CATEGORY 1

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FACIL:50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
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PALEOLOGOS,N. Niagara Mohawk Power Corp.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 99-001-00:on 990212,NMP2 was outside design basis due to safe SD SW pump bay unit coolers being OOS.Caused by inadequate managerial methods.Interim ACs were set for safe SD equipment.With 990315 ltr.

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

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Niagara Mohawk

March 15, 1999
NMP2L 1853

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

RE: Docket No. 50-410
LER 99-01

Gentlemen:

In accordance with 10CFR50.73(a)(2)(ii)(B), we are submitting LER 99-01, "NMP2 Outside the Design Basis Due to Safe Shutdown Service Water Pump Bay Unit Coolers Being Out-of-Service."

Very truly yours,

Nick Paleologos

Nick Paleologos
Plant Manager - NMP2

NCP/GJG/kap
Attachment

xc: Mr. H. J. Miller, Regional Administrator, Region I
Mr. G. K. Hunegs, Senior Resident Inspector
Records Management

IE22

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES:

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Nine Mile Point Unit 2	05000410	01 OF 05

TITLE (4)
NMP2 Outside The Design Basis Due to Safe Shutdown Service Water Pump Bay Unit Coolers Being Out-of-Service

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)
02	12	99	99		001		00	03	15	99	N/A	
											N/A	

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%	☐ 20.2201(b)	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)	☐ 50.73(a)(2)(viii)
	☐ 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 *(Specify in Abstract below and in Text, NRC Form 366A)*
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(1)	☐ 50.73(a)(2)(v)	
	☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Don Bosnic, Manager Operations	(315) 349-7952

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
☒ YES *(If yes, complete EXPECTED SUBMISSION DATE)*	☐ NO		05	15	99

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

While investigating a discrepancy identified on February 12, 1999, at 0700 hours, with Nine Mile Point Unit 2 (NMP2) operating at full power, NMP2 Operations personnel identified a period of time from January 3 to 31, 1999, when both the Division I and II safe shutdown unit coolers for the NMP2 service water pump bays were out of service at the same time. NMP2 Operations personnel determined that this placed NMP2 outside its design basis.

Niagara Mohawk Power Corporation (NMPC) has determined that the root cause of this event was inadequate managerial methods in that the technical review requirements failed to lead procedure developers to consider the safe shutdown requirements during the initial development of the procedure for normal operations and, in 1992, preventive maintenance rotation of service water pump unit coolers.

Corrective actions included interim administrative controls for safe shutdown equipment. Preventive actions will include long term administrative controls and operator training for safe shutdown equipment, and an evaluation of additional preventive actions to be described in a supplement to this report.

I. DESCRIPTION OF EVENT

On February 12, 1999, at 0700 hours, with Nine Mile Point Unit 2 (NMP2) operating at full power, NMP2 Independent Safety Engineering Group personnel identified differences in the control circuits for the NMP2 Division II service water pump bay unit coolers. Niagara Mohawk Power Corporation (NMPC) later determined that engineers modified the control circuits of two of the four unit coolers prior to commercial operation to meet the fire protection safe shutdown design criteria. NMP2 Operations Support personnel subsequently identified a period of time from January 3 to 31, 1999, when the Division I and II, safe shutdown unit coolers for the NMP2 service water pump bays (2HVY*UC2A and 2HVY*UC2B) were out of service at the same time. This placed NMP2 outside its design basis. NMPC believes that this condition occurred at other times and with other safe shutdown equipment not documented in this LER.

NMPC Licensee Condition 2.G requires implementation of the fire protection program described in the Updated Final Safety Analysis Report (UFSAR). UFSAR Table 9B.8-3 lists the equipment that can be used to achieve safe shutdown of the unit in case of a control room fire. UFSAR Section 9B.4.4.3.3 states that the analysis assumed either the Division I or Division II portions of the service water system would be available. Each division of service water contains three pumps located in a single pump bay. The bay contains two unit coolers that provide cooling to the service water pumps and motors. Only one unit cooler in each bay is provided with the circuitry to ensure that it will remain available in the event of a control room fire (2HVY*UC2A for Division I, and 2HVY*UC2B for Division II). Therefore, if operators evacuated the control room due to a fire and either 2HVY*UC2A or 2HVY*UC2B were not available, the associated division of service water would potentially be unavailable to support safe shutdown.

On January 3, 1992, NMP2 issued procedure N2-PM-M6, "Unit Cooler Rotation to Reduce Biodegradation and Silting." This procedure directed operators to periodically rotate the service water unit coolers, and isolate service water flow through the idle cooler to reduce microbiological fouling and silt deposits. In implementing this procedure, there were times when operators isolated unit coolers 2HVY*UC2A and 2HVY*UC2B at the same time. Prior to 1992, unit coolers were not rotated for biodegradation or silting; however, procedural guidance did not prohibit removal of both safe shutdown unit coolers at the same time.

When operators wrote procedure N2-PM-M6, the quality of the administrative guidance for technical reviews was vulnerable to design criterion omissions. In 1994, significant enhancements to the technical review procedures and training occurred to address issues reported in LER 94-03, "Surveillance Tests of Service Water Not Performed Per Technical Specification Requirements Because of Inadequate Managerial Methods."

II. CAUSE OF EVENT

NMPC has determined that the root cause of this event was inadequate managerial methods in that the technical review requirements failed to lead procedure developers to consider the safe shutdown requirements

II. CAUSE OF EVENT (Cont'd)

during the initial development of the procedure for normal operations and, in 1992, preventive maintenance rotation of service water pump unit coolers.

A contributing cause was inadequate operator knowledge of the safe shutdown design requirements contained in UFSAR Table 9B.8-3. An additional contributing factor to this event was that NMPC implemented corrective actions for previous fire protection program deficiencies that were too narrow in scope.

III. ANALYSIS OF EVENT

NMPC has determined that this event is reportable in accordance with 10CFR50.73(a)(2)(ii), "Any event or condition that resulted in the condition of the nuclear power plant,...being:...(B) In a condition that was outside the design basis of the plant."

NMPC evaluated the probability of a fire causing the loss of the non-safe shutdown unit coolers for the time period when both safe shutdown unit coolers were out of service. This probability was conservatively estimated to be 1.76E-8, and thus was highly unlikely. Additionally, the UFSAR Section 9B.8.2, notes that the postulated exposure fire in the main control room is not credible. As a result, NMPC concluded that this event did not have an adverse effect on the health and safety of the public or site workers.

IV. CORRECTIVE ACTIONS

Corrective Actions:

NMPC Operations personnel established interim administrative controls and briefed Station Shift Supervisors on this event and the interim controls for removing safe shutdown equipment from service. These controls and briefings included a specific reference to the design requirements contained in UFSAR Table 9B.8-3.

Preventive Actions:

1. NMPC will provide administrative controls to guide operators in identifying safe shutdown equipment, and reinforce the proper compensatory actions when safe shutdown equipment is unavailable, on or before August 31, 1999.

2. NMPC will train appropriate personnel on this event and the new administrative controls for identifying and controlling safe shutdown equipment on or before August 31, 1999.

IV. CORRECTIVE ACTIONS (Cont'd)

Preventive Actions: (Cont'd)

3. NMPC will perform an evaluation to identify specific additional preventive actions. The actions and a schedule for completion will be provided in a supplement to this LER.

4. In addition, since the deficiencies which initiated this event occurred prior to 1994, previously implemented actions to address instances of inadequate managerial methods, relative to technical procedure preparation and review, are also applicable to this event. Specifically, a corrective action described in LER 94-03:

> An inadequate technical review has been recognized in the past as being one of the major reasons for violating specific requirements. Niagara Mohawk has upgraded specific programs whose purpose is not only to ensure that adequate procedures are written, but also to ensure the review of these procedures is carried out in a manner that should eliminate events such as these. These include, but are not limited to, the following procedurally controlled programs:
>
> - NIP-SEV-01, Applicability Reviews and Safety Evaluations
> - NIP-PRO-03, Preparation and Review of Technical Procedures
> - PWM-PRO-0105, Technical Procedure Verification and Validation
>
> These new procedural requirements, as well as new expectations regarding the general level of detail of these reviews, will provide added assurance that procedures are technically accurate and adequate.

V. ADDITIONAL INFORMATION

A. Failed components: none.

B. Previous similar events:

NMP2 LER 97-02 reported the potential inoperability of NMP2 emergency diesel generator service water cooling outlet valves during a control room fire. In Supplements 1-3 of LER 97-02, NMPC identified other fire protection program issues. NMPC reported that the corrective actions for the event included performing modifications, revising an operating procedure, and performing a confirmatory evaluation of plant design to verify operability of systems required to achieve safe shutdown during a control room exposure fire.

V. ADDITIONAL INFORMATION (Cont'd)

NMP2 LER 96-15 (and Supplement 1), reported the potential susceptibility of NMP2 Remote Shutdown System valves to fire induced "hot shorts." NMPC reported that the corrective actions for that event included administrative controls and procedure changes, a review of safe shutdown valves for susceptibility to fire induced "hot shorts," and training.

NMP2 Deviation/Event Report (DER) 2-98-2213, "Unit Sub Alternate Feed Breakers Do Not Have App. R Contacts," addressed the discovery by NMP2 system engineers of the lack of safe shutdown contacts in the control circuits for the alternate feeder breakers for the NMP2 Division I and II unit substations 2EJS*US1 and 2EJS*US3. NMPC established corrective actions for the discrepancy that addressed only the alternate feeder breakers for those unit substations. No comprehensive review of administrative controls of other components or systems was planned.

NMPC determined that the corrective actions for LER 97-02, LER 96-15, and DER 2-98-2213 were too narrow in scope to have prevented this event.

C. Identification of components referred to in this LER:

COMPONENT	IEEE 803 FUNCTION	IEEE 805 SYSTEM ID
Unit Cooler	CLR	BI