Exelon
Nuclear

10CFR50.73

May 12, 2008

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Limerick Generating Station, Unit 1
Facility Operating License No. NPF-39
NRC Docket No. 50-352

Subject: LER 2008-001-00, Control Rod Withdrawn With The Source Range Monitor In The Same Core Quadrant Inoperable

This Licensee Event Report (LER) addresses an event where a control rod was withdrawn while the source range monitor in the affected core quadrant was inoperable which resulted in a condition prohibited by Technical Specifications.

This LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(i)(B).

There are no commitments contained in this letter.

If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,

Original signed by

Christopher H. Mudrick
Vice President - Limerick Generating Station
Exelon Generation Company, LLC

cc: S. J. Collins, Administrator Region I, USNRC
E. M. DiPaolo, USNRC Senior Resident Inspector, LGS

NRC FORM 366 (9-2007) **U.S. NUCLEAR REGULATORY COMMISSION**

APPROVED BY OMB NO. 3150-0104 EXPIRES 08/31/2010

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose 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.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Limerick Generating Station, Unit 1	05000352	1 of 4

4. TITLE:
Core Alteration With Source Range Monitor Inoperable

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
03	16	2008	2008	- 001 -	00	05	12	2008	FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE
5

10. POWER LEVEL
0

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
☐ 20.2203(a)(2)(vi)	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER *(Include Area Code)*
Robert E. Kreider, Manager – Regulatory Assurance	610-718-3400

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

During a refueling outage a control rod was withdrawn with the source range monitor in the affected core quadrant inoperable. The source range monitor was restored to operable and the control rod was inserted. The root causes of this event were that the control room supervisor and reactor operator failed to ensure the 1C Source Range Monitor was not bypassed and the control room supervisor failed to obtain a peer check by a second senior reactor operator prior to declaring it operable. The source range monitor channel check surveillance test was revised to ensure the source range monitors and intermediate range monitors are inserted and not bypassed. The site procedure for returning equipment to service will be revised to require a peer check for operability decisions when returning equipment to service.

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NUMBER	
Limerick Generating Station, Unit 1	05000352	2008	-- 001	-- 00	2 of 4

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

Unit Conditions Prior to the Event

Unit 1 was in Operational Condition (OPCON) 5 (Refueling) at approximately 81 degrees Fahrenheit reactor coolant temperature and zero psig reactor pressure conducting refueling operations. There were no other structures, systems or components out of service that contributed to this event.

Description of the Event

On Sunday, March 16, 2008, refueling operations were in progress including preparation for scheduled control rod exercising. The 1C Source Range Monitor (SRM) (EIIS:IG) was inoperable for a scheduled maintenance activity. The reactor operator (RO) was performing the "Pre Control Rod Withdrawal Check Following Core Alterations" surveillance test, which directed verification that the source range monitors were operable. Since 1C SRM was inoperable, the control room supervisor (CRS) requested that the maintenance technicians restore the 1C SRM to service, which was completed. Operations successfully performed the designated post maintenance test (PMT) on the SRM, which consisted of the channel check surveillance test. Following completion of the PMT the 1C SRM was declared operable; however, it was not realized that the 1C SRM was still bypassed. At 0410 hours, the RO withdrew control rod 50-19 (which is in the same quadrant as 1C SRM) to the full-out position. During this period the maintenance technician in the auxiliary equipment room had been observing the "Bypassed" light on the 1C SRM channel. The maintenance technician called the back-up CRS to notify him that the "Bypassed" light was still illuminated on 1C SRM. The back-up CRS then identified that the SRM bypass switch (EIIS:SEL) was still in the bypass position for 1C SRM. Core alterations were immediately suspended by the CRS and the SRM bypass switch was restored to the "no channels bypassed" position. Control rod 50-19 was then inserted to the full-in position.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NUMBER	
Limerick Generating Station, Unit 1	05000352	2008	-- 001	-- 00	3 of 4

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

Technical Specification (TS) 3.9.2, Refueling Operations – Instrumentation, requires an operable SRM in the quadrant where core alterations are being performed. If this requirement is not satisfied the operators are required to immediately suspend all operations involving core alterations and insert all insertable control rods.

The SRM in the quadrant where the core alteration was being performed was not operable when the control rod was withdrawn. This condition is contrary to the requirements of TS 3.9.2, which required core alterations to be suspended in that quadrant. Therefore, this event resulted in a condition prohibited by Technical Specifications. This LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(i)(B).

Analysis of the Event

There were no actual safety consequences associated with this event. The potential safety consequences of this event were minimal. The 1C SRM count rate and period indications remained functional during the event. In addition the 1A, 1B, and 1D SRMs were operable during this period. An operable SRM was located in both adjacent quadrants during the core alteration. In addition, the one-rod-out interlock prevented withdrawal of multiple control rods during the affected period.

Cause of the Event

The root cause of this event was that the CRS and RO failed to ensure the 1C SRM was not bypassed and failed to obtain a peer check by a second senior reactor operator (SRO) prior to declaring it operable.

Corrective Action Completed

The SRM channel check surveillance tests have been revised to specify that the SRMs and intermediate range monitors (IRMs) are inserted and not bypassed.

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NUMBER	
Limerick Generating Station, Unit 1	05000352	2008	-- 001	-- 00	4 of 4

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

Corrective Action Planned

The site Operations procedure for returning equipment to service will be revised to require a peer check for operability decisions when returning equipment to service.

Previous Similar Occurrences

There was one previous similar occurrence in the last three years. LER 2-05-001 reported an event where core alterations were performed with the SRMs inoperable, which was caused by a loss of the SRM audible alarm in the control room. The corrective actions for LER 2-05-001 addressed a weakness in the procedure for loss of main control room annunciators and included an evaluation of procedures affected by infrequently used refueling and outage related TS. The weakness in the SRM channel check surveillance tests was not identified during this review.

Component data:

Component Description:	1C Source Range Monitor
System:	IG (Incore/Excore Monitoring System)
Component:	DET (Detector)
Component Number:	10-S401-40-21
Manufacturer:	R220 Reuter Stokes
Model Number:	RS-C6-0330-201