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10 CFR 50.73

October 20, 2016
NRC-16-0065

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

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

Subject: Licensee Event Report (LER) No. 2016-007

Pursuant to 10 CFR 50.73(a)(2)(v)(C), DTE Electric Company (DTE) is submitting LER No. 2016-007, Secondary Containment Pressure Exceeded Technical Specification Due to Adverse Weather.

No new commitments are being made in this LER.

Should you have any questions or require additional information, please contact Mr. Scott A. Maglio, Manager –Nuclear Licensing, at (734) 586-5076.

Sincerely,

Keith J. Polson
Site Vice President

Enclosure: Licensee Event Report No. 2016-007, Secondary Containment Pressure Exceeded Technical Specification Due to Adverse Weather

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-16-0065**

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

**Licensee Event Report (LER) No. 2016-007, Secondary Containment Pressure
Exceeded Technical Specification Due to Adverse Weather**



LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME

Fermi 2

2. DOCKET NUMBER

05000 341

3. PAGE

1 OF 3

4. TITLE

Secondary Containment Pressure Exceeded Technical Specification Due to Adverse Weather

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
08	27	2016	2016	- 007	- 00	10	20	2016	N/A	05000
									N/A	05000

9. OPERATING MODE

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

1	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
53	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(i)
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)
	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A	

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT

Fermi 2 / Scott A. Maglio – Manager, Nuclear Licensing

TELEPHONE NUMBER (Include Area Code)

(734) 586-5076

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On August 27, 2016, at 1500 EDT, a severe thunderstorm occurred in Monroe County, including the Fermi 2 site. Due to high winds encountered during the thunderstorm, the Technical Specification (TS) for Secondary Containment (SC) pressure boundary was not met six times. The duration of time that the SC TS was not met was approximately 1 second for each occurrence. Plant equipment responded as required to the changing environmental conditions and Reactor Building HVAC returned SC pressure within TS limits. At 1540 EDT, SC vacuum was greater than the TS operability limit of 0.125 inch of vacuum water gauge, and the Limiting Condition for Operation (LCO) was exited. There were no safety consequences or radiological releases associated with this event.

The cause of this momentary loss of SC was determined to be the high winds outside the Reactor Building. For corrective actions Fermi 2 plans to adopt Technical Specification Task Force Traveler (TSTF) 551, "Revise Secondary Containment Surveillance Requirements", when it is approved to eliminate the need to declare SC inoperable for similar events in the future.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

(See NUREG-1022, R.3 for instruction and guidance for completing this form
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1. FACILITY NAME		2. DOCKET NUMBER		3. LER NUMBER		
Fermi 2		05000-	341	YEAR	SEQUENTIAL NUMBER	REV NO.
				2016	007	00

NARRATIVE**INITIAL PLANT CONDITIONS:**

Mode – 1
Reactor Power – 53 percent

There were no structures, systems, or components (SSCs) that were inoperable at the start of this event that contributed to this event.

DESCRIPTION OF THE EVENT:

On August 27, 2016, at 1500 EDT, a severe thunderstorm occurred at the Fermi 2 site. Due to the high winds encountered during the thunderstorm, the Technical Specification (TS) for Secondary Containment (SC) [[NH]] pressure boundary was not met 6 times. The duration of time that the SC TS was not met was approximately 1 second for each occurrence. The maximum SC pressure observed during the event was 0.05 inches of water gauge. The TS requirement is to maintain SC vacuum greater than or equal to 0.125 inch of vacuum water gauge (TS Surveillance Requirement 3.6.4.1.1).

All plant equipment responded as required to the changing environmental conditions. At 1540 EDT, SC vacuum was restored to greater than 0.125 inch of vacuum water gauge by Reactor Building Heating Ventilation and Air Conditioning (RBHVAC) [[VA]]. The LCO for SC operability was exited.

An 8-hour non-emergency event notification (EN 52205) was made to the NRC. The conditions met the reporting criteria for Title 10 Code of Federal Regulations (10 CFR) 50.72(b)(3)(v)(C) as an event or condition that could have prevented the fulfillment of a safety function needed to control the release of radioactive material. This Licensee Event Report (LER) 2016-007 is being reported under the corresponding requirement in 10 CFR 50.73(a)(2)(v)(C).

SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS:

There were no safety consequences or radiological releases associated with this event. At no time during this event was there a potential for endangering the public health and safety.

The specified safety function of the SC is to contain, dilute, and hold up fission products that may leak from primary containment following a Design Basis Accident (DBA). In conjunction with operation of the Standby Gas Treatment System (SGTS) [[BH]] and closure of certain valves [[V]] whose lines penetrate the SC, the SC is designed to reduce the activity level of the fission products prior to release to the environment and to isolate and contain fission products that are released during certain operations that take place inside primary containment, when primary containment is not required to be OPERABLE, or that take place outside primary containment. It is possible for the pressure in the control volume to rise relative to the environmental pressure (e.g., due to pump [[P]] and motor [[MO]] heat load additions). To prevent ground level exfiltration while allowing the SC to be designed as a conventional structure, the SC requires support systems to maintain the control volume pressure at less than the external pressure. For the SC to be considered OPERABLE, it must have adequate leak tightness to ensure that the required vacuum can be established and maintained. During this particular event, a higher indicated SC pressure was recorded on six occasions for approximately one second each. In Chapter 15 of the UFSAR, RBHVAC is assumed lost at the onset of a loss of coolant accident (LOCA) concurrent with a Loss of Offsite Power. As a result, calculations show that the SC would be pressurized until the SGTS restores vacuum. For this event, the structural integrity (i.e., leak tightness) of the SC was re-confirmed when RBHVAC restored SC vacuum to greater than 0.125 inch vacuum water gauge.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

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1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Fermi 2	05000-	2016	007	00

NARRATIVE

If the DBA LOCA for SC concurrent with a Loss of Offsite Power had occurred during the times when the SC pressure TS limit was exceeded, the SC was sufficiently leak tight such that the SGTS would still have established and maintained vacuum greater than the TS required value.

The radiological consequences of the DBA LOCA for SC contained in Chapter 15 of the Fermi 2 UFSAR result in doses that are below 10 CFR 50.67. The SC is assumed to be at 0.125 inch vacuum water gauge at the onset of the LOCA. For this particular event, had the DBA LOCA for SC actually occurred, the increase in magnitude of radiological dose as a result of increased draw-down time from the highest recorded pressure of 0.05 inch water gauge vice -0.125 inch water gauge for 1 second, would be minimal and negated by several very conservative assumptions in the existing analysis (e.g., 100 percent exfiltration from SC during the first 15 minutes of drawdown with SGTS in operation, 10% exfiltration from SC with SGTS in operation throughout the remaining 30 day duration of the accident, no holdup time in SC throughout the 30 day duration of the accident, and all exfiltration and filtered releases are at ground level).

CAUSE OF THE EVENT:

The effect of the high winds outside of the RB caused the momentary loss of SC.

The high winds outside the RB are known to cause large and rapid changes in RB differential pressure (i.e. between inside and outside the RB). There are two divisions to monitor SC pressure. Each division has four pressure transmitters [[PT]] located on the RB fifth floor, one on each of the four RB walls, with a pressure probe that penetrates the wall to the outside, and a recorder. The recorder indicates the highest pressure of the four inputs from the transmitters. Using the equation provided in Section 6.2 of the Fermi 2 UFSAR, wind speeds of 30 to 60 miles per hour (mph) on the RB result in an external pressure change of -0.27 to -1.07 inch water gauge on the leeward side of the building. The negative change on the leeward side of the building results in a lower RB differential pressure. As a result, high wind gusts are sufficient to cause momentary loss of SC even with no other contributing causes.

CORRECTIVE ACTIONS:

No corrective actions were required to restore compliance with the Technical Specification requirement.

Fermi 2 plans to adopt Technical Specification Task Force Traveler (TSTF) 551, "Revise Secondary Containment Surveillance Requirements," if it is approved by the U.S. Nuclear Regulatory Commission. This TSTF would eliminate the need to declare SC inoperable due to momentary pressure indications exceeding the TS limit, such as may be caused by wind gusts as described in this LER.

PREVIOUS OCCURRENCES:

Similar events involving loss of SC due solely to high winds have been reported in the following LERs:

LER 2016-003 involved the loss of SC due to high winds on July 8, 2016.

LER 2016-004 involved the loss of SC due to high winds on July 13, 2016.

The corrective actions for the above events were not complete prior to the August 27, 2016 event reported in this LER due to the short timeframe between the events and therefore were not able to prevent occurrence of this event.