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Detroit Edison



A DTE Energy Company

10CFR50.73

January 6, 2004
NRC-04-0001

U S Nuclear Regulatory Commission
Attention: Document Control Desk
Washington D C 20555

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

Subject: Licensee Event Report (LER) No. 03-004

Pursuant to 10 CFR 50.73(a)(2)(i)(B), Detroit Edison is submitting the enclosed LER No. 03-004. This LER documents a low lubricating oil pressure trend on Emergency Diesel Generator 12.

No commitments are being made in this LER.

Should you have any questions or require additional information, please contact Mr. Norman K. Peterson of my staff at (734) 586-4258.

Sincerely,

William T. O'Connor Jr.

cc: M. A. Ring
H. K. Chernoff
M. V. Yudas, Jr.
NRC Resident Office
Region III
Regional Administrator, Region III
Wayne County Emergency Management Division

IE22

LICENSEE EVENT REPORT (LER)

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

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to his1@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 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

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2. DOCKET NUMBER

05000341

3. PAGE

1 OF 4

4. TITLE

EDG 12 Lube Oil Pressure Low

5. EVENT DATE

MO

DAY

YEAR

11

07

2003

6. LER NUMBER

YEAR

SEQUENTIAL
NUMBERREV
NO

2003 - 004 - 00

7. REPORT DATE

MO

DAY

YEAR

01

06

2004

8. OTHER FACILITIES INVOLVED

FACILITY NAME

DOCKET NUMBER

05000

FACILITY NAME

DOCKET NUMBER

05000

9. OPERATING
MODE

1

10. POWER
LEVEL

100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check all that apply)

20.2201(b)

20.2203(a)(3)(ii)

50.73(a)(2)(ii)(B)

50.73(a)(2)(ix)(A)

20.2201(d)

20.2203(a)(4)

50.73(a)(2)(iii)

50.73(a)(2)(x)

20.2203(a)(1)

50.36(c)(1)(i)(A)

50.73(a)(2)(iv)(A)

73.71(a)(4)

20.2203(a)(2)(i)

50.36(c)(1)(ii)(A)

50.73(a)(2)(v)(A)

73.71(a)(5)

20.2203(a)(2)(ii)

50.36(c)(2)

50.73(a)(2)(v)(B)

OTHER

20.2203(a)(2)(iii)

50.46(a)(3)(ii)

50.73(a)(2)(v)(C)

Specify in Abstract below or in
NRC Form 366A

20.2203(a)(2)(iv)

50.73(a)(2)(i)(A)

50.73(a)(2)(v)(D)

20.2203(a)(2)(v)

x

50.73(a)(2)(i)(B)

50.73(a)(2)(vii)

20.2203(a)(2)(vi)

50.73(a)(2)(i)(C)

50.73(a)(2)(viii)(A)

20.2203(a)(3)(i)

50.73(a)(2)(ii)(A)

50.73(a)(2)(viii)(B)

12. LICENSEE CONTACT FOR THIS LER

NAME

Jerome Flint - Principal Specialist, Licensing

TELEPHONE NUMBER (Include Area Code)

(734) 586-5212

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

14. SUPPLEMENTAL REPORT EXPECTED				15. EXPECTED SUBMISSION DATE		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).				X	NO			

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

On November 7, 2003, it was determined Emergency Diesel Generator (EDG) 12 had been inoperable for a period which exceeded the limiting applicable Technical Specifications (TS) allowed outage time per TS 3.8.1, "AC Sources - Operating." Specifically, at 0200 hours on June 2, 2003, EDG 12 had been removed from its standby mode for maintenance. EDG 12 was restored to an operable status at 1448 hours on June 6, 2003; however, subsequent evaluation determined that EDG 12 had remained inoperable until 2134 hours on November 8, 2003. No TS Limiting Condition of Operation (LCO) had been invoked in the interim because it was believed that EDG 12 was restored to its standby operation mode at 1448 hours on June 6, 2003. This event is reportable under 10CFR50.73(a)(2)(i)(B) as an operation prohibited by Technical Specifications.

During maintenance activities for EDG 12 conducted on June 2, 2003, a lube oil pressure sensing line fitting was removed, cleaned, and reinstalled to correct an identified lube oil leak. On November 7, 2003, a loose fitting was discovered on the inside of the engine block. It was determined the fitting had been loosened during the June 2, 2003, maintenance to correct the oil leak on the outside of the engine block. This event was determined to be caused by latent organizational weaknesses: omission of information and insufficient work organization and planning. Corrective actions are being taken to reduce the probability of similar events occurring in the future.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

Initial Plant Conditions:

Mode 1
Reactor Power 100 percent

Description of the Event

On November 7, 2003, it was determined Emergency Diesel Generator [DG] (EDG) 12 had been inoperable for a period which exceeded the limiting applicable Technical Specifications (TS) allowed outage time per TS 3.8.1, "AC Sources - Operating." Specifically, at 0200 hours on June 2, 2003, EDG 12 had been removed from its standby mode for maintenance. EDG 12 was restored to an operable status at 1448 hours on June 6, 2003; however, subsequent evaluation determined that EDG 12 had remained inoperable until 2134 hours on November 8, 2003. No TS Limiting Condition of Operation (LCO) had been invoked in the interim because it was believed that EDG 12 was restored to its standby operation mode at 1448 hours on June 6, 2003.

EDG 11 and EDG 12 are the Emergency Diesel Generators that supply onsite emergency AC electrical power [EK] to the Division 1 emergency loads. EDG 13 and EDG 14 are the Emergency Diesel Generators that supply onsite emergency AC electrical power to the Division 2 emergency loads. One division is capable of providing sufficient power to shut down and maintain the reactor in a safe condition after a postulated Loss of Coolant Accident or Loss of Offsite Power.

During the maintenance activities for EDG 12 conducted on June 2, 2003, a lube oil pressure sensing line fitting [LA][CPLG] was removed, cleaned, and reinstalled to correct an identified lube oil leak. On July 3, 2003, a Condition Assessment Resolution Document (CARD) documented a slowly lowering trend for EDG 12 lube oil pressure. A solution team was formed and potential causes investigated. The EDG 12 lube oil pressure was monitored and remained within specifications. On November 7, 2003, during maintenance to determine the cause of the lube oil pressure trend, a loose fitting was discovered on the inside of the engine block. It was determined the fitting had been loosened during the June 2, 2003, maintenance to correct the oil leak on the outside of the engine block. Evaluation of work performed on other EDGs and review of lube oil pressures during surveillance testing of other EDGs determined this was not a common mode failure.

Although there is a low probability of occurrence, the EDGs are required to perform their function during a seismic event. Engineering evaluation of the loose lube oil fitting on EDG 12 during a seismic event was unable to confirm the EDG would be able to perform its function during a seismic event, therefore, EDG 12 was inoperable from June 2, 2003, until November 8, 2003.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

From June 2, 2003, until November 8, 2003, EDG 12 lube oil pressure trended from approximately 28 psig to 26 psig. During this time frame there were seven successful surveillance tests as well as successful operation for 20 hours during the August 14, 2003 loss of offsite power, totaling approximately 40 hours of run time. Lube oil pressure previous to this had remained approximately 29 psig. On August 14, 2003, EDG 12 auto started as a result of a loss of offsite power and ran approximately 20 hours with a minimum lube oil pressure of 27 psig. These lube oil pressures were above the low lube oil pressure trip setpoint of 23 psig (acceptable tolerance of 21.4 to 24.6 psig). After repair of the lube oil fitting, EDG 12 was observed during a post maintenance test surveillance run with lube oil pressure of approximately 29 psig, normal lube oil pressure.

TS 3.8.1 requires restoring both EDGs in one division to operable status within 2 hours from the time one or both EDGs in both divisions become inoperable. During the period of time in which EDG 12 was inoperable, EDG 13 and 14 were individually taken out of service for periods exceeding 2 hours. The longest period was approximately 4 days and 13 hours for EDG 14 starting on June 16, 2003. These conditions were outside the allowed outage time of 2 hours per TS 3.8.1 Condition B.1. No TS LCO had been invoked at that time because it was believed that EDG 12 had been restored to its standby operation mode following maintenance on June 6, 2003. This event is reportable under 10CFR50.73(a)(2)(i)(B) as an operation prohibited by Technical Specifications.

Cause of the Event

During the maintenance activities for EDG 12 conducted on June 2, 2003, a lube oil pressure sensing line fitting was removed, cleaned, and reinstalled to correct an identified lube oil leak. On November 7, 2003, a loose fitting was discovered on the inside of the engine block. It was determined the external portion of the fitting had been loosened during the June 2, 2003, maintenance to correct an oil leak on the outside of the engine block, and when externally retightened, caused the inside of the fitting to back off.

This event was determined to be caused by omission of information and insufficient work organization and planning. The EDG vendors manual and prints available to plan and execute the work did not provide sufficient information on configuration of the lube oil fitting internal to the EDG. Additionally, there were opportunities for the work groups involved to question what was on the internal side of the lube oil fitting. Planning and execution of the work continued even though there were uncertainties. These latent organizational weaknesses were the primary cause of the lube oil fitting being loosened without detection.

Analysis of the Event

The Fermi onsite AC power sources consist of four EDGs, two in Division 1, and two in Division 2, and one non-safety related combustion turbine generator [TG](CTG), CTG 11-1, aligned to Division 1 for station blackout purposes. Due to problems with an inverter [INVT], CTG 11-1 was unavailable during the time EDG 12 was inoperable, from June 2, 2003, until September 4, 2003. An alternate Diesel Generator [DG], installed as a Temporary Modification, was available to provide blackstart capability of another CTG in place of CTG 11-1 from August 17, 2003 to September 4, 2003.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

This event was evaluated assuming that EDG 12 was inoperable because it could not be confirmed EDG 12 would be able to perform its function during a seismic event. Nevertheless, it is likely that EDG 12 would have operated for the period of time Division 2 EDGs were out of service for maintenance. This is based on observation of lube oil pressures during seven successful surveillance tests and the 20 hour run for a loss of offsite power event on August 14, 2003, totaling approximately 40 hours of run time.

Therefore, this event had an insignificant impact on the health and safety of the public since it is believed that EDG 12 was capable of running long enough to provide the necessary emergency AC power during a Loss of Offsite Power or Loss of Coolant Accident, had such a transient occurred while a Division 2 EDG was inoperable, and given the low probability of a seismic event.

Corrective Actions

An evaluation of work performed and a review of documented lube oil pressures during previous surveillance testing determined this failure was not common to EDGs 11, 13, and 14.

Repair of the loose lube oil fitting was completed at 1500 hours on November 8, 2003, and EDG 12 post maintenance testing was performed satisfactorily.

The EDG vendors manual will be upgraded to provide better information on the internal lube oil fitting. This information will be included in the work control planning process for future maintenance activities on the EDGs. Maintenance training on lessons learned will be performed. Maintenance training material will be revised to include this information and lessons learned as a result of this event.

This event was documented in the Fermi 2 corrective action program. These and any further potential corrective actions relating to this event are being evaluated, and will be developed and implemented commensurate with established priorities and processes of the Fermi 2 corrective action program.

Additional Information

A. Failed Components

None.

B. Previous LERs On Similar Problems

No previous similar events were discovered.