# CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9705150168 DOC.DATE: 97/05/07 NOTARIZED: NO DOCKET #
FACIL:50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410

| AUTH.NAME | AUTHOR AFFILIATION |
|---|---|
| DEAN,R.J. | Niagara Mohawk Power Corp. |
| CONWAY,J.T. | Niagara Mohawk Power Corp. |
| RECIP.NAME | RECIPIENT AFFILIATION |

SUBJECT: LER 97-002-00:on 970407,potential inoperability of emergency DG svc water cooling outlet valves during control room fire was determined.Caused by personnel error by architect/engineer.TS LCO 3.3.7.4 entered.W/970507 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

| | RECIPIENT ID CODE/NAME | COPIES LTTR | COPIES ENCL | RECIPIENT ID CODE/NAME | COPIES LTTR | COPIES ENCL |
|---|---|---|---|---|---|---|
| | PD1-1 PD | 1 | 1 | HOOD,D | 1 | 1 |
| INTERNAL: | ACRS | 1 | 1 | ~~AEOD/SPD/RAB~~ | 2 | 2 |
| | AEOD/SPD/RRAB | 1 | 1 | FILE CENTER | 1 | 1 |
| | NRR/DE/ECGB | 1 | 1 | ~~NRR/DE/EELB~~ | 1 | 1 |
| | NRR/DE/EMEB | 1 | 1 | NRR/DRCH/HHFB | 1 | 1 |
| | NRR/DRCH/HICB | 1 | 1 | NRR/DRCH/HOLB | 1 | 1 |
| | NRR/DRCH/HQMB | 1 | 1 | NRR/DRPM/PECB | 1 | 1 |
| | NRR/DSSA/SPLB | 1 | 1 | NRR/DSSA/SRXB | 1 | 1 |
| | RES/DET/EIB | 1 | 1 | RGN1 FILE 01 | 1 | 1 |
| EXTERNAL: | L ST LOBBY WARD | 1 | 1 | LITCO BRYCE,J H | 1 | 1 |
| | NOAC POORE,W. | 1 | 1 | NOAC QUEENER,DS | 1 | 1 |
| | NRC PDR | 1 | 1 | NUDOCS FULL TXT | 1 | 1 |

NOTE TO ALL "RIDS" RECIPIENTS:
PLEASE HELP US TO REDUCE WASTE. TO HAVE YOUR NAME OR ORGANIZATION REMOVED FROM DISTRIBUTION LISTS OR REDUCE THE NUMBER OF COPIES RECEIVED BY YOU OR YOUR ORGANIZATION, CONTACT THE DOCUMENT CONTROL DESK (DCD) ON EXTENSION 415-2083

FULL TEXT CONVERSION REQUIRED
TOTAL NUMBER OF COPIES REQUIRED: LTTR 25 ENCL 25

C
1
T
E
G
O
R
Y

1

D
O
C
U
M
E
N
T

A04

NIAGARA MOHAWK
GENERATION
BUSINESS GROUP

NINE MILE POINT NUCLEAR STATION/LAKE ROAD, P.O. BOX 63, LYCOMING, NEW YORK 13093

May 7, 1997
NMP2L 1704

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

RE: Docket No. 50-410
LER 97-02

Gentlemen:

In accordance with 10CFR50.73 (a)(2)(i)(B) and 10CFR50.73 (a)(2)(ii)(B), we are submitting LER 97-02, "Potential Inoperability of Emergency Diesel Generator Service Water Cooling Outlet Valves During a Control Room Fire."

Very truly yours,

John T. Conway

John T. Conway
Plant Manager - NMP2

JTC/GJG/lmc
Attachment

xc: Mr. H. J. Miller, Regional Administrator, Region I
Mr. Barry S. Norris, Senior Resident Inspector
Records Management

9705150168 970507
PDR ADOCK 05000410
S PDR

I/1
IE22

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION

# LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92



| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
|---|---|---|
| Nine Mile Point Unit 2 | 5000410 | 1 OF 4 |

TITLE (4)
Potential Inoperability of Emergency Diesel Generator Service Water Cooling Outlet Valves During a Control Room Fire

| 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) |
| 04 | 07 | 97 | 97 | 002 | 00 | 05 | 07 | 97 | N/A | 05000 |
| | | | | | | | | | N/A | 05000 |

OPERATING MODE (9): 1

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

POWER LEVEL (10): 100

| | | | |
|---|---|---|---|
| ☐ 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) | ☒ 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 |
|---|---|
| R. J. Dean, Engineering Manager NMP2 | (315) 349-4240 |

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

| CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPRDS | | CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPRDS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

| SUPPLEMENTAL REPORT EXPECTED (14) | | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
|---|---|---|---|---|---|
| ☒ YES *(If yes, complete EXPECTED SUBMISSION DATE)* | ☐ NO | | 10 | 30 | 97 |

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

On April 7, 1997, NMPC determined that portions of the control circuits for the Division I and II Emergency Diesel Generators (EDG) cooling water outlet valves were not isolated from the control room as described in NMP2 USAR Section 9B.8.2.3. Assuming a control room fire with no other compensatory actions, it could be postulated that either one or both of the EDGs could have been disabled due to a control circuit short which would have disabled the Remote Shutdown Panel (RSP) controls for these valves.

The cause of this deviation is an error in the original design of modifications outlined in the NMP2 USAR Section 9B.8.2.3.

NMP2 Technical Specification LCO 3.3.7.4 Action b was entered until modifications were completed to restore the plant to a configuration consistent with the USAR.

| FACILITY NAME (1) | DOCKET NUMBER (2) | LER NUMBER (6) | | | | | PAGE (3) |
|---|---|---|---|---|---|---|---|
| | | YEAR | | SEQUENTIAL NUMBER | | REVISION NUMBER | |
| Nine Mile Point Unit 2 | 05000410 | 97 | - | 02 | - | 00 | 02 OF 04 |

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

## I. DESCRIPTION OF EVENT

On April 7, 1997, in the course of evaluating an industry event from Arkansas Nuclear regarding operation of EDGs without cooling, NMPC identified that portions of the control circuits for the Division I and II Emergency Diesel Generator (EDG) service water cooling outlet valves (2SWP*MOV66A and 2SWP*MOV66B) were outside the design basis as described in the Updated Safety Analysis Report (USAR). Section 9B.8.2.3, Solutions to Control/Relay Room Fire, describes the modifications which were made to maintain availability and controllability of systems required for safe shutdown and to prevent spurious maloperations. The following modifications were required:

1. Manual control switches on the Remote Shutdown Panel (RSP).

2. Disconnect switches outside the main control room or relay room to prevent spurious maloperations.

3. Permissives/interlocks from the main control room/relay rooms under RSP operating mode.

4. Additional protection for control power supplies to circuits on the RSP.

On April 7, 1997, it was discovered that circuits existed for 2SWP*MOV66A and 2SWP*MOV66B which were not isolated from the control room. Therefore, the potential existed for a loss of control for these valves from the RSPs in the event of a control room fire. This condition existed from the initial operation of NMP2 until April 12, 1997, when the circuits were modified.

## II. CAUSE OF EVENT

The cause of this event has been determined to be a personnel error by the architect/engineer for NMP2 when the modifications described in Section 9B.8.2.3 were designed in 1984 prior to the NRC issuance of the NMP2 Operating License in 1986.

## III. ANALYSIS OF EVENT

This event is being reported in accordance with 10CFR50.73 (a)(2)(i)(B), "any operation or condition prohibited by the plant's Technical Specifications," and 10CFR50.73 (a)(2)(ii)(B), "any event or condition that resulted in a nuclear power plant being in a condition that was outside the design basis of the plant."

In the event of a control room fire, the potential existed that the control circuits which were not isolated from the control room could have disabled 2SWP*MOV66A and 2SWP*MOV66B by disabling the controls from

## III. ANALYSIS OF EVENT (cont'd)

the RSP. Assuming that the control circuits failed with the valves in the closed position (i.e., their normal standby position), one or both of the EDGs could have been disabled due to inadequate cooling water flow, if corrective actions were not taken to restore flow.

A preliminary evaluation has been performed which indicates that the EDGs will run for approximately 10 minutes when loaded to the level postulated for this event. In accordance with procedure N2-SOP-78, "Control Room Evacuation," operators verify that 2SWP*MOV66A and/or 2SWP*MOV66B open if one or both of the EDGs have started after the RSPs have been manned. In addition, the Switchgear Rounds Operator is directed to verify that 2SWP*MOV66A and/or 2SWP*MOV66B are open, if one or both of the EDGs is running. NMPC believes, that based upon the procedure direction and proximity of operators to the RSP, that actions could have been taken to open 2SWP*MOV66A or 2SWP*MOV66B sufficiently in time to prevent failure due to overheating. This belief is based upon the assumption that an exposure fire in the control room will result in an operator announcing a fire and initiating a station alarm which requires operators to immediately respond to the control room. Therefore, the actions to implement N2-SOP-78 would be initiated from the control room. The ability to implement the actions of N2-SOP-78 within the necessary time frame (10 minutes) with the stated initial assumptions has been validated by simulation. Therefore, at least one EDG would have remained in service. NMPC will perform a more rigorous evaluation of the EDG loading and the flow response of valves 2SWP*MOV66A and 2SWP*MOV66B as a function of valve opening. This evaluation will be completed by October 30, 1997.

As discussed in Section 9B.8.2 of the NMP2 USAR, an exposure fire in the main control room involving in situ or transient combustibles is not a credible event since the main control room is continuously manned and the main control room is provided with ionization-type smoke detectors. Therefore, the assumption that a control room fire will result in a fire announcement and the initiation of a station alarm and operator response to the control room is valid.

Since manual action was expected to be taken to open the valves, NMPC believes that the control circuit deficiency did not adversely affect the ability of operators to safely shut down the plant from the RSP. However, the evaluation described above will be completed to confirm EDG loading and flow response of the affected valves.

## IV. CORRECTIVE ACTIONS

1. NMP2 Technical Specification LCO 3.3.7.4 Action b, which requires restoration in 7 days, was immediately entered.

## IV. CORRECTIVE ACTIONS (cont'd)

2. Modifications have been made to isolate the subject control circuits for 2SWP*MOV66A and 2SWP*MOV66B from the control room in conformance with USAR Section 9B.8.2.3. Technical Specification LCO 3.3.7.4 was exited on April 12, 1997.

3. NMPC will perform a confirmatory evaluation of plant design to verify that the systems required to achieve safe shutdown during a control room exposure fire are in accordance with the requirements of 10CFR50, Appendix A, Criterion 3 by December 31, 1997.

## V. ADDITIONAL INFORMATION

A. Failed components: none.

B. Previous similar events: LER 96-15, Supplement 1, "Appendix R Fire Induced Hot Shorts in Remote Shutdown System Valves." This LER reported the potential failure of residual heat removal (RHS) valves and Reactor Core Isolation Cooling (RCIC) valves due to hot shorts. One corrective action in the LER was to complete a review of Appendix R safe shutdown valves required for remote shutdown. That review concluded that although other valves are susceptible to the postulated damage, the achievement of safe shutdown in accordance with the requirements of 10 CFR 50, Appendix R and as described in NMP2 USAR Appendix 9B is not adversely affected. This action only evaluated impact to safe shutdown due to valve maloperation (assumed to occur). It did not include a detailed evaluation of control circuits, since there was no indication that control circuits were not in compliance with USAR Section 9B.8.2.3.

C. Identification of components referred to in this LER:

| COMPONENT | IEEE 803 EIIS FUNCTION | IEEE 805 SYSTEM ID |
|---|---|---|
| Emergency Diesel Generator | DG | NA |
| Outlet Valve | V | LB |