

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

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May 8, 2003

10 CFR 50.73

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)(i) and (a)(2)(vii), Exelon Generation Company, (EGC), LLC, is submitting Licensee Event Report Number 03-003-00, 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  
Plant Manager  
LaSalle County Station

Attachment: Licensee Event Report

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

IE22

**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](mailto: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** LaSalle County Station, Unit 2**2. DOCKET NUMBER**

05000374

**3. PAGE**

1 of 4

**4. TITLE** Main Steam Safety Relief Valves As-Found Safety Mode Set Pressure Found Out-of-Tolerance

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
3	18	2003	2003	- 003	- 00	05	08	03	LaSalle County Station, Unit 1	05000373
									FACILITY NAME	DOCKET NUMBER

**9. OPERATING MODE**

1

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

100

<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 73.71(a)(4)
<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> OTHER
<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	Specify in Abstract below or in NRC Form 366A
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	
<input type="checkbox"/> 20.2203(a)(2)(v)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input checked="" type="checkbox"/> 50.73(a)(2)(vii)	
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	

**12. LICENSEE CONTACT FOR THIS LER****NAME**

John Kowalski, Inservice Testing Coordinator

**TELEPHONE NUMBER (Include Area Code)**

(815) 415-2912

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
B	SB	RV	Anderson Greenwood Crosby	N					

**14. SUPPLEMENTAL REPORT EXPECTED**

YES

(If yes, complete EXPECTED SUBMISSION DATE)

☒

NO

**15. EXPECTED SUBMISSION DATE**

MONTH

DAY

YEAR

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

During a planned maintenance outage in April 2002, all 13 Main Steam Safety Relief Valves (MSSRV) on Unit 2 were removed and replaced with pre-tested valves. On March 18, 2003, the Station was notified by the vendor that bench testing of the 13 MSSRVs had revealed five that were outside Tech Spec and ASME OM Code allowed tolerances. All five valves lifted below their set pressures, with deviations ranging from -3.1 to -5.3 percent.

The consequences of premature relief are not considered significant as long as the safety mode premature lift does not encroach upon the relief mode setpoint. The minimum difference between the safety mode relief set point and the relief mode set point for LaSalle is 6.4 percent, while the maximum discrepancy noted was 5.3 percent. Therefore an operating transient would not have been expected, and the significance of this event was minimal.

The subject valves will be disassembled, inspected, rebuilt and retested prior to installation in the plant during refuel outages L1R10 and L2R10.

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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: 3/18/03                      Event Time: 1200  
Reactor Mode(s): 1                      Power Level(s): 100  
Mode(s) Name: Run

## B. DESCRIPTION OF EVENT

During a planned maintenance outage in April 2002, all 13 Main Steam Safety Relief Valves (MSSRV) on Unit 2 were removed and replaced with pre-tested valves. The new pre-tested valves had undergone a modification to the valve discs to eliminate a recurring problem with operational seat leakage.

ASME Code allows up to one year for completing as-found testing when the valves have been replaced with a full complement of pre-tested valves. The valve manufacturer, Anderson Greenwood Crosby, was contracted to perform bench testing of the replaced valves at Wyle Laboratories. Testing was performed in March 2003.

The as-found test results were outside Technical Specification (TS) 3.4.4 and ASME Code tolerances (+/-3 percent) for five of the 13 valves. All five valves lifted below their set pressure, with deviations ranging from -3.1 to -5.3 percent.

Four of the five valves (SN N63790-00-0004, 0011, 0015 and 0106), tested outside tolerance on the initial lift test and on successive tests. All four of these valves had been leaking during operation, as evidenced by downstream tailpipe elevated temperatures. All four valves also failed as-found leakage inspection at Wyle.

The other valve (SN N63790-00-0102) was only outside tolerance on the initial lift test. Subsequent lifts were between -1.0 and -1.2 percent below nominal with good repeatable performance. This valve did not experience operational leakage, and passed the as-found leakage inspection at Wyle.

The Station was notified of these results by the vendor, Anderson Greenwood Crosby, on March 18, 2003. The event was determined to be reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), as a condition prohibited by the plant's Technical Specifications. Because four of the five valves that failed had an apparent common cause, i.e., excessive seat leakage, this event is also reportable under 10 CFR 50.73(a)(2)(vii), as an event where a single cause or condition caused two independent trains or channels to become inoperable in a single system.

## C. CAUSE OF EVENT

The apparent cause of the out-of-tolerance lift for the single valve (SN N63790-00-0102) is a misalignment of the load bearing parts.

The apparent cause of the out-of-tolerance lift for the other four valves (SN N63790-00-0004, 0011, 0015 and 0106) is setpoint drift. It is suspected that the

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setpoint drift is related to the operational seat leakage that these valves had experienced.

Recent industry studies regarding MSSRV leakage ("BWROG Guide for Addressing Leaking Safety/Relief Valves in Boiling Water Reactors", GE Nuclear Document NEDE-33097, March 2003) have reported that for Crosby MSSRVs, leakage tends to reduce lift pressure. Other utilities with Crosby MSSRVs have experienced premature lifting of leaking MSSRVs with approximately the same magnitude as identified in this evaluation. The BWROG report also noted that there is no indication that leakage causes spurious actuation or failure to lift. There have been no spurious actuations at LaSalle.

An evaluation to determine the cause of leaking MSSRVs at LaSalle was completed in January 2002. The identified root cause was that the SRVs were not designed for zero leakage. The corrective action to prevent recurrence was to replace the semi-flex disc design with the latest full flex disc design. All currently installed LaSalle MSSRVs have undergone modification to install a new disc design for improved seat leakage. The failed valves did not have the new seat design installed.

## D. SAFETY ANALYSIS

The safety significance of this event was minimal. The consequences of premature relief are not considered significant as long as the safety mode premature lift does not encroach upon the relief mode set point. The minimum difference between the safety mode relief set point and the relief mode set point for LaSalle is 6.4 percent. The maximum discrepancy noted for these five valves was 5.3 percent, therefore, an unexpected opening of a MSSRV at power would not have occurred. LaSalle currently has no leaking MSSRVs. This condition does not represent a Safety System Functional Failure.

## E. CORRECTIVE ACTIONS

1. All five MSSRVs will be disassembled, inspected, rebuilt and retested as part of preparation for refuel outages L1R10 and L2R10 (AT# 149753-17).
2. A supplement to this LER will be submitted if the cause of the valve failures is different than identified in the Corrective Action, above (AT# 149753-19).

## F. PREVIOUS OCCURRENCES

Two previous occurrences in the past three years were identified. In both cases the reportability of the event was not recognized and an LER was not generated. The failure to make these reports has been entered into the Station's corrective action program, and an investigation is in progress.

During refueling outage L1R09 (January 2002) two MSSRVs lifted below their set pressure outside of TS and ASME Code tolerances. Valve SN N63790-00-0068 lifted at -3.1 percent, and SN N63790-00-0077 lifted at -4.7 percent. The cause in both cases was attributed to setpoint drift due to operational seat leakage. This event was reportable under both 10 CFR 50.73(a)(2)(i)(B) and (a)(2)(vii).

During refueling outage L2R08 (November 2000) two MSSRVs lifted below their set pressure outside of TS and ASME Code tolerances. Valve SN N63790-00-0003 lifted at -4.8 percent, and SN N63790-00-0007 lifted at -3.1 percent. In this event, the cause for valve SN N63790-00-0003 was setpoint drift due to operational seat

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leakage, while valve N63790-00-0007 failed due to internals misalignment. This event was reportable under 10 CFR 50.73(a)(2)(i)(B).

All four of the valves were refurbished and were modified with the new disc design discussed above. These valves have all been re-installed in the plant and have not experienced seat leakage. The safety significance was minimal.

**G. COMPONENT FAILURE DATA**

Crosby Safety Relief Valves for Main Steam Service, Style HB-65-BP, Size 6R10, ASME Section III, Class I