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June 11, 2015  
NRC-15-0070

10 CFR 50.54(f)

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

- References:
- 1) Fermi 2  
NRC Docket No. 50-341  
NRC License No. NPF-43
  - 2) NRC Order EA-13-109, "Issuance of Order to Modify Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions" dated June 6, 2013 (Accession No. ML13130A067)
  - 3) NRC Interim Staff Guidance JLD-ISG-2013-02, "Compliance with Order EA-13-109, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis Events," Revision 0, dated November 14, 2013 (Accession No. ML13304B836)
  - 4) NEI 13-02, "Industry Guidance for Compliance with NRC Order EA-13-109, 'To Modify Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions,' Revision 0, dated November 7, 2013 (Accession No. ML13316A853)
  - 5) DTE Electric Company letter, NRC-14-0043, "DTE Electric's Overall Integrated Plan in Response to June 6, 2013 Commission Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions (Order Number EA-13-109)," dated June 30, 2014 (Accession No. ML14182A203)
  - 6) DTE Electric Company letter, NRC-14-0075, "DTE Electric Company's First Six Month Status Report in Response to June 6, 2013 Commission Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions (Order Number EA-13-109)," dated December 18, 2014 (Accession No. ML14352A174)

Subject: DTE Electric Company's Second Six-Month Status Report in Response to June 6, 2013 Commission Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions (Order Number EA-13-109)

On June 6, 2013, the U.S. Nuclear Regulatory Commission (NRC) issued an order (Reference 2) to DTE Electric Company (DTE). Reference 2 was immediately effective and directed DTE to install a reliable hardened venting capability for pre-core damage and under severe accident conditions, including those involving a breach of the reactor vessel by molten core debris. Specific requirements are provided in Attachment 2 of Reference 2.

Reference 2 required submission of a Phase 1 Overall Integrated Plan pursuant to Section IV, Condition D.1. Reference 3 endorses industry guidance document NEI 13-02, Revision 0 (Reference 4) with clarifications and exceptions identified in Reference 3. Reference 5 provided the DTE Overall Integrated Plan.

Reference 2 requires submission of a status report at six-month intervals following submittal of the overall integrated plan. References 3 and 4 provide direction regarding the content of the status reports. The first six-month status report was provided in Reference 6. The purpose of this letter is to provide the second six-month status report pursuant to Section IV, Condition D.3, of Reference 2, that delineates progress made in implementing the requirements of Reference 2. The Enclosure provides an update of milestone accomplishments since the submittal of Reference 6.

This letter contains no new regulatory commitments.

Should you have any questions or require additional information, please contact Mr. Christopher Robinson, Licensing Manager at (734) 586-5076.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 11, 2015



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Enclosure: DTE Electric Company's Second Six-Month Status Report for the  
Implementation of Order EA-13-109, Order Modifying Licenses with  
Regard to Reliable Hardened Containment Vents Capable of Operation  
Under Severe Accident Conditions

cc: Director, Office of Nuclear Reactor Regulation  
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-15-0070**

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

**DTE Electric Company's Second Six-Month Status Report for the  
Implementation of Order EA-13-109, Order Modifying Licenses with Regard  
to Reliable Hardened Containment Vents Capable of Operation Under Severe  
Accident Conditions**

**DTE Electric Company's Second Six-Month Status Report for the Implementation of Order EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions**

**1. Introduction**

DTE Electric Company (DTE) developed an Overall Integrated Plan (OIP) (Reference 8.1), documenting the installation of a Hardened Containment Vent System (HCVS) that provides a reliable hardened venting capability for pre-core damage and under severe accident conditions, including those involving a breach of the reactor vessel by molten core debris, in response to Reference 8.2. This enclosure provides an update of milestone accomplishments since submittal of the Phase 1 OIP.

**2. Milestone Accomplishments**

- First Six-Month Status Report submitted (Reference 8.3)
- Design Change Package issued for Cycle 17/Refueling Outage 17 (RF17)

**3. Milestone Schedule Status**

The following provides an update to the milestone schedule to support the OIP. Target completion dates provided in this section include updates from the OIP. This section provides the activity status of each item, and the expected completion date. The dates are planning dates and subject to change as design and implementation details are developed.

Milestone	Target Completion Date	Activity Status	Comments
<b>Phase 1 HCVS Milestone Table</b>			
Submit Overall Integrated Plan	Jun 2014	Complete	Reference 8.1
<b>Submit 6 Month Updates:</b>			
Update 1	Dec 2014	Complete	Reference 8.3
Update 2	Jun 2015	Complete	
Update 3	Dec 2015	On target	
Update 4	Jun 2016	On target	
Update 5	Dec 2016	On target	
<b>Modifications:</b>			
Hold preliminary/conceptual design meeting	Jun 2014	Complete	
Design Change Package issued for Cycle 17/RF17	Mar 2015	Complete	
Design Change implementation Cycle 17	Aug 2015	In progress	
Design Change implementation RF17	Nov 2015	On target	
Design Change Package issued for RF18	Mar 2016	In progress	

<b>Milestone</b>	<b>Target Completion Date</b>	<b>Activity Status</b>	<b>Comments</b>
Design Change implementation RF18	Apr 2017	On target	
Walk Through Demonstration/Functional Test	Jun 2017	On target	
<b>Procedure Changes</b>			
Operations Procedure Changes Developed	Dec 2016	On target	
Site Specific Maintenance Procedure Developed	Dec 2016	On target	
Procedure Changes Active	Apr 2017	On target	
<b>Training:</b>			
Training Complete	Feb 2017	On target	
<b>Completion</b>			
HCVS Implementation	Apr 2017	On target	
Submit Completion Report	Jun 2017	On target	

#### **4. Changes to Compliance Method**

No changes in the compliance method for Fermi 2 have been made since the submittal of the Phase 1 OIP.

#### **5. Need for Relief/Relaxation and Basis for the Relief/Relaxation**

DTE expects to comply with the order implementation date and no relief/relaxation is required at this time.

#### **6. Open Items from U.S. Nuclear Regulatory Commission (NRC) Interim Staff Evaluation (ISE)**

The following table provides a summary of the open items documented in the Phase 1 OIP and the status of each item.

<b>Overall Integrated Plan Phase 1 Open Item</b>	<b>Status</b>
1. Confirm thermal environment for actions using Gothic	In progress
2. Confirm radiological environment	In progress
3. Confirm suppression pool heat capacity	In progress
4. Define tornado missile protection for Reactor Building 5 <sup>th</sup> floor (RB5) components	In progress

The following table provides a summary of the open items documented in the NRC ISE (Reference 8.4) of the Phase 1 OIP and the status of each item.

<b>NRC Phase 1 ISE Open Item</b>	<b>Status</b>
1. Make available for NRC staff audit documentation confirming that all load stripping will be accomplished within one hour and fifteen minutes of event initiation and will occur at locations not impacted by a radiological event.	Work in progress to resolve this open item.
2. Make available for NRC staff audit an evaluation of Section 3.2.1 temperature and radiological conditions to ensure that operating personnel can safely access and operate controls and support equipment.	Work in progress to resolve this open item.
3. Make available for NRC staff audit, analyses demonstrating that HCVS has the capacity to vent the steam/energy equivalent of one percent of licensed/rated thermal power (unless a lower value is justified), and that the suppression pool and the HCVS together are able to absorb and reject decay heat, such that following a reactor shutdown from full power containment pressure is restored and then maintained below the primary containment design pressure and the primary containment pressure limit.	Work in progress to resolve this open item.
4. Make available for NRC staff audit the descriptions of local conditions (temperature, radiation and humidity) anticipated during extended loss of alternating current (AC) power (ELAP) and severe accident for the components (valves, instrumentation, sensors, transmitters, indicators, electronics, control devices, etc.) required for HCVS venting including confirmation that the components are capable of performing their functions during ELAP and severe accident conditions.	Work in progress to resolve this open item.
5. Make available for NRC staff audit documentation of the HCVS nitrogen pneumatic system design including sizing and location.	Work in progress to resolve this open item.
6. Make available for NRC staff audit the final sizing evaluation for HCVS batteries/battery charger including incorporation into FLEX diesel generator (DG) loading calculation.	Work in progress to resolve this open item.

NRC Phase 1 ISE Open Item	Status
7. Make available for NRC staff audit documentation that demonstrates adequate communication between the remote HCVS operation locations and HCVS decision makers during ELAP and severe accident conditions.	Work in progress to resolve this open item.
8. Provide a description of the final design of HCVS to address hydrogen detonation and deflagration.	Work in progress to resolve this open item.
9. Provide a description of the strategies for hydrogen control that minimizes the potential for hydrogen gas migration and ingress into the reactor building or other buildings.	Work in progress to resolve this open item.
10. Make available for NRC staff review design details to ensure the potential for cross flow between HCVS and Standby Gas Treatment System (SGTS) is minimized.	Work in progress to resolve this open item.
11. Provide a justification for deviating from the instrumentation seismic qualification guidance specified in Nuclear Energy Institute (NEI) 13.02, endorsed, in part, by JLD-ISG-2013-02 as an acceptable means for implementing applicable requirements of Order EA-13-109.	Work in progress to resolve this open item.
12. Make available for NRC staff audit description of all instrumentation and controls (existing and planned) necessary to implement this order including qualification methods.	Work in progress to resolve this open item.
13. Make available for NRC staff audit documentation of an evaluation verifying the existing containment isolation valves, relied upon for the HCVS, will open under the maximum expected differential pressure during beyond design basis external events (BDBEE) and severe accident wetwell venting.	Work in progress to resolve this open item.

## 7. Interim Staff Evaluation Impacts

There are no potential impacts to the ISE identified at this time.



## **8. References**

The following references support the updates to the Phase 1 OIP described in this enclosure:

- 8.1 DTE Electric Company letter, NRC-14-0043, "DTE Electric's Overall Integrated Plan in Response to June 6, 2013 Commission Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions (Order Number EA-13-109)," dated June 30, 2014 (Accession No. ML14182A203)
- 8.2 NRC Order Number EA-13-109, "Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions," dated June 6, 2013 (Accession No. ML13130A067)
- 8.3 DTE Electric Company letter, NRC-14-0075, "DTE Electric Company's First Six Month Status Report in Response to June 6, 2013 Commission Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions (Order Number EA-13-109)," dated December 18, 2014 (Accession No. ML14352A174)
- 8.4 NRC Letter, "Fermi, Unit 2 - Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Phase 1 of Order EA-13-109 (Severe Accident Capable Hardened Vents) (TAC No. MF4362)," dated April 1, 2015 (Accession No. ML15077A574)