Exelon Generation Company, LLC
LaSalle County Station
2601 North 21st Road
Marseilles, IL 61341-9757

www.exeloncorp.com

Exelon Nuclear

April 16, 2003

10 CFR 50.73(a)(2)(vii)

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

LaSalle County Station, Unit 2
Facility Operating License No. NPF-18
NRC Docket No. 50-374

Subject: Licensee Event Report

In accordance with 10 CFR 50.73(a)(2)(vii), Exelon Generation Company, (EGC), LLC, is submitting Licensee Event Report Number 03-002-00, Docket No. 050-374.

Should you have any questions concerning this letter, please contact Mr. Glen Kaegi, Regulatory Assurance Manager, at (815) 415-2800.

Respectfully,

Susan Landahl

Susan Landahl
Plant Manager
LaSalle County Station

Attachment: Licensee Event Report

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

IE22

NRC FORM 366 (7-2001)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004
LICENSEE EVENT REPORT (LER) (See reverse for required number of digits/characters for each block)		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. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NOEB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose 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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
LaSalle County Station, Unit 2	05000374	1 of 3

4. TITLE Average Power Range Monitor Flow-Biased Scram Inoperable Due to an Inadequate Procedure

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
2	25	2003	2003	- 002 -	00	04	16	03	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE	1
10. POWER LEVEL	100

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

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

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
Joan Wieging, Operations Support Manager	(815) 415-2235

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		15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES (If yes, complete EXPECTED SUBMISSION DATE)	☒ NO				

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

On February 25, 2003, upon return to full power after refueling outage L2R09, all reactor recirculation flow converters were discovered to be out-of-calibration in the non-conservative direction. As a result, the reactor protection system (RPS) Average Power Range Monitor (APRM) flow-biased scram was declared inoperable, and the unit entered a one-hour time clock in accordance with Technical Specification (TS) 3.3.1.1 to restore RPS trip operability of this function. The flow units were re-calibrated within the hour.

The cause was determined to be an inadequate procedure, in that flow data from less accurate sources was allowed be used to calibrate the flow converters when the process computer was unavailable, but no additional guidance or limitations were provided. Corrective actions include revising the affected procedures.

The safety significance of this event was minimal. The flow-biased thermal scram is not a credited scram per the Technical Specification Bases, as it is a backup to the neutron flux scram. Additionally, the flow-biased scram is clamped at 115.5 percent power, so at the point of discovery the scram would have occurred at the required value because the setpoint is not a function of flow at flow rates greater than approximately 74.5 percent.

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

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor, 3489 Megawatts Thermal Rated Core Power

A. CONDITION PRIOR TO EVENT

Unit(s): 2	Event Date: 2/25/03	Event Time: 1005
Reactor Mode(s): 1	Power Level(s): 100	
Mode(s) Name: Run		

B. DESCRIPTION OF EVENT

On February 25, 2003, upon return to full power after refueling outage L2R09, all reactor recirculation flow converters were discovered to be out-of-calibration in the non-conservative direction. As a result, the reactor protection system (RPS)[JC] Average Power Range Monitor (APRM)[IG] flow-biased scram was declared inoperable, and the unit entered a one-hour time clock in accordance with Technical Specification (TS) 3.3.1.1 to restore RPS trip operability of this function. The flow units were re-calibrated within the hour, and the time clock was exited.

To be operable, the RPS flow-biased thermal power trip function requires that the reactor recirculation (RR)[AD] flow converters be calibrated. The procedure for calibrating the flow converters has two methods to determine core flow. The "alternate" method uses a single control room panel value for jet pump flow, and then applies an eight percent negative bias for conservatism. The "normal" method uses a process computer heat balance (OD-3), with input from the Qualified Nuclear Engineer on any required conservatism. The alternate method is normally used just prior to entering the Run mode, because heat balance data is not available at that power.

Just prior to 25 percent core power, the flow converters are re-calibrated, typically using the data from the process computer heat balance. During the startup from L2R09, the heat balance data was not available at that power due to problems with the process computer, resulting in the need to use the alternate method. There was no procedural limitation or guidance preventing this use of the alternate method, even though it proved to become non-conservative as core flow increased.

The flow units were declared inoperable, as TS Surveillance Requirement 3.3.1.1.3 was not met for all four flow units. As required by the Technical Specification Bases, the APRM flow-biased thermal scram was declared inoperable. It was determined that this event was reportable under 10 CFR 50.73(a)(2)(vii) as an event where a single cause or condition caused at least two independent trains or channels to become inoperable in a single system designed to shutdown the reactor and maintain it in a safe shutdown condition.

C. CAUSE OF EVENT

The cause was determined to be an inadequate procedure. The alternate method to determine core flow was used when calibrating the flow converters just prior to 25 percent power, without re-verifying the parameters using the OD-3 heat balance as core flow increased. Using the control room panel value for jet pump flow is not adequate, unless the calibration is performed more frequently as core flow is increased.

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

Neither LIS-NR-207, "APRM/RBM Flow Converter to Total Core Flow Adjustment" nor LGP-1-1, "Normal Unit Startup" included a restriction on the use of the alternate method. The procedure simply stated that the alternate method is to be used if the normal method is unavailable.

D. SAFETY ANALYSIS

The safety significance of this event was minimal. The APRM flow-biased thermal scram is not a credited scram per the Technical Specification Bases, as it is a backup to the neutron flux scram. Additionally, the flow-biased scram is clamped at 115.5% power, so at the point of discovery the scram would have occurred at the required value because the setpoint is not a function of flow at flow rates greater than approximately 74.5%.

E. CORRECTIVE ACTIONS

Corrective Actions:

1. All four flow converters were calibrated correctly.
2. A Standing Order was issued to provide guidance on the use of the alternate methodology of LIS-NR-107(207).

Corrective Action to Prevent Recurrence:

3. Procedures LIS-NR-107(207)and LGP-1-1 will be revised to provide guidance on the use of the alternate methodology (AT# 146141-19/20).

F. PREVIOUS OCCURRENCES

LER NUMBER	TITLE
LER 98-01	Average Power Range Monitor Reactor Scram and Rod Block Setpoints Found to be Non-Conservative After Calibration Due to Human Performance Error

This LER documented an event where the flow converters were set non-conservatively due to a human performance error by a reactor engineer who had incorrectly calculated a value used in the channel calibration. The corrective actions were focused on preventing similar calculation errors, and would not have prevented this event.

G. COMPONENT FAILURE DATA

This section is not applicable, since no component failure occurred.