



10 CFR § 50.73  
L-2006-26  
**JAN 27 2006**

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

Re: Turkey Point Unit 4  
Docket No. 50-251  
Reportable Event: 2005-006-00  
Date of Event: November 29, 2005  
Foreign Material Exclusion Cover Causes Inoperability of One Emergency Diesel  
Generator

The attached Licensee Event Report 50-251/2005-007-00 is being submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(i)(B).

If there are any questions, please call Mr. Walter Parker at (305) 246-6632.

Very truly yours,

Terry O. Jones  
Vice President  
Turkey Point Nuclear Plant

Attachment

cc: Regional Administrator, USNRC, Region II  
Senior Resident Inspector, USNRC, Turkey Point Nuclear Plant

IE22

## LICENSEE EVENT REPORT (LER)

Estimated burden per response to comply with this mandatory 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 and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects@nrc.gov](mailto:infocollects@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

Turkey Point Unit 4

## 2. DOCKET NUMBER

05000251

## 3. PAGE

1 OF 5

## 4. TITLE

Foreign Material Exclusion Cover Causes Inoperability of One Emergency Diesel Generator

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
11	29	2005	2005	- 007 -	00	1	27	2006		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)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
10. POWER LEVEL	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<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)(C)	<input type="checkbox"/> OTHER
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

## 12. LICENSEE CONTACT FOR THIS LER

NAME

Paul F. Czaya - Licensing Engineer

TELEPHONE NUMBER (Include Area Code)

305-246-7150

## 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

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

## 15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR
4	30	2006

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

At approximately 1315 hours on November 29, 2005, during a walkdown of painting activity in the 4A emergency diesel generator (EDG) air receiver room, the system engineer identified an intake air flow restriction caused by the installation of a floor covering installed for the purpose of foreign material exclusion. At approximately 1330 hours, the covering was removed to provide an adequate opening. Subsequent investigation revealed that the floor covering was installed at about 0800 hours on November 29, 2005. With the air intake path completely blocked, operability of the 4A EDG could not be assured for a period of about 5.5 hours and the 4A EDG was considered inoperable during that time. While the allowed outage time in Technical Specifications (TS) was not exceeded, compensatory measures prescribed in required actions were not completed within required time limits, which is reportable. The event is attributed to inadequate guidance to station personnel performing the work. There were no procedural precautions or physical identification measures (signs in the room) to prevent this event. As interim corrective action, a highly visible notice was painted on the floor next to the grating in the air receiver rooms for the 4A and 4B EDGs stating that Engineering is to be contacted before covering the floor. Further evaluation will determine if additional work management controls are needed to reduce the probability of a similar event occurring in the future. As the level of standby onsite power was within TS required limits, as determined retrospectively, there was no increase in the plant risk profile and the health and safety of the public and plant personnel were not affected.

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Turkey Point Unit 4	05000251	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	Page 2 of 5
		2005	- 007	- 00	

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

**DESCRIPTION OF THE EVENT**

On Tuesday, November 29, 2005, preparations were underway for painting air start piping on the 4A emergency diesel generator (EDG) [EK, DG] on the upper level of the EDG building [NB] in the air receiver [EK, RCV] room. The preparations included completely covering the floor grating with a Herculite® reinforced fabric. The floor grating is in the intake air flow path of the EDG. The floor covering was installed for foreign material exclusion (FME) control to prevent debris from falling through the grating onto the engine [EK, ENG] and generator [EK, GEN] below. The floor covering was securely taped to the floor along all edges.

At approximately 1315 hours on November 29, 2005, during a walkdown of the painting activity, the system engineer identified the intake air flow restriction, informed the project supervisor of the problem and requested immediate removal of the covering from the grating. At approximately 1330 hours, the covering was removed to provide at least a 200 square foot opening through the grating. The actual area established was approximately 250 square feet.

Subsequent investigation revealed that the floor covering installation was completed at about 0800 hours on November 29, 2005. With the intake air pathway completely blocked, operability of the 4A EDG could not be assured for a period of about 5.5 hours (0800 to 1330) and the 4A EDG was considered inoperable during that time. While the allowed outage time in Technical Specifications was not exceeded, compensatory measures prescribed in required actions were not completed within required time limits. Condition Report No. 2005-32840 was initiated to address the event.

This event was determined to be reportable in accordance with 10 CFR 50.73(a)(2)(i)(B).

At the time of the event, Turkey Point Units 3 and 4 were operating in Mode 1 at 100% power.

**BACKGROUND**

Each Turkey Point unit has two associated EDGs. Technical Specification Limiting Condition for Operation 3.8.1.1.b requires a unit's two EDGs and one of the opposite unit's EDGs to be operable to provide standby electrical power for required equipment in support of plant operation in Modes 1-4. The safety related function of the EDGs is to automatically start and provide power to required safety related loads during a loss of offsite power in order to achieve and maintain safe shutdown of the reactor [AC, RCT].

For proper EDG operation, intake air and cooling air must pass through an exterior overhead ceiling grate, the floor grate in the air receiver room and then into the engine room to support radiators [EK, HX] for cooling and intake air for combustion. This flow path was blocked by the floor covering on the grating in the air receiver room of the 4A EDG.

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**CAUSE OF THE EVENT**

The event is attributed to inadequate guidance to station personnel performing the work. There were no procedural precautions or physical identification measures (signs in the air receiver room) to prevent this event.

**ANALYSIS OF THE EVENT**

The system engineer measured the exterior opening into the air receiver room at the ceiling grating to be approximately 182 square feet. This established the recommendation for providing a 200 square foot opening in the grating at the air receiver room floor. The additional open area ensured additional margin for beams, supports, etc. While some additional air in-leakage would have been available with the floor covering in place, this small amount was judged insufficient to support EDG operation.

**Reportability**

A review of the reporting requirements of 10 CFR 50.72 and 10 CFR 50.73 and NRC guidance provided in NUREG-1022, Revision 2, Event Reporting Guidelines 10 CFR 50.72 and 10 CFR 50.73, was performed for the subject condition. As a result of this review, the condition is reportable as described below.

The 4A EDG was rendered inoperable by installing the floor covering at about 0800 on 11/29/2005. The condition placed Unit 4 in Technical Specification (TS) Actions 3.8.1.1.b and 3.8.1.1.d for the 4A EDG.

TS Action 3.8.1.1.b requires startup transformer [EB, XFMR] operability to be verified within one hour. This action was not met since Operations personnel were not aware that the 4A EDG was inoperable starting at 0800 hours. A startup transformer operability verification was completed at 0938 hours on 11/29/05 in preparation for removing the 3B EDG from service for surveillance testing. This verification did not comply with TS Action 3.8.1.1.b for the 4A EDG since it was not completed within one hour of 0800.

TS Action 3.8.1.1.d.1 requires a cross-train operability verification for required equipment powered by the remaining required operable EDGs to be completed within two hours. This action was not satisfied for the 4A EDG.

TS Action 3.8.1.1.d.2 requires at least two high head safety injection (HHSI) pumps [BQ, P] to be verified operable and capable of being powered from their associated operable EDGs within 2 hours. This action was not satisfied for the 4A EDG.

A HHSI pump operability verification was performed for the 3B EDG that documented the operability of the 3A and 4A HHSI pumps and their associated EDGs. This was completed at 0940 hours on 11/29/05. This was done at the time without knowledge that the installed floor covering had rendered the 4A EDG inoperable. The HHSI pump operability verification performed in anticipation of removing the 3B EDG from service for surveillance was not completed as required, since it verified the 3A and 4A EDGs operable

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to support the 3A and 4A HHSI pumps, without realizing that the 4A EDG was inoperable due to the installed floor covering.

10 CFR 50.73(a)(2)(i)(B) requires the reporting of :

"Any operation or condition which was prohibited by the plant's Technical Specifications except when:

- (1) The Technical Specification is administrative in nature;
- (2) The event consisted solely of a case of a late surveillance test where the oversight was corrected, the test was performed, and the equipment was found to be capable of performing its specified safety functions; or
- (3) The Technical Specification was revised prior to discovery of the event such that the operation or condition was no longer prohibited at the time of discovery of the event."

The following conditions are reportable in accordance with 10 CFR 50.73(a)(2)(i)(B):

1. Non-compliance with TS Action 3.8.1.1.b requiring startup transformer operability to be verified within one hour of inoperability of the 4A EDG.
2. Non-compliance with TS Action 3.8.1.1.d.1 requiring a cross-train operability verification for required equipment powered by the remaining required operable EDGs completed within two hours of the inoperability of the 4A EDG.
3. Non-compliance with TS Action 3.8.1.1.d.2 requiring at least two HHSI pumps to be verified operable and capable of being powered from their associated operable EDGs within 2 hours of inoperability of the 4A EDG.
4. Non-compliance with TS Action 3.8.1.1.d.2 requiring at least two HHSI pumps to be verified operable and capable of being powered from their associated operable EDGs within 2 hours of inoperability of the 3B EDG.

#### ANALYSIS OF SAFETY SIGNIFICANCE

As mentioned in the Reportability discussion above, a startup transformer operability verification was completed at 0938 hours on 11/29/05. While this verification did not comply with the required action due to timeliness for the 4A EDG, it confirmed that both startup transformers were operable while both the 3B and 4A EDGs were out of service concurrently on 11/29/05.

An informal review of the status of 4B EDG train equipment was performed at around 1430 hours on 11/29/05. It was determined that no required equipment was out-of-service during the period that the 4A EDG was inoperable. This review was not formally documented, however.

A past operability assessment was completed on 11/30/05 that determined the 4A EDG was inoperable while the covering was installed on the deck grating. A retrospective cross-train equipment verification was

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performed and documented for the 4A EDG on 11/30/05 at 1635 hours for its inoperability on 11/29/05, starting at 0800 hours.

Since the compensatory measures required by the TS Actions were found to have been met retrospectively, and since the 4A EDG was inoperable for less than the allowed outage time of 14 days in TS Action 3.8.1.1.b, there was no increase in the plant risk profile. This is also true considering that the 3B EDG was concurrently out of service for surveillance from 1035 to 1400 hours on 11/29/05. TS Action 3.8.1.1.b is applied separately to each unit and allows 14 days for an inoperable EDG. Even though all TS-required compensatory measures were not complied with within required time limits, safety system equipment availability, as required by the TSs, was confirmed for the period when the 4A and 3B EDGs were out of service. As the level of standby onsite power availability remained within TS required limits, as determined retrospectively, there was no increase in the plant risk profile, and the health and safety of the public and plant personnel were not affected.

**CORRECTIVE ACTION**

As interim corrective action, a highly visible notice was painted on the floor next to the grating in each air receiver room for the 4A and 4B EDGs stating that Engineering is to be contacted before covering the floor. The 3A and 3B EDGs are of an earlier vintage than the Unit 4 EDGs and do not utilize a similar intake air flow path, therefore, this type of event is not possible and no corrective action was necessary.

Further evaluation will determine if additional work management controls are needed to reduce the probability of a similar event occurring in the future. Any additional corrective action will be discussed in a supplement to this report.

**ADDITIONAL INFORMATION**

EIIS Codes are shown in the format [EIIS SYSTEM: IEEE system identifier, component function identifier, second component function identifier (if appropriate)].

**FAILED COMPONENTS IDENTIFIED:** None

**SIMILAR EVENTS:** None