

Exelon Generation Company, LLC www.exeloncorp.com
Byron Station
4450 North German Church Road
Byron, IL 61010-9794

May 16, 2002

LTR: BYRON 2001-0058
File: 2.01.0700

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Byron Station, Unit 1
Facility Operating License No. NPF-37
NRC Docket No. STN 50-454

Subject: Licensee Event Report (LER) 454-2002-002-00

Enclosed is an LER involving the March 18, 2002, event involving two out of three Pressurizer Safety Valves on Unit 1 exceeding acceptance criteria for their Inservice Testing setpoint test. This condition is reportable to the NRC in accordance with 10 CFR 50.73 (a)(2)(i)(b). Attachment A to this letter contains a summary of commitments made in the LER.

Should you have any questions concerning this matter, please contact Mr. William Grundmann, Regulatory Assurance Manager, at (815) 406-2800.

Respectfully,



Richard P. Lopriore
Site Vice President
Byron Nuclear Generating Station

Attachment LER 454-2002-002-00
Attachment A – Summary of Commitments

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Byron Station
NRC Project Manager – NRR – Byron Station
Office of Nuclear Facility Safety – Illinois Department of Nuclear Safety

IE22

**bcc: Manager of Energy Practice – Winston & Strawn
Site Vice President – Byron Station
Vice President – Licensing & Regulatory Affairs
Director – Licensing
Manager, Licensing and Compliance – Braidwood & Byron Stations
Regulatory Assurance Manager – Byron Station
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Attachment A
Regulatory Commitment

Exelon Generation Company (EGC), LLC, is committing to the following action. Any other actions discussed in this submittal represent intended or planned actions by EGC. They are described to the NRC for the NRC's information and are not regulatory commitments.

<i>Regulatory Commitments</i>	<i>Action Request No.</i>
Byron Station will pursue a Technical Specification change to relax the setpoint.	100114

Estimated burden per response to comply with this mandatory information collection request: 50 hours. 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, or by internet e-mail to bjs1@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 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)

1. FACILITY NAME Byron Station, Unit 1	2. DOCKET NUMBER 05000454	3. PAGE 1 OF 4
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4. TITLE Two of Three Pressurizer Safety Valve Relief Tests Exceeded Required Tolerance Due to Setpoint Drift

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
03	18	2002	2002	002	00	05	16	2002		05000
									FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE 6	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)									
10. POWER LEVEL 000	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 Form 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 William Grundmann, Regulatory Assurance Manager	TELEPHONE NUMBER (Include Area Code) (815) 406-2800

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
X	AB	SV	Crosby	N					

14. SUPPLEMENTAL REPORT EXPECTED				15. EXPECTED SUBMISSION DATE		
YES (If yes, complete EXPECTED SUBMISSION DATE)	✓	NO		MONTH	DAY	YEAR

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

Technical Specification (TS) 3.4.10, "Pressurizer Safety Valves," require three pressurizer safety valves to be operable with lift settings greater than or equal to 2460 psig and less than or equal to 2510 psig. TS Surveillance Requirement 3.4.10.1 requires each pressurizer safety valve to be lift-tested in accordance with the Inservice Testing (IST) program. The TS acceptance criteria of the IST lift test is plus or minus 1% tolerance. Two pressurizer safety valves (i.e., 1RY8010A and 1RY8010B) were removed and tested during the recent Unit 1 refuel outage. The 1RY8010B valve's "as-found" lift setting was + 1.1%, and the 1RY8010A valve was +2.0%. The valve Vendor reported this information to the Station's Inservice Testing Engineer who entered this condition into the station corrective action program. The cause for this concern is that the current TS requirement (SR 3.4.10.1) is too restrictive for the normal design performance of these valves and the lack of Station Management responsiveness in reconciling this discrepancy. Operable replacement valves were installed. Corrective action will be to pursue a relaxation of the 1% TS tolerance for the pressurizer safety valves lift setpoint. An engineering analysis on the effects of these valves lifting at the as-found setpoints concluded that all acceptance criteria in the Updated Final Safety Analysis Report Chapter 15 analyses are still met. This condition of multiple pressurizer safety valves being outside of their required lift setting tolerance band is reportable in accordance with 10 CFR 50.73 (a)(2)(i)(b), "Any operation or condition prohibited by the plant's Technical Specifications."

NRC Form 366A (7-2001)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 EXPIRES 07/31/2004		
LICENSEE EVENT REPORT (LER) TEXT CONTINUATION				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 Information and 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)		DOCKET NUMBER (2)		LER NUMBER (6)		PAGE (3)
Byron Station, Unit 1		STN 05000454		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
				2002 - 002 - 00		2 of 4

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

A. Plant Conditions Prior to Event:

Event Date / Time: March 18, 2002 / 1516 hours

Unit 1 – Mode 6 – Refueling, Reactor Power – 000%

Reactor Coolant System [AB]: Ambient Temperature and Depressurized

No structures, systems or components were inoperable at the start of the event that contributed to the event.

B. Description of Event:

Technical Specification (TS) 3.4.10, "Pressurizer Safety Valves" require three pressurizer [AB] (RY) safety valves to be operable with lift settings greater than or equal to 2460 psig and less than or equal to 2510 psig. This lift setting span is based on plus or minus 1% tolerance of a nominal 2485 psig setpoint. Surveillance Requirement 3.4.10.1 requires each pressurizer safety valve to be lift tested in accordance with the Inservice Testing (IST) program. The acceptance criteria of the IST lift test is for the safety valve to lift within the plus or minus 1% tolerance. Expanding the scope of testing is required when a valve's "as-found" test exceeds 3%. The IST program essentially requires one safety valve to be tested each refuel outage. Byron Station methodology for testing is to remove the safety valve and replace it with an operable valve and then send the removed valve to a testing vendor.

As part of the recent Unit 1 refuel outage (i.e., B1R11) activities, pressurizer safety valve, 1RY8010B, was removed and sent to the vendor for testing as required by the IST program. In addition, another safety valve, 1RY8010A, was removed and sent for repairs because it had minor seat leakage while on-line. The IST program requires that safety valves, which have been removed for maintenance, must also be lift-tested.

The 1RY8010B valve's as-found lift setting was +1.1% and the 1RY8010A valve was +2.0%. The valve Vendor reported this information to the Station's Inservice Testing Engineer who entered this condition into the station's corrective action program.

Since both the 1RY8010B and 1RY8010A were replaced with operable valves, no TS action condition applied at the time. However, the condition of multiple pressurizer safety valves being outside of their required lift setting tolerance band is reportable in accordance with 10 CFR 50.73 (a)(2)(i)(b), "Any operation or condition prohibited by the plants Technical Specifications."

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

C. Cause of Event:

The safety valves were inspected by the vendor and no material condition issues were found that may have contributed to the out of tolerance condition.

An Electric Power Research Institute (EPRI) evaluation concerning safety and relief valve testing, concludes these valves are performing within their design capabilities. These setpoint lift test failures are principally driven by the close tolerance between TS requirements and the actual ability of the valve to perform within the required acceptance band.

The Vendor also indicated that, based on industry experience, these valves performed normally. The vendor stated that the number of valves exceeding the 1% tolerance is significant. The Vendor indicated that most valves tested exceed the 1% level. However, most lift tests do not exceed the 2% level, and it is rare for valves to exceed the 3% range. A historical review of lift tests at Byron indicated the safety valves' performance have been consistent with this industry experience. Station Management has not been responsive in the reconciliation of the tolerance capability of these pressurizer safety valves with the Technical Specification requirements.

D. Safety Analysis:

The pressurizer safety valves provide, in conjunction with the Reactor Protection System, overpressure protection for the RCS. The safety valves are designed to prevent system pressure from exceeding the RCS safety limit of 2735 psig.

An engineering evaluation has performed an analysis on the effects of these valves lifting at the as-found setpoints. Their determination is that all acceptance criteria in the Updated Final Safety Analysis Report Chapter 15 analyses are still met.

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E. Corrective Actions:

A relaxation to the Technical Specification lift tolerance for pressurizer safety valves will be pursued.

F. Previous Occurrences:

A review of 22 recent Byron and Braidwood Station's pressurizer safety valve lift tests indicate 12 tests were outside the 1% tolerance with seven failing high and five failing low. The average deviation of these tests was 0.22%.

G. Component Failure Data:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>
Crosby	Pressurizer Safety Valve	HB-BP-86