

Peter Dietrich  
Senior Vice President and Chief Nuclear Officer

DTE Energy Company  
6400 N. Dixie Highway, Newport, MI 48166  
Tel: 734.586.4153 Fax: 734.586.1431  
Email: peter.dietrich@dteenergy.com



April 22, 2020  
NRC-20-0023

10 CFR 50.73

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

Fermi 2 Power Plant  
NRC Docket No. 50-341  
NRC License No. NPF-43

Subject: Licensee Event Report (LER) No. 2020-001

Pursuant to 10 CFR 50.73(a)(2)(v)(C), DTE Electric Company (DTE) is submitting LER No. 2020-001, Secondary Containment Inoperable Due to Both Airlock Doors Open.

No new commitments are being made in this submittal.

Should you have any questions or require additional information, please contact Ms. Margaret (Peg) M. Offerle, Manager – Nuclear Licensing, at (734) 586-5076.

Sincerely,

A handwritten signature in black ink, appearing to be "P. Dietrich", written over a series of horizontal lines.

Peter Dietrich  
Senior Vice President and Chief Nuclear Officer

Enclosure: Licensee Event Report No. 2020-001, Secondary Containment Inoperable Due to Both Airlock Doors Open

cc: NRC Project Manager  
NRC Resident Office  
Regional Administrator, Region III

**Enclosure to  
NRC-20-0023**

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

**Licensee Event Report (LER) No. 2020-001  
Secondary Containment Inoperable Due to Both Airlock Doors Open**



# **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 Information Services Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [Infocollects.Resource@nrc.gov](mailto:Infocollects.Resource@nrc.gov), and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: [oir\\_submission@omb.eop.gov](mailto:oir_submission@omb.eop.gov). The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

<b>1. Facility Name</b> Fermi 2	<b>2. Docket Number</b> 05000 341	<b>3. Page</b> 1 OF 3
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<b>4. Title</b> Secondary Containment Inoperable Due to Both Airlock Doors Open
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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
03	05	2020	2020	- 001 - 00		04	22	2020	N/A	N/A
									N/A	N/A

<b>9. Operating Mode</b>	<b>11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)</b>			
<b>1</b>	<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)
<b>10. Power Level</b>	<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)
<b>100</b>	<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)	

<b>12. Licensee Contact for this LER</b>	
<b>Licensee Contact</b> Fermi 2 / Margaret (Peg) M. Offerle – Manager, Nuclear Licensing	<b>Telephone Number</b> (Include Area Code) 734-586-5076

13. Complete One Line for each Component Failure Described in this Report										
Cause	System	Component	Manufacturer	Reportable to ICES	Cause	System	Component	Manufacturer	Reportable to ICES	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
<b>14. Supplemental Report Expected</b>					<b>15. Expected Submission Date</b>			Month	Day	Year
<input type="checkbox"/> Yes (If yes, complete 15. Expected Submission Date) <input checked="" type="checkbox"/> No								NA	NA	N/A

<b>Abstract</b> (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)
<p>On March 5, 2020, at 1235 EST, with the reactor at 100 percent core thermal power and steady state conditions, both doors in the secondary containment (SC) airlock on the reactor building fifth floor were open at the same time for a period of approximately three seconds. Both doors being open at the same time resulted in the Technical Specification (TS) Surveillance Requirement (SR) 3.6.4.1.3 not being met. The cause of the event was a brief, inadvertent, simultaneous opening of both doors due to normal personnel ingress/egress. No equipment failures or human performance errors occurred. The doors were closed in approximately 3 seconds and SC was restored in accordance with the TS. No further corrective actions were required. The maximum SC pressure observed during the time both doors were open remained within TS limits. There were no safety consequences or radiological releases associated with this event.</p>

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

(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/>)

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1. FACILITY NAME		2. DOCKET NUMBER		3. LER NUMBER		
Fermi 2		05000-	341	YEAR 2020	SEQUENTIAL NUMBER 001	REV NO. 00

**NARRATIVE****INITIAL PLANT CONDITIONS**

Mode – 1  
Reactor Power – 100%

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 March 5, 2020, at 1235 EST, with the reactor at 100 percent core thermal power and steady state conditions, plant personnel notified the main control room that both doors [[DR]] in the secondary containment (SC) [[NH]] airlock on the reactor building [[NG]] fifth floor were open at the same time for a period of approximately three seconds (i.e., from 12:35:00 to 12:35:03 EST). Both doors being open at the same time resulted in the Technical Specification (TS) Surveillance Requirement (SR) 3.6.4.1.3 not being met. The maximum SC pressure observed during that time remained within TS limits. There were no radiological releases associated with this event. Declaring SC inoperable as a result of not meeting TS SR 3.6.4.1.3 is reportable under 10 CFR 50.73(a)(2)(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. The doors were closed in approximately 3 seconds and SC was restored.

An 8-hour event notification (EN 54567) was made to the NRC based on meeting the reporting criteria of 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) is being made 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 SC reactor and auxiliary building [[NF]] fifth floor airlock maintains one door closed when traversing into or out of the reactor building fifth floor. A negative pressure is maintained in the reactor building and portions of the auxiliary building. Radioactive materials remain in the auxiliary building and reactor building and any release of radioactive material is monitored for radiation before exhausting to the environment during normal operation. When both air lock doors were open for approximately 3 seconds on March 5, negative pressure was maintained in SC and the auxiliary building. The SC vacuum remained within the TS operability limit of greater than or equal to 0.125 inches of vacuum water gauge per TS SR 3.6.4.1.1. Therefore, there was no unmonitored release during the event.

As described in DTE letter NRC-19-0075 (ML19340A088), dated December 6, 2019, the brief, inadvertent, simultaneous opening of both an inner and outer personnel access door during normal entry and exit conditions, and their prompt closure by normal means, is bounded by existing dose consequence analysis. In the unlikely event that an accident would

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CONTINUATION SHEET**

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**NARRATIVE**

have occurred when both personnel access doors were open for entry/exit, the brief time required to close one of the doors (i.e., three seconds) was very small compared to the 17 minutes assumed in the analysis for reducing the post-accident secondary containment pressure to  $\geq 0.25$  inch of vacuum water gauge, and would not result in an increase in any onsite or offsite dose.

**CAUSE OF THE EVENT**

It was initially presumed that the cause of the event was the failure of the interlock [[IEL]], which is intended to prevent both doors from being open at the same time. However, subsequent testing confirmed that the interlock was functioning as designed to prevent opening of one door when the other door is open. The interlock is not designed to prevent a truly simultaneous opening of both doors. Therefore, the only cause was determined to be the brief, inadvertent, simultaneous opening of both inner and outer personnel access doors during normal entry and exit conditions.

**CORRECTIVE ACTIONS**

The immediate corrective action was to close at least one of the airlock doors to meet the SR 3.6.4.1.3 requirements and restore SC operability. Immediate actions were also taken to restrict access to the affected doors to prevent a recurrence of the condition while investigating the cause. It was subsequently confirmed that the interlock and doors were functioning as designed and access restriction was no longer required.

As indicated above, there are no safety concerns or consequences associated with the brief, inadvertent, simultaneous opening of both an inner and outer personnel access door during normal entry and exit conditions, and their prompt closure by normal means. No further corrective actions were required.

**PREVIOUS OCCURRENCES**

Events involving loss of SC due to both airlock doors being open at the same time have been reported in past, including the following recent LERs:

LER 2019-002 involved the loss of SC function due to both doors being opened at the same time as a result of a human performance error and a failure of the interlock.

LER 2019-003 involved the loss of SC function due to both doors being opened at the same time as a result of a human performance error.

The referenced occurrences above involved actual interlock failure, human performance errors, and/or different doors. There is not a similar underlying concern or reason to this event, such as the same root cause, failure, or sequence of events. The corrective actions taken in response to the prior LERs could not have prevented the occurrence of the event in this LER.