

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Nine Mile Point Unit 2</b>	DOCKET NUMBER (2) <b>0 5 0 0 0 4 1 0</b>	PAGE (3) <b>1 OF 0 4</b>
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TITLE (4)  
**Technical Specification Violation Due to Inoperable Fire Detector**

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 NAMES		DOCKET NUMBER(S)
									N/A		0 5 0 0 0
<b>1</b>	<b>2</b>	<b>8</b>	<b>8</b>	<b>023</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>7</b>	N/A		0 5 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

OPERATING MODE (9) <b>4</b>	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(e)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
POWER LEVEL (10) <b>01010</b>	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(e)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(e)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
<input checked="" type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)		
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)		
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)		

LICENSEE CONTACT FOR THIS LER (12)

NAME <b>Robert G. Randall, Supervisor Technical Support</b>	TELEPHONE NUMBER
	AREA CODE: <b>311 5</b> NUMBER: <b>314 9 1-12 4 14 15</b>

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)     NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

During a routine inspection of fire detection control panels by the Fire Department at Nine Mile Point Unit 2 on December 23, 1986, an inoperable fire detector was discovered. Further investigation showed that no fire watch patrol had been established in the area of the inoperable fire detector and a Limiting Condition for Operation as defined by Technical Specifications had been violated for Fire Detection Instrumentation. At the time of the event the plant was in the cold shutdown condition with the mode switch in the "SHUTDOWN" position.

The fire detector was noted by Niagara Mohawk Fire Department personnel as operable but having a lower than normal sensitivity on December 21, 1986. On December 22, 1986 a Work Request was initiated to replace and retest the troubled detector. Before the detector could be replaced per the Work Request it was erroneously removed from its base and placed in its corresponding fire detector control panel thus rendering it inoperable. On December 23, 1986 the inoperable detector was discovered during another routine inspection of fire detection control panels and a fire watch patrol was immediately established thus ending the event. A conservative estimate of the event duration is 62 hours 40 minutes.

To prevent similar events from occurring in the future a Fire Detection Surveillance Procedure is being developed which will establish guidelines to maintain the fire detection control panels in service.

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

I. DESCRIPTION OF EVENTS

During a routine inspection of fire detection control panels by the Fire Department at Nine Mile Point Unit 2 an inoperable fire detector was discovered. Further investigation showed that no fire watch patrol had been established in the area of this inoperable fire detector and that a Limiting Condition for Operation (LCO) as defined by plant Technical Specifications had been violated for Fire Detection Instrumentation. At the time of the incident Nine Mile Point Unit 2 was in the cold shutdown condition with the mode switch in the "SHUTDOWN" position. There were no other components or systems which were inoperable and/or out of service that contributed to this event. No plant system or other component failures resulted from the event and no operator action was required.

The inoperable fire detector was located in fire zone 262SW which covers the southern half of elevation 306 ft. of the Reactor Building. Fire zone 262SW contains a string of 26 ionization type fire detectors which are used to actuate a fire suppression system (function S) which utilizes water (function W). Per plant Technical Specifications, with any Function S instruments inoperable an hourly fire watch patrol must be established to inspect the affected fire zone within one hour. Fire zone 262SW fire detectors are controlled and tested from fire detection control panel 2FPM-PNL106. The inoperable fire detector was designated by number 32-01.

On December 21, 1986 between 0000 and 0200 hours, the Fire Chief on duty discovered fire zone 262SW in the "TROUBLE" condition while performing his daily checks of fire detection control panels throughout the plant. A "TROUBLE" light (flashing yellow light with no audible alarm) in a fire detection control panel indicates that the sensitivity of one or more of the detectors in the fire zone associated with the light has a higher than normal sensitivity and needs attention. Upon discovery of the "TROUBLE" light in 2FPM-PNL106 the Niagara Mohawk Fire Chief pushed the proper button to identify the troubled fire detector and check its sensitivity. The sensitivity of the troubled fire detector (32-01) was 4.62 Volts (V) which exceeded the normal sensitivity range of 0.75 V to 3.62 V. The ability of the fire detector to perform its intended function had not been impaired and it was still operable. The Fire Chief noted the facts given above on a Fire Panel Walkdown Sheet which is completed for each fire detection control panel in the plant on a daily basis, and attempted to reset the "TROUBLE" light. He found that the light would not reset, locked the fire detection control panel and continued with his walkdown of the remainder of the fire detection control panels in the plant. Upon returning to the Fire Department office the Fire Chief failed to follow up on the troubled fire detector by checking to see if any corrective action had been previously initiated to repair or replace it. He subsequently failed to notify the next Fire Chief on duty at shift turn-over at 0340 hours. However, the failure of the Fire Chief to follow up on the troubled fire detector did not result in violations of any Niagara Mohawk procedures or policies.



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

The next day, December 22, 1986, the Fire Panel Walkdown Sheets for the day before were delivered to the Niagara Mohawk Engineer who is responsible for the fire protection systems in the plant. This Engineer subsequently initiated a Work Request to replace and retest fire detector 32-01 in fire zone 262SW. The work request was approved by the Operations Department and received by the Instrumentation and Control Department (I&C) on December 26, 1986. The fire panel walkdown sheet for December 22, 1986 could not be located but its misplacement does not violate any Niagara Mohawk procedures or policies as this practice is currently done for Fire Department information only.

On December 23, 1986 during a fire detection control panel walkdown a Niagara Mohawk Fireman discovered a fire detector lying in the bottom of 2FPM-PNL106. Subsequent investigation showed it to be detector number 32-01 of fire zone 262SW and it was verified that the detector was indeed missing from its proper place in the plant. An hourly fire watch patrol was immediately established for fire zone 262SW at 1440 hours thus ending the event.

II. CAUSE OF EVENT

The cause of the event has been determined to be cognitive personnel error by the person who removed the troubled fire detector from service and placed it inside 2FPM-PNL106. Attempts to determine the individual responsible for the event via questioning and review of plant documentation which might isolate this person have proven unsuccessful. Fire Department and Operations personnel have been questioned with no positive results. Due to the potential length of the event and the total number of individuals who could have potentially made the mistake the person who removed the fire detector from its base and placed it in 2FPM-PNL106 could not be positively identified. A root cause analysis for the event has been completed per Supervisory Procedure S-SUP-1 "Root Cause Analysis Program" and come to the conclusion that the root cause was inadequate procedural control of troubled fire detector removal and replacement.

III. ANALYSIS OF EVENT

Although a Limiting Condition for Operation as defined by Technical Specifications was violated, no adverse safety consequences resulted from the event. All of the other 25 fire detectors in fire zone 262SW were operable throughout the event and provided adequate fire detection ability to assure that a fire in the area would not go undetected. The inoperability of fire detector 32-01 would not have affected the ability of the string of fire detectors in fire zone 262SW to actuate the fire suppression system they are designed to initiate. If the event had occurred during power operation it would not have affected the status of any safe shutdown system nor the operators ability to achieve safe shutdown of the plant in any way. A conservative estimate of the elapsed time of the event is from 0000 hours on December 21, 1986 when the fire detector was verified in trouble but still operational until 1440 hours on December 23, 1986 when an hourly fire watch patrol was established in fire zone 262SW, or 62 hours 40 minutes.



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

IV. CORRECTIVE ACTIONS

Immediate corrective action was to establish an hourly fire watch patrol in fire zone 262SW and end the event. This action was taken at 1440 hours on December 23, 1986 immediately after the Technical Specification violation was discovered. The hourly fire watch patrol will continue until the fire detector is once again operable.

The fire detector is scheduled to be replaced and retested by the I&C Department via the Work Request written on December 22, 1986. Completion of this item will take place as soon as I&C scheduling permits.

To prevent similar events from occurring in the future a Fire Detection Surveillance Procedure is currently being developed. (Procedure N2-FPM-FPM-0002, "Smoke Detector Removal/Replacement"). The purpose of this procedure is to establish guidelines to maintain the fire detection control panels in service. Included in this procedure will be the proper sequence of steps to follow, including establishing an hourly fire watch if necessary, when a fire detector is found in a troubled condition and needs to be replaced. In the interim until this procedure is finished Fire Department personnel have been reminded of these duties and responsibilities with respect to this event. Also, a Training Modification Request (TMR) will be issued to assure that all personnel who might have been involved in the event are made aware of the mistake that was made and the resultant LCO violation.

V. ADDITIONAL INFORMATION

The smoke detector involved in this incident a Pyrotronics Model DIX3 ionization type detector.

No previous similar events of this type have occurred at Nine Mile Point Unit 2

Identification of Components Referred to in this LER

Component	IEEE 803 EIS Funct	IEEE 805 System ID
Fire Detector	28	IC

