

Commonwealth Edison Company
LaSalle Generating Station
2601 North 21st Road
Marseilles, IL 61341-9757
Tel 815-357-6761



March 7, 2000

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

LaSalle County Station, Unit 1
Facility Operating License No. NPF-11
NRC Docket No. 50-373

Subject: Licensee Event Report

In Licensee Event Report (LER) #99-004, for Unit 1, Docket Number 50-373, Commonwealth Edison (ComEd) company committed to provide a supplemental response to this LER. The supplement would provide the details of the root cause investigation for the reported event.

This letter transmits the committed supplemental response providing the results from the root cause investigation. In addition, the supplement provides additional details on the extent of condition review, and lists additional corrective actions to prevent recurrence.

Attachment A provides the commitment(s) for this submittal.

Should you have any questions concerning this letter, please contact Mr. Frank A. Spangenberg, III, Regulatory Assurance Manager, at (815) 357-6761, extension 2383.

Respectfully,

A handwritten signature in black ink, appearing to read "Charles G. Pardee". The signature is written in a cursive style with a large, prominent initial "C".

Charles G. Pardee
Site Vice President
LaSalle County Station

Attachments: Regulatory Commitment(s) - Attachment A
Licensee Event Report

cc: Regional Administrator - NRC Region III
NRC Senior Resident Inspector - LaSalle County Station

Attachment A
Regulatory Commitment(s)

ComEd is committing to the following actions. Any other actions discussed in this submittal represent intended or planned actions by ComEd. They are described to the NRC for the NRC's information and are not regulatory commitments.

<i>Regulatory Commitment(s)</i>	<i>Tracking Number</i>
A new procedure for LPRM removal will be written that will include appropriate direction on the required position of the LPRM Mode Selector Switch.	ATM# 18727-26
A training needs analysis will be conducted on this event.	ATM# 18727-44
Rod Block Monitor surveillance procedures LIS-NR-105A/105B, LIS-NR-205A/205B, LIS-NR-305 and LIS-NR-405 will be reviewed and revised as necessary to include appropriate direction on the required position of the LPRM Mode Selector Switch.	ATM# 18727-28, 37
A review of procedures relating to the LPRMs will be conducted to determine if additional revisions are required to address the use of the LPRM Mode Selector Switch. Necessary revisions will be scheduled following completion of the review.	ATM# 18727-38, 39, 40, 41, 42, 43

LICENSEE EVENT REPORT (LER)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), 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. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1): LaSalle County Station, Unit 1

DOCKET NUMBER (2) 05000373

PAGE (3)
1 of 4

TITLE (4) Average Power Range Monitors Inoperable During Refueling Due to Improper Isolation of Local Power Range Detectors

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
11	01	99	99	004	01	03	07	00	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9) 5
POWER LEVEL (10) 000
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

<input type="checkbox"/>	20.2201(b)	<input type="checkbox"/>	20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)
<input type="checkbox"/>	20.2203(a)(1)	<input type="checkbox"/>	20.2003(a)(3)(i)	<input type="checkbox"/>	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(x)
<input type="checkbox"/>	20.2203(a)(2)(i)	<input type="checkbox"/>	20.2003(a)(3)(ii)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	73.71
<input type="checkbox"/>	20.2203(a)(2)(ii)	<input type="checkbox"/>	20.2003(a)(4)	<input type="checkbox"/>	50.73(a)(2)(iv)	<input type="checkbox"/>	OTHER
<input type="checkbox"/>	20.2203(a)(2)(iii)	<input type="checkbox"/>	50.36(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	Specify n Abstract below or in NRC Form 366A	
<input type="checkbox"/>	20.2203(a)(2)(iv)	<input type="checkbox"/>	50.36(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME: Steve Shields, Regulatory Assurance
TELEPHONE NUMBER (Include Area Code): (815) 357-6761 Extension 2654

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO
EXPECTED SUBMISSION DATE (15)

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

On November 1, 1999, at 2005 hours, during an operating experience review, it was determined that all of the Unit 1 Average Power Range Monitors (APRMs) were inoperable. Unit 1 was in Mode 5, Refueling, and per Technical Specification (TS) Section 3.3.1, "Reactor Protection System Instrumentation," the APRM Neutron Flux Setdown, set at 15 percent power, was required to be operable. In addition, TS Section 3.3.6, "Control Rod Block Instrumentation," requires the APRM Neutron Flux-High Rod Block Instrumentation to be operable.

During the removal of six Local Power Range Monitor (LPRM) strings, the operations staff did not place the LPRM mode selector switch to "Bypass." This resulted in the APRMs output being non-conservative. This condition was not immediately recognized and the actions required by TS were not performed, leading to a condition prohibited by TS. The cause of the event was determined to be a human performance error on the part of the licensed operators who prepared and approved the out-of-service for the work. The LPRM mode selector switches were immediately placed in the proper "Bypass" position. Corrective actions include writing a procedure for LPRM removal, and the performance of a training needs analysis on the event.

The significance of the event was minimal, since the Intermediate Range Monitor (IRM) system was operable and provided a High Neutron Flux trip set at a conservatively lower flux rate than provided by the APRM flux trip.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
LaSalle County Station, Unit 1	05000373	99	004	01	2 of 4

(If more space is required, use additional copies of NRC Form 366A)(17)

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor, 3323 Megawatts Thermal Rated Core Power

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

A. CONDITION PRIOR TO EVENT

Unit(s): 1 Event Date: 11/01/99 Event Time: 2005 Hours
 Reactor Mode(s): 5 Power Level(s): 000
 Mode(s) Name: Refuel

B. DESCRIPTION OF EVENT

On November 1, 1999, at 2005 hours, during an operating experience review, it was determined that all of the Unit 1 Average Power Range Monitors (APRMs) [IG] were inoperable. The Unit was in a refueling outage, and six Local Power Range Monitor (LPRM) [IG] strings were being replaced. The six LPRM strings had been taken out of service on October 27, 1999, by removing the 100 VDC power supply fuses to the detectors; however, the associated LPRM mode selector switches had not been placed in the "Bypass" position.

In this configuration, with the fuses pulled and the LPRM mode selector switches in "Operate", the LPRM output signals would always be zero. However, the LPRM input counter would count the inoperable detectors, and the APRM averaging circuit would sum and average the inoperable along with the operable LPRMs. This would result in a power indication lower than actual. An Instrument Maintenance Department (IMD) Supervisor identified the condition, after reviewing a 1996 operating experience report in which another facility had failed to bypass the LPRMs. The IMD Supervisor alerted Operations shift personnel of the potential problem, and the switch positions were inspected and verified to be in the incorrect "Operate" position. The APRMs were declared inoperable at 2005 on November 1, 1999.

Technical Specification (TS) Section 3.3.1, "Reactor Protection System Instrumentation," requires the APRM Neutron Flux Setdown, set at 15 percent power, to be operable in Mode 5. In addition, TS Section 3.3.6, "Control Rod Block Instrumentation," requires the APRM Neutron Flux-High Rod Block Instrumentation to be operable. With the APRMs inoperable the appropriate actions of these TS are required to be entered.

TS Table 3.3.1-1 Action 3 requires that when less than the minimum two channels of the APRM Neutron Flux-High, Setdown trip are operable, core alterations are to be suspended, and all insertable control rods must be inserted within one hour. Because core alterations were in progress since October 28, 1999, while the APRM Neutron Flux-High, Setdown trip function was non-conservative, Technical Specification requirements were not met.

Additionally, TS Table 3.3.6-1, "Control Rod Withdrawal Block Instrumentation" Function 2.d, "APRM Neutron Flux-High," Action 61, requires that with two or more less than the required minimum operable channels per trip function, at least one

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
LaSalle County Station, Unit 1	05000373	99	004	01	3 of 4

(If more space is required, use additional copies of NRC Form 366A)(17)

inoperable channel be placed in the trip position within one hour. This Technical Specification requirement was also not met. Since less than one hour elapsed from the time of discovery to the time APRM operability was restored, an inoperable channel was not placed in the trip position.

The condition was immediately corrected by adding the LPRM mode selector switches to the out-of-service, and placing them in the "Bypass" position. APRM channels A, B, C, and D were declared operable at 2100 on November 1, 1999. APRM Channels E and F were inoperable for unrelated reasons.

This event is reportable under 10 CFR 50.73(a)(2)(i) as a condition prohibited by Technical Specifications.

Late in the event investigation, it was noted that Rod Block Monitor Calibration procedures LIS-NR-105A/105B and LIS-NR-205A/205B and Functional Test procedure LIS-NR-305 and LIS-NR-405 require that LPRM inputs be disconnected from the APRM channels. These procedures do not require that the LPRM mode selector switches be placed in "Bypass", and therefore do not provide adequate assurance that Technical Specification requirements are being met. A review of surveillance performance history has identified that on at least one occasion TS requirements were violated while performing surveillance activities in accordance with approved procedures. The specific instance identified occurred on May 21, 1996, during the performance of LIS-NR-405.

C. CAUSE OF EVENT

The root cause of the November 1, 1999, event was determined to be a human performance error on the part of the licensed operators who prepared and approved the out-of-service to perform the work. This was a first time evolution, in that this was the first refueling outage performed by shuffling fuel in Mode 5. Previous refueling outages had been performed by fully offloading the core, and the above TS did not apply. A contributing cause was that there was no procedure specifically for LPRM replacement.

The root cause of the inadequate Rod Block Monitor calibration and functional test procedures was also determined to be human performance related. There was a lack of knowledge regarding the function of the LPRM mode selector switch on the part of the original procedure writers.

D. SAFETY ANALYSIS

The significance of this event is minimal, since the Intermediate Range Monitor (IRM) [IG] system was operable and provided a High Neutron Flux trip set at a conservatively lower flux rate than provided by the APRM flux trip.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
LaSalle County Station, Unit 1	05000373	99	004	01	4 of 4

(If more space is required, use additional copies of NRC Form 366A)(17)

E. CORRECTIVE ACTIONS

Immediate Corrective Actions

1. The condition was immediately corrected by adding the LPRM mode selector switches to the out-of-service, and placing them in the "Bypass" position (complete).

Corrective Actions to Prevent Recurrence

2. A new procedure for LPRM removal will be written that will include appropriate direction on the required position of the LPRM Mode Selector Switch (ATM# 18727-26).
3. A training needs analysis will be conducted on this event (ATM# 18727-44).
4. Rod Block Monitor surveillance procedures LIS-NR-105A/105B, LIS-NR-205A/205B, LIS-NR-305 and LIS-NR-405 will be reviewed and revised as necessary to include appropriate direction on the required position of the LPRM Mode Selector Switch (ATM# 18727-28, 37).
5. A review of procedures relating to the LPRMs will be conducted to determine if additional revisions are required to address the use of the LPRM Mode Selector Switch. Necessary revisions will be scheduled following completion of the review (ATM# 18727-38, 39, 40, 41, 42, 43).

F. PREVIOUS OCCURRENCES

LER 01-99-005 "Lifted Leads Result in Inoperable Average Power Range Monitor Thermal Power Upscale Trip"

Leads that defeated the output of one of the Reactor Recirculation flow converters to the Average Power Range Monitors (APRM) were lifted. This placed the facility in a condition where a single failure would have prevented the flow biased simulated thermal power upscale Reactor Protection System trip required by Technical Specification 3/4.3.1.

This event also indicated weaknesses in Operator knowledge of the APRMs and APRM operability. Corrective actions from this event were focused on Operator understanding of APRM operability with respect to the flow converters, and would not have prevented this event.

G. COMPONENT FAILURE DATA

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