission  
Regulated Energy Division (kindschl@michigan.gov)

**Enclosure to  
NRC-16-0001**

**Fermi 2 NRC Docket No. 50-341  
Operating License No. NPF-43**

**Inservice Testing Relief Request VRR-014, Increase SRV Test Interval from 5 to 6.5 Years**

**10 CFR 50.55a Relief Request VRR-014**

**Safety Relief Valve Test Interval**

**Proposed Alternative In Accordance with 10 CFR 50.55a(z)(1)**

**Alternative Provides Acceptable Level of Quality and Safety**

**1. ASME Code Component(s) Affected**

Valve PIS Number	Class	Category	Description
B2104F013A	1	C	Safety Relief Valve (SRV)
B2104F013B	1	C	SRV
B2104F013C	1	C	SRV
B2104F013D	1	C	SRV
B2104F013E	1	C	SRV
B2104F013F	1	C	SRV
B2104F013G	1	C	SRV
B2104F013H	1	C	SRV
B2104F013J	1	C	SRV
B2104F013K	1	C	SRV
B2104F013L	1	C	SRV
B2104F013M	1	C	SRV
B2104F013N	1	C	SRV
B2104F013P	1	C	SRV
B2104F013R	1	C	SRV

**2. Applicable Code Edition and Addenda**

ASME OM Code-2004 Edition

**3. Applicable Code Requirement**

ASME OM Code Mandatory Appendix I, "Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants," Section I-1320, "Test Frequencies, Class 1 Pressure Relief Valves," paragraph (a), "5-Year Test Interval" which states that Class 1 pressure relief valves shall be tested at least once every 5 years.

**4. Reason for Request**

10 CFR 50.55a(f)(4) directs a licensee to meet inservice testing requirements for ASME Code Class 1 valves set forth in the ASME OM Code and Addenda. The 2004 Edition of the ASME OM Code is utilized at Fermi 2.

Section ISTC-3200, "Inservice Testing," states that testing shall commence when the valves are required to be operable to fulfill their required function(s). Section ISTC-5240, "Safety and Relief Valves," directs that safety and relief valves meet the inservice testing requirements set forth in Appendix I of the ASME OM Code.

Appendix I, Section I-1320(a) of the ASME OM Code states that Class 1 pressure relief valves shall be tested at least once every 5 years, starting with initial electric power generation. This section also states that a minimum of 20 percent of the pressure relief valves are tested within any 24 month interval and that the test interval for any individual valve shall not exceed 5 years. The required test ensures that the SRVs, which are located on each of the main steam lines between the reactor vessel and the first isolation valve within the drywell, will open at the pressures assumed in the safety analysis.

On December 21, 2012, the NRC approved Fermi 2 License Amendment No. 190 (ML12321A234) to no longer lift the SRVs on start up from a refueling outage. This amendment was implemented during RF-16 (March 2014). Based on Fermi 2 being on an 18 month refuel cycle, this would now require the removal of one additional main body bringing the total removed to 5 each refuel cycle in order to meet the ASME Code requirement for testing Class 1 pressure relief valves within a 5 year interval. Approval to extend the test interval to 6.5 years (i.e., 6 years with a grace period of 6 months) would reduce the minimum number of SRVs that would need to be removed every refueling outage by one.

The Target Rock model 7567F SRVs have shown acceptable test history for the past 16 years at Fermi 2 with no plant shutdowns or Licensee Event Reports related to SRV performance issues. During this 16 year period, DTE Electric Company (DTE) has removed a minimum of 15 pilots and 4 main bodies each 18 month cycle for testing which exceeds the required amount. This is performed to maintain sustained SRV reliability. In addition, lifting of all 15 SRVs was performed on start-up from refuel outages through RF-15 which ensured compliance with ASME OM Code requirements for testing Class 1 pressure relief valves within a 5 year interval.

In accordance with 10 CFR 50.55a(z)(1), DTE requests approval of an alternative to the 5 year test interval requirements of ASME OM Code, Appendix I, Section I-1320(a) for the Target Rock model 7567F SRVs at Fermi 2. DTE requests that the test interval be increased from 5 to 6.5 years (i.e., 6 years with a grace period of 6 months). All other requirements of the applicable ASME OM Code would be met.

## 5. Proposed Alternative and Basis for Use

### Proposed Alternative

Since Fermi 2 operates on an 18 month refueling outage cycle, DTE proposes that the ASME Class 1 pressure relief valves (Target Rock model 7567F SRVs) be tested periodically at least once every 6.5 years (i.e., 6 years with a grace period of 6 months). A minimum of 20% of the pressure relief valves will be tested within any 24-month interval and that the test interval for any individual valve shall not exceed 6.5 years.

This alternative is consistent with the alternative provided in ASME Code Case OMN-17, "Alternative Rules for Testing ASME Class 1 Pressure Relief /Safety Valves," Section 1, "Test Frequencies, Class 1 Pressure Relief Valves," Paragraph (a), "72-month Test Interval plus a 6 month grace period."

Paragraph (b) of Code Case OMN-17 states: (b) Replacement with pre-tested valves: The Owner may satisfy testing requirements by installing pretested valves to replace valves that have been in service, provided that (1) for replacement of a partial complement of valves, the valves removed from service shall be tested prior to resumption of electric power generation and shall be subjected to the maintenance specified in subparagraph (d); or (2) for replacement of a full complement of valves, the valves removed from service shall be tested within 24 months of removal from the system.

DTE has historically removed a full complement of SRV pilots each refueling outage and shipped them to an ASME OM Code-certified vendor to perform as-found testing. If a full complement is removed, the removed valves would be as-found tested within the Code required 24 month time frame. If a partial compliment is removed, then the valves would be shipped to an ASME OM Code-certified vendor to perform as-found testing prior to resumption of electric power generation, and to determine if any expansion testing is required. The vendor also performs the inspection, refurbishment, and as-left testing that meet the maintenance requirements specified in subparagraph (d) of OMN-17. For these reasons, the proposed alternative complies with paragraph (b) of Code Case OMN-17.

On March 2, 2016, the NRC published a notice in the Federal Register (FR) that it intends to amend its regulations in 10CFR50.55a to incorporate a revision to Regulatory Guide (RG) 1.192. The proposed Revision 2 of RG 1.192 (Draft Guide DG-1297) includes the approval of ASME Code Case OMN-17 for voluntary use by licensees. The FR notice requested comments on the proposed rulemaking by May 16, 2016. DTE understands that if this proposed rulemaking is issued before the approval of the request in this submittal, the need for NRC approval of this proposed alternative will no longer be necessary and may be permanently suspended.

### Basis for Use

Test history for the Target Rock model 7567F SRVs at Fermi 2 from April 2000 to present indicates that on all tested SRVs (i.e. 165 SRV as-found set point tests), 151 valves that were installed one cycle each have successfully passed the ASME OM Code and Technical Specification (TS) as-found lift set-point acceptance criteria within plus or minus 3%. Of the 14 that failed, at no time were the ASME overpressure analyses challenged. In addition, within that time frame there have been no plant shutdowns related to SRV performance. This historical Fermi 2 test data is consistent with the reliable and consistent sustained performance of the Target Rock model 7567F SRV. Performance data prior to 2000 is not indicative of current SRV performance, due to utilizing the I-BAD Platinum Coating Process on the Pilot Discs; therefore, it was not considered.

In addition to the historical test results, the current Fermi 2 reload ASME overpressure analyses assume that only eleven of fifteen SRVs are operable, and all of the operable SRVs open to relieve pressure at the upper ASME limit of plus 3% of the SRV set-point. These conservative assumptions provide additional assurance that the requested relief from the current ASME OM Code requirement would not result in a decrease in the level of quality or safety.

A DTE approved vendor procedure is used for disassembly and inspection of the SRVs. This procedure requires that each SRV be disassembled and inspected upon removal from service, regardless of the as-found test results. The procedure identifies the critical components that are required to be inspected for wear and defects, and the critical dimensions that are required to be measured during the inspection. If components are found worn or outside of the specified tolerance(s), the components are either reworked to within the specified tolerances, or replaced. DTE is notified by the vendor of all components that are either defective, outside of tolerance, or reworked/replaced. The SRV is then re-assembled, the as-left test is performed, and the SRV is returned to Fermi 2.

Accordingly, the proposed alternative of increasing the test interval for the Class 1 pressure relief valves from 5 to 6.5 years (i.e., 6 years with a grace period of 6 months) would continue to provide an acceptable level of quality and safety while restoring the operational and maintenance flexibility that was lost when the 18-month fuel cycle created the unintended consequences of more frequent testing. This proposed alternative will continue to provide assurance of the valves' operational readiness and provides an acceptable level of quality and safety pursuant to 10 CFR 50.55a(z)(1).

### **6. Duration of Proposed Alternative**

The proposed alternative is requested to be used for the remaining duration of the Fermi 2 third 120 month IST interval which started on February 17, 2010.

7. Precedent

Duane Arnold Energy Center - Relief Request No. PR-01, PR-02, VR-01, VR-02, and VR-03 Related to the Inservice Testing Program for the Fifth 10-Year Interval (CAC No. MF5674), dated January 21, 2016 (ML16008A086)

Quad Cities Nuclear Power Station, Units 1 and 2 - Safety Evaluation in Support of Request for Relief Associated with the Fifth 10 Year Interval Inservice Testing Program (TAC Nos. ME7981, ME7982, ME7983, ME7984, ME7985, ME7986, ME7987, ME7988, ME7990, ME7991, ME7992, ME7993, ME7994, and ME7995), dated February 14, 2013 (ML13042A348)