Exelon Nuclear
Peach Bottom Atomic Power Station
1848 Lay Rd.
Delta, PA 17314

www.exeloncorp.com

10CFR 50.73

November 19, 2010

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

Peach Bottom Atomic Power Station (PBAPS) Unit 2
Facility Operating License No. DPR-44
NRC Docket No. 50-277

Subject: Licensee Event Report (LER) 2-10-03

Enclosed is a Licensee Event Report concerning a condition prohibited by Technical Specifications involving two Safety Relief Valves (SRVs) and one Safety Valve (SV) that did not meet their Technical Specification ± 1% set point tolerance when tested in the laboratory. In accordance with NEI 99-04, the regulatory commitment contained in this correspondence is to restore compliance with the regulations. The specific methods that are planned to restore and maintain compliance are discussed in the LER. If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,

Garey L. Stathes
Plant Manager
Peach Bottom Atomic Power Station

GLS/djf/cee/IR 1120516

Attachment
cc: US NRC, Administrator, Region I
US NRC, Senior Resident Inspector
R. R. Janati, Commonwealth of Pennsylvania
S. Grey, State of Maryland
P. Steinhauer, PSE&G, Financial Controls and Co-owner Affairs
INPO Records Center

CCN: 10-94

IE22
NRR

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2013

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 FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@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)

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4. TITLE

Laboratory Analysis Identifies Safety Relief Valves and Safety Valve Set Point Deficiencies

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
09	27	2010	10	- 003 -	00	11	19	2010	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)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☒ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER *(Include Area Code)*
PBAPS Unit 2, James M. Armstrong, Regulatory Assurance Manager	717-456-3351

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	SB	RV	T020	Y	X	SB	RV	D345	Y

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)*

Based on information received from 9/27/10 through 9/30/10 from a laboratory performing Safety Relief Valve (SRV) / Safety Valve (SV) as-found testing, Site Engineering personnel determined that SRV / SV set point deficiencies existed with two SRVs and one SV that were in place during the Unit 2 18th operating cycle. The SRVs / SV were determined to have their as-found set points in excess of the Technical Specification allowable ± 1% tolerance. The two SRVs and one SV outside of their Technical Specification allowable range were within the ASME Code allowable of ± 3% tolerance. The cause of the SRVs / SV being outside of their allowable as-found set points is due to set point drift. The SRVs / SV were replaced with refurbished SRVs / SV for the 19th Unit 2 operating cycle. There were no actual safety consequences associated with this event. There were three previous LERs identified involving SRVs / SVs exceeding their Technical Specification ± 1% setpoint requirement.

There were no actual safety consequences associated with this event.

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NARRATIVE

Unit Conditions Prior to the Event

Unit 2 was in Mode 5 for its 18th Refueling Outage (P2R18) when the event was discovered based on as-found testing from a laboratory from 9/27/10 through 9/30/10. The condition was discovered during routine laboratory as-found testing for Safety Relief Valves (SRVs) and a Safety Valve (SV) removed during the 18th Unit 2 Refueling Outage. There were no other structures, systems or components out of service that contributed to this event.

Description of the Event

Based on information received from 9/27/10 through 9/30/10 from a laboratory performing SRV (EIIS: RV) and SV (EIIS: RV) as-found testing, Site Engineering personnel determined that SRV / SV set point deficiencies existed with two SRVs and one SV that were in place during the 18th Unit 2 operating cycle. The three SRVs / SV were removed during the 18th Unit 2 Refueling Outage and were sent to an off-site laboratory for as-found testing and routine refurbishment. Two SRVs and one SV were determined to have their as-found set points in excess of the Technical Specification allowable ± 1% tolerance. All three valves were within the ASME Code allowable ± 3% tolerance. The three valves' as-found set points were as follows:

SRV Serial Number (S/N)	Required Set Point (psig)	As-Found Set Point (psig)	% Outside of Technical Specification Allowable Tolerance
182 - SRV	1124 - 1146	1154	0.70%
178 - SRV	1134 - 1156	1157	0.09%
BL - 1104 - SV	1247 - 1273	1296	1.81%

The two SRVs and one SV were replaced with refurbished SRVs / SV for the 19th Unit 2 operating cycle.

One of the two SRVs (SRV S/N 182) was also an Automatic Depressurization System (ADS) valve. The set point drift had no impact on the ADS or manual function of the valves.

Cause of the Event

The cause of the three SRVs / SV being outside of their allowable as-found set points is due to set point drift.

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NARRATIVE

Analysis of the Event

There were no actual safety consequences associated with this event.

This report is being submitted pursuant to:

> 10CFR 50.73(a)(2)(i)(B) – Condition Prohibited by Technical Specifications – Technical Specification Limiting Condition for Operation (LCO) 3.4.3 requires that 11 of the 13 SRVs / SVs be operable during operational Modes 1, 2, and 3. Contrary to this requirement, two SRVs and one SV were found with set points outside of the Technical Specification requirements.

The ASME Boiler and Pressure Vessel Code requires that Reactor Pressure Vessel (EIIS: RCT) be protected from overpressure during upset conditions by self-actuated relief valves. As part of the nuclear pressure relief system, the size and number of SRVs and SVs are selected such that the peak pressure in the nuclear system will not exceed the ASME Code limits for the Reactor Coolant Pressure Boundary. There exists a total of 13 SRVs / SVs installed on the four Main Steam (EIIS: SB) Lines. The eleven installed SRVs exhaust steam through discharge lines to a point below the minimum water level in the Suppression Pool. The two installed SVs discharge steam directly to the Drywell. The SRVs and SVs are located on the four main steam lines (EIIS: SB) within Primary Containment. The SRVs are 'three-stage' valves consisting of a main valve disc and piston (third stage) operated by a second stage disc and piston displaced by either a first stage pressure-sensing pilot (for overpressure protection) or a pneumatically-operated mechanical push rod (for the ADS function or for remote-manual operation). The SVs are direct-acting, spring loaded relief valves.

During the Unit 2 Cycle 18 operations, there were no plant transients that required automatic or manual SRV / SV operation. The as-found set points for the three SRVs / SV that tested outside of their Technical Specification allowable range were high. There were a total of six SRVs and one SV removed for testing and replacement during the 18th Refueling Outage. All three SRVs / SV outside of their Technical Specification allowable range were within the ASME Code allowable ± 3% tolerance. An engineering analysis determined one of the three SRVs / SV found outside of its Technical Specification range drifted into the acceptance range of a second SRV that had drifted out of its range. The net plant impact found that only 2 of 13 SRVs / SVs lifted outside the bounds of Tech Spec ranges (i.e. +/-1%). Therefore, 11 of 13 remained within the lift pressure range as specified by Tech Specs. One of the two SRVs (SRV S/N 182) was also an Automatic Depressurization System (ADS) valve. The set point drift had no impact on the ADS or manual function of the valves.

The event is not considered to be risk significant.

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NARRATIVE

Corrective Actions

The two SRVs and the one SV were replaced with refurbished SRVs / SV for the 19th Unit 2 operating cycle.

A change to the PBAPS licensing basis (e.g., extended power uprate) will be pursued to increase SRV / SV set point tolerances.

Previous Similar Occurrences

There were three previous LERs identified involving SRVs / SVs exceeding their Technical Specification ± 1% set point requirement. LER 3-07-01 reported three SRVs / SV (two SRVs and one SV) having its as-found set points in excess of the Technical Specification allowable ± 1% tolerance. LER 2-06-02 reported one SV having its as-found set points in excess of the Technical Specification allowable ± 1% tolerance. LER 3-05-04 reported a situation involving four SRVs having their as-found set points in excess of the Technical Specification allowable ± 1% tolerance. The previous SRV / SV as-found set points were all within the ± 3% ASME code allowable set point tolerance. Completed corrective actions addressing set point drift for these previous events involved replacement of the previous SRVs with different SRVs and therefore, would not have been expected to prevent this event.

One of the SRVs / SV reported in this LER (2-10-003) was found in the same location as those previously reported SRVs / SV in LER 2-06-02. However, the serial number of the valve is not the same. During P2R16, the 70A SV was determined to have its as-found set points in excess of the Technical Specification allowable ± 1% tolerance (but well within the ASME Code allowable ± 3% tolerance). The as-found set point was 1.2% higher than the Technical Specification allowable. During P2R18, the 70A SV was determined to have an as-found set point of 1.81% higher than the Technical Specification allowable. Neither of the other two SRVs reported in this LER (2-10-003) were the same as these previously reported in LERs 2-06-02, 3-05-04, and 3-07-01.