

Michael T. Coyle  
Vice President

# AmerGen

A PECO Energy/British Energy Company

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**Clinton Power Station**

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U-603417  
2C.220  
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Docket No. 50-461

10CFR50.73

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

Subject: Clinton Power Station  
Licensee Event Report No. 2000-003-00

Dear Madam or Sir:

Enclosed is Licensee Event Report (LER) No. 2000-003-00: Failure to Follow Procedure While Performing Fire Detector Testing Results in Inoperable Division III DG Ventilation System. This report is being submitted in accordance with the requirements of 10CFR50.73.

Sincerely yours,

  
Michael T. Coyle  
Vice President

JRF/blf

Enclosure

cc: NRC Clinton Licensing Project Manager  
NRC Resident Office, V-690  
NRC Region III, Regional Administrator

IED2

**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 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If 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.

**FACILITY NAME (1)**  
Clinton Power Station

**DOCKET NUMBER (2)**  
05000461

**PAGE (3)**  
1 OF 4

**TITLE (4)**  
Failure to Follow Procedure While Performing Fire Detector Testing Results in Inoperable Division III DG Ventilation System

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
08	31	2000	2000	003	00	10	02	00	None	05000
									FACILITY NAME	DOCKET NUMBER
									None	05000

  

OPERATING	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)				
		20.2201(b)		20.2203(a)(2)(v)	50.73(a)(2)(ii)	50.73(a)(2)(viii)
POWER LEVEL (10)	100	20.2203(a)(1)		20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)		20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)		20.2203(a)(4)	50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)		50.36(c)(1)	X 50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)		50.36(c)(2)	50.73(a)(2)(vii)	

**LICENSEE CONTACT FOR THIS LER (12)**

**NAME**  
John H. Piatt, Director Maintenance

**TELEPHONE NUMBER (Include Area Code)**  
(217) 935-8881, Extension 3234

**COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

**SUPPLEMENTAL REPORT EXPECTED (14)**

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED	MONTH	DAY	YEAR
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**ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)**

On August 31, 2000, Clinton Power Station (CPS) was in Mode 1, at approximately 100 percent power. At approximately 1420 hours, during restoration from testing fire detectors in the Division III Diesel Generator (DG) room, DG ventilation fans tripped unexpectedly. At approximately 1747 hours, during investigation into this condition, it was determined that the DG ventilation fan trips were due to a problem with a relay in the Division III DG fire protection supervisory circuit that was activated during the testing of the fire detectors in the Division III DG room. It was also determined that this relay problem adversely affected the operability of the Division III DG room ventilation. In response to this determination, Operations declared the Division III DG inoperable and entered the Technical Specification (TS) Limiting Condition for Operation (LCO) action statements for the Division III DG being inoperable. The cause for this event was inadequate job preparation which led to a failure to follow procedure requirements. The corrective actions for this event included implementation of an improved pre-job briefing form, counseling the technicians involved, and performing a two-day stand down in the Maintenance Department to reinforce expectations concerning procedure adherence.

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

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		2000	- 003	- 00	

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

**DESCRIPTION OF EVENT**

On August 31, 2000, Clinton Power Station (CPS) was in Mode 1, at approximately 100 percent power. At approximately 1112 hours, testing of fire detectors in the Divisions I, II, and III diesel generator (DG) [EK] rooms commenced in accordance with surveillance procedure 9337.81, "Fire Detector Channel Functional." The purpose of this testing is to demonstrate the operability of Fire Protection System detection and supervisory instrumentation [IC]. This testing satisfies portions of NFPA 72E-1990 requirements and is performed once every two years. The surveillance testing involved introducing a heat source in close proximity to the fire detectors in the diesel generator rooms and ensuring the following system response:

- Alarm LED light activates on the local diesel generator room panel;
- Alarm horns and revolving lights activate;
- The 1H13-P841 panel, (Fire Protection System Alarm Panel) located in the Main Control Room indicates an alarm status; and
- The two associated divisional DG local panels indicate an alarm status.

During this surveillance testing, compensatory measures were in place for the DG fire detection and suppression systems being inoperable.

After testing the first of five fire detectors in the Division III DG room, the technicians attempted to reset the alarm indicators as required by the surveillance procedure. All the expected alarm indicators reset with the exception of the rotation alarm lights. The technicians performing the surveillance determined that this was not a condition that would prevent them from continuing testing and the remaining four detectors in the Division III DG room were tested. (Later it was determined that a relay in the supervisory system circuit that controls the revolving alarm lights had malfunctioned).

After completing the tests on the five fire detectors in the Division III DG room, the technicians attempted to restore the Division III DG room fire detection system to a pre-test condition. During the restoration process the surveillance procedure required resetting the alarm condition on the 1H13-P841 panel; however, the Division III DG alarm condition did not reset. The technicians performing the surveillance decided to continue restoring the Division III DG fire detection system to a pretest condition and then determine why the Division III DG alarm condition on the 1H13-P841 panel and the rotating alarm lights would not reset. At approximately 1420 hours, while continuing to restore from the surveillance, an electrical lead that was de-terminated in the circuit as part of the preparation activities for the Division III DG fire detector testing was re-landed. When the lead was re-landed alarms 5042-6A, "Auto Trip Pump/Fan", and 5042-1A, "Auto Trip Fan/Motor Division 3", activated in the MCR and DG room ventilation fans 1VD02CC, "Division III Diesel Generator Oil Room Exhaust Fan", and 1VD03CA and 1VD03CB, "Diesel Generator Makeup Fans", tripped unexpectedly. The Control Room Supervisor (CRS) contacted the technicians performing the fire protection surveillance to determine what had caused the alarms and the ventilation fans to trip. At this time all surveillance activities were suspended and Operations and Electrical Maintenance personnel began to investigate the problem.

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

At approximately 1747 hours Operations and Electrical Maintenance personnel determined that a malfunctioning relay in the Division III DG fire protection supervisory circuit caused the DG ventilation fans to trip. This relay activates the rotating alarm lights, provides alarm indication on the 1H13-P841 panel, and provides DG ventilation system fan interlock logic that trips ventilation fans supplying the affected DG room. It was also determined that because this relay controls DG ventilation system fan interlock logic, the 1VD01CC, "Division III Diesel Generator Ventilation Fan", which is required for Division III DG operability, would not start as designed if needed to support Division III DG operation. In response to this determination, Operations declared the Division III DG inoperable and entered the following Technical Specification (TS) Limiting Condition for Operation (LCO) action statements: 3.8.1 B.1, perform SR 3.8.1.1 for Operable offsite circuit(s) within 1 hour; 3.8.1 B.2, declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable within 4 hours; 3.8.1 B.3.1, determine Operable DG(s) are not inoperable due to common cause failure within 24 hours; and 3.8.1 B.4, restore required DG to Operable status within 72 hours. Condition Report 2-00-08-146 was initiated to investigate and track this event.

During the investigation into the malfunctioning relay on the Division III DG fire protection supervisory circuit, a technician was dispatched to inspect the relay. While performing the inspection, he observed that the plunger on the relay was extended further than the plungers on the Division I and II relays. During the inspection, the technician touched the plunger and the relay reset. After the relay reset, the rotating alarm lights extinguished and the alarm condition on the 1H13-P841 panel was cleared. Resetting the relay also deactivated the Division III DG ventilation interlock logic and at approximately 1813 hours the Division III DG was declared Operable and the TS LCO action statements were exited.

There were no other components or systems inoperable at the time of this event that affected the severity of this event.

**CAUSE**

The cause of this event was immediate supervision provided less than adequate preparation for the job that resulted in improper performance of the surveillance activity. The pre-job brief did not adequately discuss possible human error, self-checking, or actions to take if the test did not proceed as planned. As a result, opportunities to strengthen defenses were missed. This inadequate preparation led to failure of the technicians to correctly follow the procedure requirements.

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

**CORRECTIVE ACTIONS**

The technicians involved in this event were counseled on adherence to procedure requirements.

A two-day maintenance stand down was performed to discuss lessons learned from this and other recent events involving procedural adherence violations.

An action request (AR) was written to correct the defective Division III DG fire protection supervisory circuit relay. Until this condition is corrected, compensatory actions are being taken for the Division III DG fire protection system being inoperable.

An improved pre-job brief form is being developed, including expectations for its use. The pre-job briefings form will include identification of the following:

- Critical Tasks/Irrevocable Actions
- Criteria for Stopping the Evolution
- Contingency Plans/Emergency Actions
- Barriers/Defenses
- Operating Experience

**ANALYSIS OF EVENT**

This event is reportable under the provisions of 10CFR50.73(a)(2)(v)(D). The Division III DG provides onsite emergency power to the High Pressure Core Spray (HPCS) pump. The inoperability of the Division III DG resulted in the HPCS pump being inoperable which is required to mitigate the consequences of an accident. Assessment of the safety consequences and implications of this event identified that this event was not nuclear safety significant. During the time that Division III DG was inoperable, Division I and II DGs were Operable and available to supply emergency onsite power to safely shutdown the plant.

**ADDITIONAL INFORMATION**

Clinton Power Station has not had any reportable events involving failure to follow procedures in the past two years.

For further information on this event, contact J. H. Piatt, Director - Maintenance, (217) 935-8881, extension 3234.