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FACIL:50-220 Nine Mile Point Nuclear Station, Unit 1, Niagara Powe 05000220
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SUBJECT: LER 89-008-00:on 890609,missed fire patrol resulting in TS violation due to procedure inadequacy & miscommunications.
W/8 ltr.

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TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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NIAGARA MOHAWK

NMP52380

NINE MILE POINT NUCLEAR STATION / P.O. BOX 32 LYCOMING, NEW YORK 13093 / TELEPHONE (315) 343-2110

July 10, 1989

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

RE: Docket No. 50-220
LER 89-08

Gentlemen:

In accordance with 10CFR50.73, we hereby submit the following Licensee Event Report:

LER 89-08 Which is being submitted in accordance with 10CFR50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications".

This report was completed in the format designated in NUREG 1022, Supplement 2 dated September 1985.

Very truly yours,

J. L. Willis
General Superintendent
Nuclear Generation

JLW/GB/lmc
(0649V)

Attachment

cc: Regional Administrator, Region 1
Sr. Resident Inspector, W. A. Cook



Ctr No P680608702

IE22
1/1

| FACILITY NAME (1) | DOCKET NUMBER (2) | LER NUMBER (6) YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | PAGE (3) |
|---|---|---|---|---|---|
| Nine Mile Point Unit 1 | 0 5 0 0 0 2 2 0 | 8 9 | — 0 0 8 | — 0 0 | 0 5 OF 0 5 |

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

ADDITIONAL INFORMATION

A review of past Licensee Event Reports (LERs) for Nine Mile Point Unit 1 did reveal additional instances of missed fire patrols. Details of these events are contained in LERs 89-06, 89-05, 88-02, and 87-20.

A review of previous Nine Mile Point Unit 1 (NMP1) LERs indicated similar root causes. LER 89-05 specifically related to lack of adequate adminsitrative controls. The corrective actions specified in this LER required a revision to Operation Department Instruction, N1-ODI-5.06. However, the procedure revision was not in place at the time this event occurred and therefore, could not have prevented this event. The other LERs listed above relate to personnel error and lack of attention to detail. The corrective action taken as a result of LER 89-06 will adequately preclude recurrence of events of that type.

| System | IEEE 805 System | IEEE 803 Component |
|---|---|---|
| Fire Detection | IC | DET |
| Sprinkler System | KP | SRNK |
| Turbine Building | NB | --- |

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

# LICENSEE EVENT REPORT (LER)

| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
|---|---|---|
| Nine Mile Point Unit 1 | 0 5 0 0 0 2 2 0 | 1 OF 0 5 |

TITLE (4) Missed Fire Patrol Resulting in Technical Specification Violation Due to Procedure Inadequacy and Miscommunications

| 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) |
| 0 6 | 0 9 | 8 9 | 8 9 | — 0 0 8 | — 0 0 | 0 7 | 1 0 | 8 9 | | 0 5 0 0 0 |
| | | | | | | | | | | 0 5 0 0 0 |

| OPERATING MODE (9) | N | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11) | | | | | |
|---|---|---|---|---|---|---|---|
| POWER LEVEL (10) | 0 0 0 | 20.402(b) | 20.405(c) | 50.73(a)(2)(iv) | 73.71(b) | | |
| | | 20.405(a)(1)(i) | 50.36(c)(1) | 50.73(a)(2)(v) | 73.71(c) | | |
| | | 20.405(a)(1)(ii) | 50.36(c)(2) | 50.73(a)(2)(vii) | OTHER (Specify in Abstract below and in Text, NRC Form 366A) | | |
| | | 20.405(a)(1)(iii) | X 50.73(a)(2)(i) | 50.73(a)(2)(viii)(A) | | | |
| | | 20.405(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(viii)(B) | | | |
| | | 20.405(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(x) | | | |

LICENSEE CONTACT FOR THIS LER (12)

| NAME | TELEPHONE NUMBER (AREA CODE) |
|---|---|
| Michael A. Balduzzi, Supervisor, Operations Support | 3 1 5 3 4 9 - 2 1 9 6 |

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

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | | | | | | |

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

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


ABSTRACT

On June 9, 1989, it was determined that a fire watch patrol was not established on June 6, 1989, in accordance with plant Technical Specifications. The Nine Mile Point Unit 1 (NMP1) Nuclear Station was in a cold shutdown condition with the core off-loaded.

The root cause of this event was determined to be an inadequate administrative control process governing the request and issuance of fire protection/detection equipment mark-ups. A contributing factor was determined to be miscommunication.

Corrective action was to initially establish a fire watch patrol for the fire detection zone in question. On June 11, 1989, a general patrol was established as a temporary measure during this period of increased maintenance, which will cover all Technical Specification areas regardless of detection system status. Additionally, the process for removing fire detection from service to facilitate unrelated maintenance activities will be modified. A Lessons Learned transmittal will be issued and will emphasize Control Room accountability for ensuring Technical Specification compensatory action is initiated. Procedure N1-ODI-5.06 has been revised to require the request for prearranged outage of equipment form to be re-routed to the Fire Chief if any changes or additions are made. The procedure will also require the Chief Shift Operator (CSO) to document the notification of the Fire Chief.

| FACILITY NAME (1) | DOCKET NUMBER (2) | LER NUMBER (6) YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | PAGE (3) |
|---|---|---|---|---|---|
| Nine Mile Point Unit 1 | 0 5 0 0 0 2 2 0 | 8 9 | — 0 0 8 | — 0 0 | 0 2 OF 0 5 |

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

DESCRIPTION OF THE EVENT

On June 9, 1989, it was determined that a fire watch patrol was not established in accordance with the Nine Mile Point Unit 1 (NMP1) Technical Specifications (Tech Specs). The NMP1 Nuclear Station was in a cold shutdown condition with the core off-loaded.

On June 6, 1989, the Fire Chief on duty was contacted by a Niagara Mohawk Power Corporation (NMPC) Construction Services representative to request fire detection to be removed from service to facilitate maintenance work. Upon describing the work location over the telephone, the Fire Chief initiated a "Request for Prearranged Outage of Equipment" form. Based upon the description of the work location, the Fire Chief indicated zones DA-2013S and D-2013 to be disconnected from service on the request form. These zones are located in the Turbine Building on elevation 250 feet. The request form indicated the Construction Services representative as the "mark-up man". The Construction Services representative obtained the request from the Fire Chief and took it to the Chief Shift Operator (CSO) in the Control Room and left it there. The CSO reviewed the request, but could not locate detection zone D-2013 on main fire panel number 2 in the Control Room. Detection zone DA-2013S and DA-2013N appear on main fire panel number 2, but zone D-2013 does not. Zone D-2013 appears on local fire panel number 3 located in the Turbine Building. The CSO contacted the Construction Services representative to question whether he intended to take zone DA-2013N out of service instead of zone D-2013 since zone D-2013 did not appear on main fire panel number 2.

The Construction Services representative and the CSO came to agreement that zone DA-2013N was intended, the CSO then proceeded to remove both detection zones DA-2013S and DA-2013N from service. The CSO then notified the Fire Chief that the mark-up was issued, meaning the detection zones were removed from service. The CSO did not recall, however, if he specifically mentioned making the change from zone D-2013 (originally requested) to zone DA-2013N to the Fire Chief. The Fire Chief maintained that zone DA-2013N was not mentioned during this notification. Consequently, the Fire Chief did not initiate the Technical Specification requested compensatory action. Although zone DA-2013S was patrolled as required, zone DA-2013N was not.

Nine Mile Point Unit 1 Technical Specification 3.6.6.a.1 requires that when the number of detectors which are operable is less than the number defined by Technical Specification Table 3.6.6.a, a fire watch patrol shall be established within one hour to inspect the zone with inoperable detectors.

This Technical Specification violation occurred when a fire watch patrol could not be verified between 1835 hours on June 6, 1989 and 0445 hours on June 9, 1989 for inoperable fire detection zone DA-2013N.

CAUSE OF THE EVENT

A root cause analysis for this event has been completed per Site Supervisory Procedure, S-SUP-1, "Root Cause Evaluation Program". This analysis was performed utilizing the Human Performance Evaluation System (HPES), published by the Institute of Nuclear Power Operations (INPO).

The root cause for this event, based upon the HPES report, indicates an inadequate administrative control process governing the request and issuance of mark-ups. Contributing causes to this event were:

1) A breakdown of verbal communications.

2) The process of requesting a prearranged outage of equipment is normally handled between the Chief Shift Operator (CSO) (controller) and the mark-up man (requestor). The fact that the Fire Chief needs to be made aware of the details for the equipment outage increase the potential for miscommunication.

3) Written communications are also suspect in that the description of points requiring protective tagging on the request for prearranged outage of equipment were inadequate.

4) A failure on the part of the Control Room to ensure the Technical Specification required compensatory action was initiated.

5) An increased level of maintenance activity associated with an extended plant outage, causing an unusually large number of detection systems to be out of service.

ANALYSIS OF THE EVENT

This event is considered reportable per 10CFR50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications".

The December 1987 fire hazards analysis for Nine Mile Point Unit 1 documents that the average combustible loading in the affected fire zone on the 250' elevation of the Turbine Building is under 60,000 BTU/Ft$^2$. This translates to an equivalent fire severity of under 45 minutes. The primary combustible material in this area is cable insulation in trays. The cable trays are protected by pre-action sprinkler systems.

This area of the Turbine Building is protected by a pre-action fire suppression water sprinkler system (WP-2013), identified by the Technical Specifications as Turbine Building, elevation 250' north. Two detection zones, DA-2013N and DA-2013S, are utilized and cover areas which are open to each other. Either detection zone can automatically actuate the pre-action suppression system.

ANALYSIS OF THE EVENT (Cont'd)

Although this automatic actuation function from these zones was inoperable during this event, a fire occurring in the north (DA-2013N) section of this location would not have burned until all combustibles were consumed. The following event would have occurred:

(1) The Fire Watch Patrol assigned to Zone DA-2013S would have detected and reported a fire in Zone DA-2013N provided that the fire was in a readily observable portion of Zone DA-2013N. Patrols are conducted on a one-half hour basis which is more frequent than the one hour requirement of the Technical Specification.

As previously identified, the primary combustibles in this location are cables in trays. Normal ignition sources are minimal in this area due to a minimum amount of rotating electrical equipment and the radiological controls associated with the Turbine Building. Additionally, this location is not a normal travel route to other plant locations and is separated from other non-contiguous plant locations by rated fire barriers.

Based on these considerations, the likelihood of a fire occurring and remaining undetected during the time period in question is reasonably low. Therefore, the identified Technical Specification violation represents no significant safety consequences which would have threatened the health and safety of plant personnel or the general public.

CORRECTIVE ACTIONS

Immediate corrective action on June 9, 1989 was to initiate fire watch patrol for detection zone DA-2013N. On June 11, 1989, the Fire Department initiated a general patrol as a temporary measure due to the increased level of maintenance activity associated with the extended plant outage. This patrol requires all Technical Specification areas to be patrolled regularly, whether fire detection is out of service or not. A patrol of this type would have prevented this event.

Additional corrective action will require the Fire Chief to act as the mark-up man when removing fire detection from service for unrelated maintenance. A Lessons Learned transmittal will be issued which will focus on communication and will emphasize Control Room accountability to ensure compensatory action is initiated in accordance with Technical Specifications.

Operations Department Instruction, N1-ODI-5.06 has been revised to require the request for pre-arranged outage of equipment form to be re-routed to the Fire Chief if any changes or additions are made subsequent to the Fire Chief's review. This procedure will also require the Chief Shift Operator (CSO) to document notification of the Fire Chief on the mark-up sheet.