

CATEGORY 1

REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9711250140 DOC.DATE: 97/11/14 NOTARIZED: NO DOCKET #
 FACIL:50-220 Nine Mile Point Nuclear Station, Unit 1, Niagara Powe 05000220
 AUTH.NAME AUTHOR AFFILIATION
 RANDELL,R. Niagara Mohawk Power Corp.
 ABBOTT,R.B. Niagara Mohawk Power Corp.
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 97-012-00:on 971016,addl 10CFR50 App R section III J
 lighting deficiencies were noted.Caused by cognitive
 personnel error.Emergency lights will be installed to
 support operator actions.W/971114 ltr.

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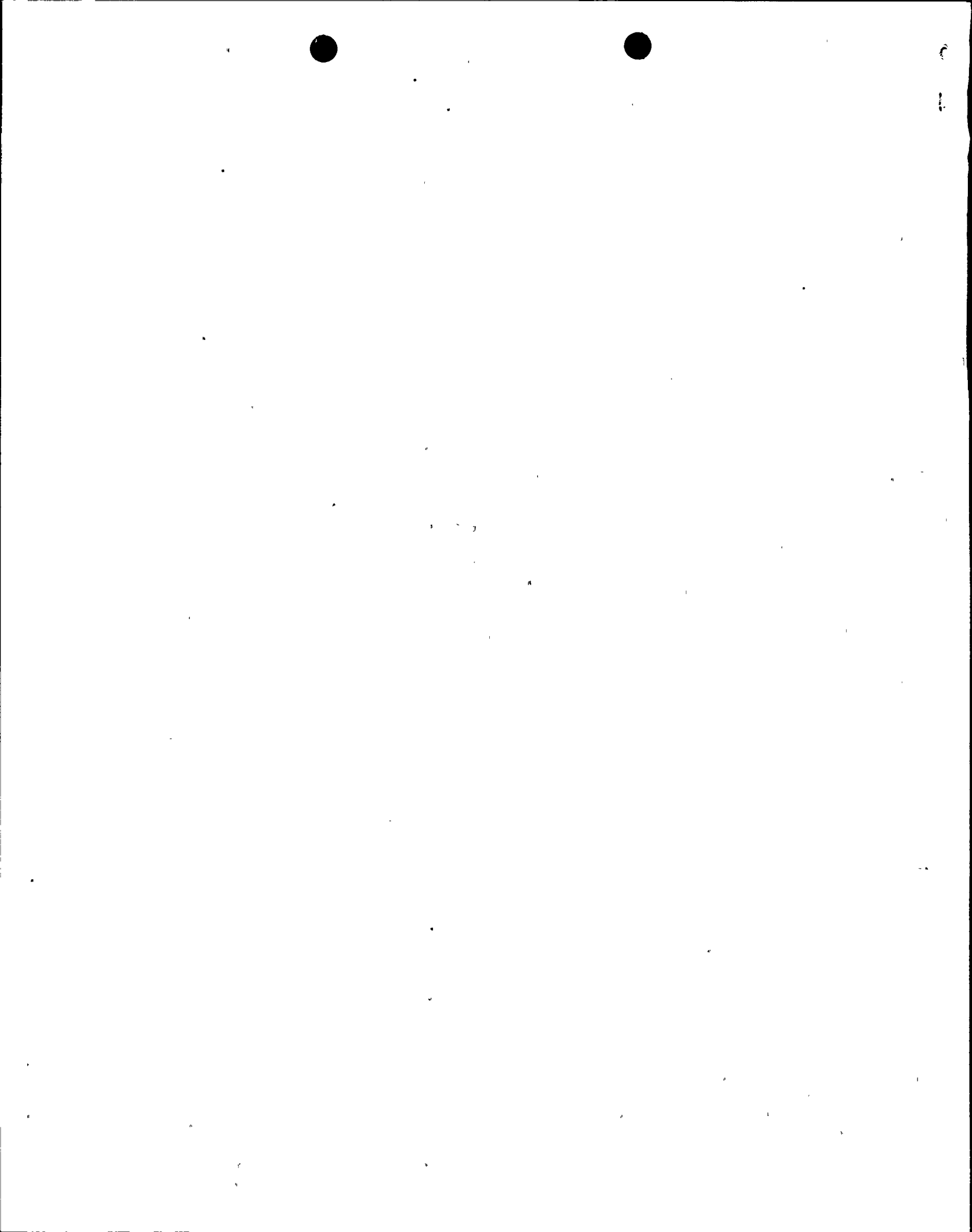
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NIAGARA MOHAWK

GENERATION
BUSINESS GROUP

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

November 14, 1997
NMP1L1267

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

RE: LER 97-12
Docket No. 50-220

Gentlemen:

In accordance with 10CFR50.73 (a)(2)(ii)(B), we are submitting LER 97-012, "Additional 10CFR50 Appendix R Section III.J Lighting Deficiencies."

Very truly yours,

Richard B. Abbott
Plant Manager - NMP1

RBA/GJG/cmk
Enclosure

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

9711250140 971114
PDR ADOCK 05000220
S PDR



11-10-97



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 (0150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1) Nine Mile Point Unit 1	DOCKET NUMBER (2) 05000220	PAGE (3) 1 OF 4
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TITLE (4)
Additional 10CFR50 Appendix R Section III.J Lighting Deficiencies

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)	
10	16	97	97	012	00	11	14	97	N/A	05000	
									N/A	05000	

OPERATING MODE (9) **5** THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

POWER LEVEL (10) 0	<input type="checkbox"/> 20.402(b) <input type="checkbox"/> 20.405(a)(1)(i) <input type="checkbox"/> 20.405(a)(1)(ii) <input type="checkbox"/> 20.405(a)(1)(iii) <input type="checkbox"/> 20.405(a)(1)(iv) <input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 20.405(c) <input type="checkbox"/> 50.36(c)(1) <input type="checkbox"/> 50.36(c)(2) <input type="checkbox"/> 50.73(a)(2)(i) <input checked="" type="checkbox"/> 50.73(a)(2)(ii) <input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(iv) <input type="checkbox"/> 50.73(a)(2)(v) <input type="checkbox"/> 50.73(a)(2)(vii) <input type="checkbox"/> 50.73(a)(2)(viii)(A) <input type="checkbox"/> 50.73(a)(2)(viii)(B) <input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 73.71(b) <input type="checkbox"/> 73.71(c) <input type="checkbox"/> OTHER <small>(Specify in Abstract below and in Text, NRC Form 366A)</small>
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LICENSEE CONTACT FOR THIS LER (12)

NAME Robert Randall, Manager Unit 1 Engineering	TELEPHONE NUMBER (315) 349-2445
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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
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO			

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

On October 16, 1997, Niagara Mohawk Power Corporation (NMPC) identified an area of Nine Mile Point Unit 1 (NMP1) which does not meet the requirements of 10CFR50 Appendix R Section III.J Emergency Lighting. This area was identified during a design bases review of the NMP1 Updated Final Safety Analysis Report (UFSAR) Section 10B.

The cause of this event has been determined to be a cognitive personnel error which resulted in an analysis deficiency in Fire Protection Engineering Evaluation (FPPE) 1-90-014, Revision 1.

Eight hour capacity lights will be installed prior to startup from the current forced outage.



LICENSEE EVENT REPORT (LER)
TEXT CONTINUATIONESTIMATED 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)	LER NUMBER (6)				PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Nine Mile Point Unit 1	05000220	97	12	00	02 OF 04	

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

I. DESCRIPTION OF EVENT

On October 16, 1997, Niagara Mohawk Power Corporation (NMPC) identified an area of Nine Mile Point Unit 1 (NMP1) which did not meet the requirements of 10CFR50 Appendix R Section III.J, Emergency Lighting. This condition was discovered during preparation of a 10CFR50.59 safety evaluation to support a change in NMP1's Appendix R Safe Shutdown Analysis (SSA) as a followup action from previously identified emergency lighting deficiencies.

In January 1992, during the development of the NMP1 SSA Revision 2, a design basis assumption that Air Operated Valves (AOVs) fail closed on loss of air was removed. This change directly altered the method of resolving spurious operation of the Emergency Condenser (EC) vent to the torus flow path since there are two AOVs in series, which had been credited in SSA Revision 1 to fail closed on loss of air. The preparers of SSA Revision 2 inappropriately credited an isolation of this flow path due to a Reactor Protection System (RPS) vessel isolation signal, which resulted in the conclusion that no operator actions were deemed necessary to comply with 10CFR50 Appendix R Section III.G. Although not considered a regulatory requirement at the time, as a conservative action, steps were added to Special Operating Procedures (SOPs) to close manual isolation valves 05-31 and 05-32 in the EC vent line.

In 1996 an electrical engineer evaluating lighting deficiencies in response to IN 95-36 reviewed Fire Protection Engineering Evaluation (FPEE) 1-90-014, Revision 1, "Nine Mile Point High/Low Pressure Interface and Inventory Loss Flow Path Analysis," which was a basis document for SSA Revision 2. This FPEE credited the RPS vessel isolation signal for isolating the EC vent path which, as described above, was in error. The engineer did not identify the deficiency in FPEE 1-90-014, Revision 1, and therefore initiated a corrective action to remove unnecessary operator actions from the SSA.

Subsequently, in September 1997, another engineer was assigned the task of preparing the 10CFR50.59 safety evaluation to remove from the SSA operator actions to verify EC vent isolation. While performing a detailed circuit analysis, it was recognized that the EC vent AOVs do not close on an RPS vessel isolation. The EC AOVs receive an isolation signal but only for high EC steam flow, which is an indicator of an EC line break, and is not a vessel isolation signal. Under this valve configuration, application of hot shorts as required by the UFSAR could open the vent path. It was concluded that operator actions to close manual valves were required. Since emergency lights to support these actions were not installed, NMP1 did not comply with the requirements of 10CFR50, Appendix R, Section III.J.

II. CAUSE OF EVENT

A cognitive personnel error (i.e., regarding the EC vent AOV isolation function) in the development and review of FPEE 1-90-014, Revision 1, resulted in an analysis deficiency, which inappropriately concluded that the EC vent AOVs close on a vessel isolation signal. A contributing factor is that the procedure for developing FPEE's lacks sufficient detail for processing an independent design review.



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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)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Nine Mile Point Unit 1	05000220	97	- 12	- 00	03 OF 04

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

III. ANALYSIS OF EVENT

This event is being reported in accordance with 10CFR50.73(a)(2)(ii)(B), "any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or that resulted in the nuclear power plant being: (B) In a condition that was outside the design basis of the plant". The deficiencies in the emergency lighting resulted in NMP1 being in a condition which did not meet the requirements of 10CFR50 Appendix R, Section III.J.

The NMP1 UFSAR Section X, Appendix 10A, "Fire Hazards Analysis," Section 2.4.5.2, states that "sealed-beam battery-powered portable hand lights are available for use during emergencies". Portable lights, while not sealed beam, were available and were maintained in a state of readiness in accordance with procedure EPMP-EPP-02, "Emergency Equipment Inventories and Checklists." Therefore, implementation of the SOPs in areas where emergency lighting deficiencies exist could have been accomplished using hand held lights.

Since hot short circuits could cause spurious opening of the torus vent path, operators must verify that the vent path remains isolated. N1-SOP-9, "Fire in Plant," specified actions to accomplish that task and hand held lights were available. Access to these valves is through the normal access route to the Reactor Building 340 elevation (Refuel Floor). The refuel floor is readily accessible with portable flashlights. Therefore, the SOP actions could have readily been achieved using hand held lights.

IV. CORRECTIVE ACTIONS

- Emergency lights will be installed to support operator actions to isolate the EC vent path, in accordance with 10CFR50 Appendix R, Section III.J, prior to startup from the current forced outage.
- The Fire Protection Engineering Evaluation (FPEE 1-90-014, Revision 1), "Nine Mile Point High/Low Pressure Interface and Inventory Loss Flow Path Analysis," has been reviewed and other valves credited in the FPEE as closing on RPV isolation have been verified to receive a vessel isolation signal from the RPS.
- FPEE 1-90-014, Revision 1, will be revised by December 31, 1997. The UFSAR will then be revised to be consistent with the revised FPEE 1-90-014 by March 31, 1998.
- Procedure NEP-FPP-01, "Fire Protection Engineering" will be revised to require FPEEs to be prepared in accordance with NEP-DES-02, "Evaluations and Analysis". This will ensure that proper technical input, impact assessment, design reviews, and verification are in place. This will be completed by January 31, 1998. Revisions to FPEEs prior to the procedure change will be completed in accordance with both NEP-FPP-01 and NEP-DES-02.



LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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-330), 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) Nine Mile Point Unit 1	DOCKET NUMBER (2) 05000220	LER NUMBER (6)			PAGE (3) 04 OF 04
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
		97	12	00	

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

IV. CORRECTIVE ACTIONS (cont'd)

- 5. The personnel responsible for development of FPPE 1-90-014, Revision 1 are no longer employed by NMPC. Therefore, personnel accountability counseling was not provided. However, this event will be reviewed with Nuclear Engineering personnel by 12/31/97.

V. ADDITIONAL INFORMATION

A. Failed components: None.

B. Previous similar events:

LER 97-04, "10CFR50 Appendix R, Section III.J Lighting Deficiencies" reported areas evaluated at the time of that report to be not in compliance with 10CFR50 Appendix R, Section III.J. The cause of LER 97-04 was inadequate change management since the deficient areas were the result of plant and procedure changes. The LER did not identify deficiencies in the assumption of any FPPE's. Therefore, there were no actions to evaluate the base assumptions for FPPE's or the resultant SSA.

C. Identification of components referred to in this LER:

COMPONENT	IEEE 803 FUNCTION	IEEE 805 SYSTEM ID
Emergency Lights	LF	FH
EC Isolation Valves	ISV	BL



10-1-11