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LaSalle Generating Station
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ComEd

January 16, 1997

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Licensee Event Report #96-021, Docket #050-373 is being submitted to your office in accordance with 10 CFR 50.73(a)(2)(ii).

Respectfully,

D. J. Ray
Station Manager
LaSalle County Station

Enclosure

cc: A. B. Beach, NRC Region III Administrator
M. P.Huber, NRC Senior Resident Inspector - LaSalle
C. H. Mathews, IDNS Resident Inspector - LaSalle
F. Niziolek, IDNS Senior Reactor Analyst
INPO - Records Center

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NRC FORM 366 (6-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 05/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
LaSalle County Station Unit One	05000373	1 of 6

TITLE (4)
Inadequate Review of Modification of Main Control Room Atmospheric Control System Radiation Monitoring Logic Results in an Unreviewed Safety Question

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 NAME	DOCKET NUMBER
									LaSalle County Station Unit Two	05000374
12	17	96	96	021	00	01	16	97	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	4
POWER LEVEL (10)	000

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

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(iii)	☐ 73.71(b)
☐ 20.2203(a)(1)	☐ 20.2003(a)(3)(ii)	☐ 50.73(a)(2)(iv)	☐ 73.71(c)
☐ 20.2203(a)(2)(i)	☐ 20.2003(a)(4)	☐ 50.73(a)(2)(v)	☐ OTHER
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)	☐ 50.73(a)(2)(vii)	
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
☐ 20.2203(a)(2)(iv)	☒ 50.73(a)(2)(i)	☐ 50.73(a)(2)(viii)(B)	
☐ 20.2003(a)(2)(v)	☒ 50.73(a)(2)(ii)	☐ 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
E. O'Connell, Engineer	(815) 357-6761 Extension 2915

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)	☐ NO				

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

On December 17, 1996, during an independent review of selected Technical Specification Clarifications, an apparent inconsistency was identified between the Technical Specification Clarification related to the Main Control Room Atmospheric Control System (MCRACS) Radiation Monitoring System and Technical Specification 3.4.7.1. On January 13, 1997, the subsequent investigation determined that;

1. There was a functional inconsistency between the Design Basis as described in the FSAR text and as shown on the FSAR Logic Diagram for the MCRACS
2. The original installed MCRACS design was consistent with the Design Basis as described in the FSAR Logic Diagram. However, there was a functional inconsistency between the original installed design and the Design Basis as described in the FSAR text.
3. The modified design installed in 1993 was not consistent with either Design Basis as described in the FSAR text or as shown on the FSAR Logic Diagram.
4. The modified design installed in 1993 does not meet required Single Failure Criteria and consequently introduced an Unreviewed Safety Question as the new design is less reliable than the original design. A 4 hour Emergency Notification System (ENS) phone notification was made due to the plant being outside the design bases and in an unanalyzed condition.

A Supplemental LER will be issued to report results of our ongoing review and actions taken to resolve the Unreviewed Safety Question.

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

A. CONDITION PRIOR TO EVENT

Unit(s): 1/2 Event Date: 12/17/96 Event Time: 1350 Hours
Reactor Mode(s): 4/N Mode(s) Name: Cold Shutdown/ Defueled Power Level(s): 0%/0%

B. DESCRIPTION OF EVENT

On July 13, 1993, and July 26, 1993, modifications of Unit 1 and Unit 2 Main Control Room Atmosphere Control System (MCRACS) Radiation Monitoring System (PR/VC) [IL] logic was made to prevent spurious Engineered Safety Features (ESF) actuations. Prior to installation of the modifications, the logic for initiation of the Emergency Makeup Mode due to High Radiation levels in the ventilation intakes consisted of four radiation monitors per intake divided into two channels to provide a one out of two taken once trip logic. See Attachment A. Due to this trip logic, a spurious trip of any one of the radiation monitors caused an ESF actuation. To eliminate spurious ESF actuations the modifications changed the trip logic for each Unit to require actuation of two monitors per channel to initiate the ESF actuation. See Attachment B.

In anticipation of the above modification, on May 13, 1993, Technical Specification/License Clarification 03-93, Revision 0, was developed to provide guidance to plant reactor operators for compliance with Technical Specification 3.3.7.1 and Table 3.3.7.1-1. The clarification provided a definition of which radiation monitors constitute a trip channel and provided actions for the operator to take in the event a monitor became inoperable.

On August 30, 1996, all Technical Specifications/License Clarifications were reviewed by an Independent Review Group as part of an investigation under LER 374/96-010-00, Inadequate Standards for Technical Specification Clarifications resulted in violations of Technical Specifications and Design Basis. A total of 43 Clarifications were reviewed. Of the 43, seventeen could not be confirmed through engineering judgment that the interpretations met Design and Licensing Basis. Sixteen of the 17 were promptly deleted. One of the 17 was appropriately revised and approved August 30, 1996. Technical Specification Clarification 03-93 was reviewed and the determination made that the Clarification was acceptable as written.

On December 17, 1996, an independent review of Technical Specification/License Clarification 03-93, Revision 0, determined that there was an apparent inconsistency between the Technical Specification Clarification and Technical Specification 3.4.7.1. Based on this, a Problem Identification Form (PIF) was initiated to investigate and resolve this issue. LaSalle Station took a conservative approach and declared INOPERABLE the MCRACS Radiation Monitoring Systems for LaSalle County Units 1 and 2 until this issue is resolved. No additional actions were required because the MCRACS Radiation Monitoring Systems for LaSalle County Units 1 and 2 are not required to be OPERABLE with Unit 1 in Operational Condition 4, Cold Shutdown, and Unit 2 defueled.

Review of the Technical Specifications, FSAR, UFSAR and the Design Criteria for the MCRACS Radiation Monitoring System determined that there was an inconsistency between the Design Basis as described in the FSAR text and as shown on the FSAR Logic Diagram, and that the original installed design was consistent with the Design Basis as described in the FSAR Logic Diagram. However, there was an inconsistency between the original installed design and the Design Basis as described in the FSAR text. The FSAR Logic Diagram described a two channel system, either of which would initiate an ESF actuation, compared to the text which described a two channel system, which required both channels to concurrently actuate to initiate an ESF actuation. In addition, during the investigation, a question arose concerning the Safety Evaluation performed for the modifications. The question raised the possibility of an Unreviewed Safety Question related to the trip logic modifications. This issue was documented on PIF# 97-0167.

On January 13, 1997 at 16:00 CST, an engineering review determined that a condition existed in the MCRACS that resulted in the plant being in an unanalyzed condition. The engineering evaluation determined that the Modification to the MCRACS Radiation Monitoring logic installed in 1993 did not meet the single failure criteria required by the Safety Evaluation Report, and increased the number of monitors required to initiate the trip logic and may therefore have increased the probability of failure of equipment important to safety. This was considered to constitute an Unreviewed Safety Question. This issue was documented in PIF# 97-0241. On January 13, 1997 at 17:55 CST, a four hour ENS phone notification was made to report the plant being in an unanalyzed condition per 10 CFR 50.72(b)(2)(i) and 10 CFR 50.72(b)(2)(iii).

This event is reportable per 10 CFR 50.73(a)(2)(ii) due to the plant being in an unanalyzed condition. This event is also reportable per 10 CFR 50.73(a)(2)(i) because this condition could have prevented the fulfillment of a safety system function needed to mitigate the consequences of an accident.

C. CAUSE OF EVENT

This will be addressed in a supplement to this LER.

D. ASSESSMENT OF SAFETY CONSEQUENCES

This will be addressed in a supplement to this LER.

E. CORRECTIVE ACTIONS

1. Inconsistencies between the Design Basis as described in the FSAR text and as shown on the FSAR Logic Diagram will be resolved and addressed in a Supplemental LER.

2. A modification will be developed to correct the installed design and to resolve the and to resolve the Unreviewed Safety Question. This will be addressed in the Supplemental LER.

3. The Technical Specification will be reviewed and revised as necessary to ensure it is consistent with the Design Basis and revised design as resolved in the Supplemental LER

4. All the corrective actions addressed above, will be resolved prior to restart of either Unit 1 or 2.

F. PREVIOUS OCCURRENCES

LER NUMBER TITLE

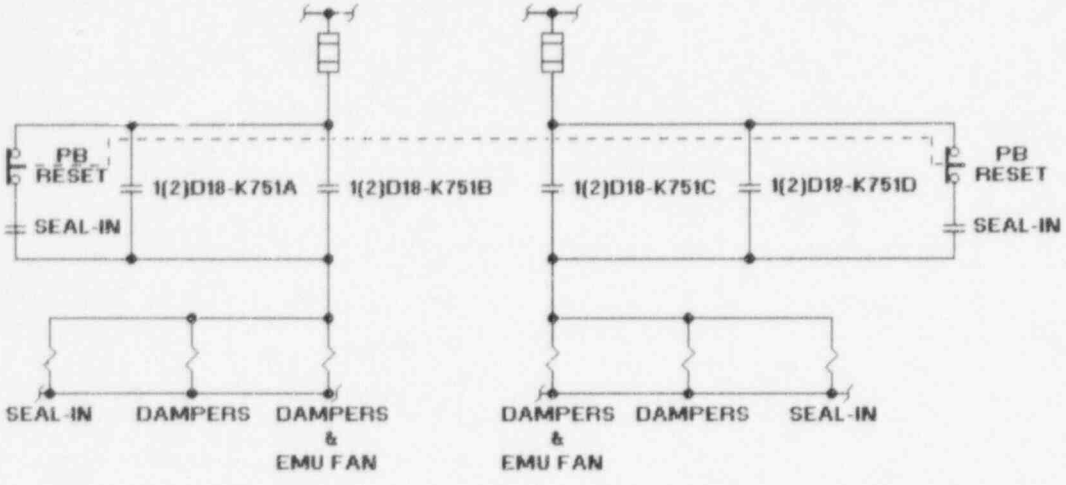
This will be addressed in a supplement to this LER.

G. COMPONENT FAILURE DATA

Since no component failure occurred, this section is not applicable.

ATTACHMENT A

UNIT 1(2) MCRACS RADIATION MONITOR TRIP LOGIC PRIOR TO INSTALLATION OF MODIFICATION M01-88-003A(B)

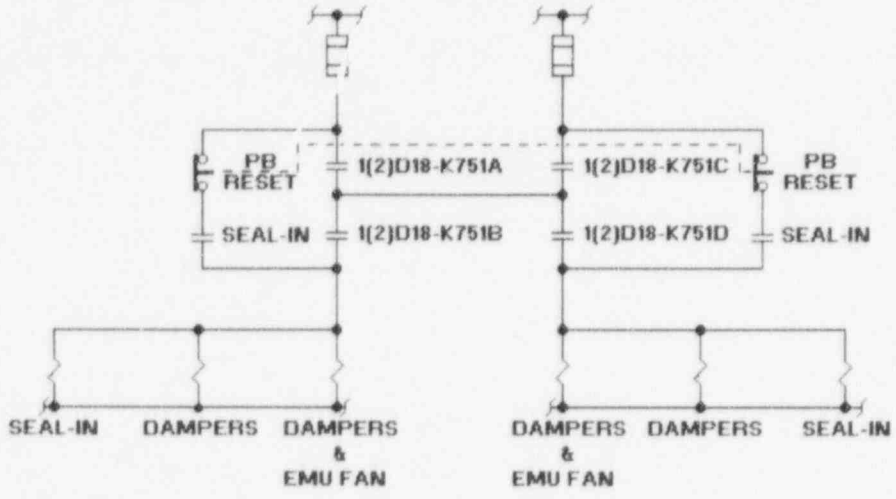


CHANNEL 1 CHANNEL 2

(Representative Configuration for Illustration Only)

ATTACHMENT B

UNIT 1(2) MCRACS RADIATION MONITOR TRIP LOGIC AFTER INSTALLATION OF MODIFICATION M01-0-88-003A(B)



CHANNEL 1 CHANNEL 2

(Representative Configuration for Illustration Only)