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Fax: 724-643-8069May 2, 2017
L-17-152

10 CFR 50.73

ATTN: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001SUBJECT:
Beaver Valley Power Station, Unit No. 2
BV-2 Docket No. 50-412, License No. NPF-73
LER 2017-001-00

Enclosed is a Beaver Valley Power Station Unit 2 Licensee Event Report (LER) 2017-001-00, "Surveillance Testing Rendered Service Water System Inoperable Due to the Coupling of Seismic Category 1 Piping to Not Seismic Category 1 Piping". This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(v)(B).

There are no regulatory commitments contained in this submittal. Any actions discussed in this document that represent intended or planned actions are described for the NRC's information, and are not regulatory commitments.

If there are any questions or if additional information is required, please contact Mr. Brian D. Kremer, Manager, Regulatory Compliance at 724-682-4284.

Sincerely,


for Marty L. Richey

Enclosure – LER 2017-001-00

cc: Mr. D. H. Dorman, NRC Region I Administrator
Mr. J. A. Krafty, NRC Senior Resident Inspector
Ms. B. Venkataraman, NRR Project Manager
INPO Records Center (via INPO Consolidated Event System)
Mr. L. Winker (BRP/DEP)IEZZ
NRR



LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

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 and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Info@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.

1. FACILITY NAME Beaver Valley Power Station Unit Number 2	2. DOCKET NUMBER 05000 412	3. PAGE 1 OF 3
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4. TITLE Surveillance Testing Rendered Service Water System Inoperable Due to the Coupling of Seismic Category 1 Piping to Not Seismic Category 1 Piping

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
03	03	2017	2017	001	00	05	02	2017	N/A	05000 N/A
									N/A	05000 N/A

9. OPERATING MODE I

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

<input type="checkbox"/> 20.2201(b)	<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)(A)
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(II)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(I)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)

10. POWER LEVEL 100

<input type="checkbox"/> 20.2203(a)(2)(II)	<input type="checkbox"/> 50.36(c)(1)(II)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
<input type="checkbox"/> 20.2203(a)(2)(III)	<input type="checkbox"/> 50.36(c)(2)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(IV)	<input type="checkbox"/> 50.46(a)(3)(II)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
<input type="checkbox"/> 20.2203(a)(2)(V)	<input type="checkbox"/> 50.73(a)(2)(I)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(I)
<input type="checkbox"/> 20.2203(a)(2)(VI)	<input checked="" type="checkbox"/> 50.73(a)(2)(I)(B)	<input type="checkbox"/> 50.73(a)(2)(VII)	<input type="checkbox"/> 73.77(a)(2)(II)
	<input type="checkbox"/> 50.73(a)(2)(I)(C)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT: Brian D. Kremer, Manager, Regulatory Compliance

TELEPHONE NUMBER (include Area Code): (724) 682-4284

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

14. SUPPLEMENTAL REPORT EXPECTED

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

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR
05		2017

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

A review of the current licensing basis revealed that intentionally coupling the Seismic Category I Service Water System (SWS) with the not Seismic CAT I Standby Service Water System (SWE)(KG) is a non-conformance with the current licensing basis, and renders the SWS inoperable. As a result, a review of the SWS Design Basis Accident (DBA) full flow surveillance test revealed that during the past three years performance, there were two trains of SWS concurrently inoperable for a time period, as logged, greater than the seven hour shutdown completion time required by Technical Specification 3.0.3.

This condition is reportable as an operation or condition which was prohibited by the plant's Technical Specifications under 10 CFR 50.73 (a)(2)(i)(B), and could have prevented the fulfillment of a safety function under 10 CFR 50.73(a)(2)(v)(B) for the SWS along with the systems that it supports of Emergency Core Cooling (ECCS), Primary Component Cooling Water System (CCP), and the Recirculation Spray System (RSS).

The plant was not aligned to this configuration at the time of discovery, and all procedures have been revised to eliminate this condition.



**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

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1. FACILITY NAME Beaver Valley Power Station Unit Number 2	05000-	2. DOCKET NUMBER 412	3. LER NUMBER		
			YEAR 2017	SEQUENTIAL NUMBER 001	REV NO. 00

NARRATIVE

Energy Industry Identification System (EIS) codes are identified in the text as [KG].

CONDITIONS PRIOR TO OCCURENCE

UNIT 2: Mode 1 100% Power

There were no systems, structures, or components (SSCs) that were inoperable at the start of the event that contributed to the event.

DESCRIPTION OF EVENT

Per the current licensing basis, the Standby Service Water System, SWE, [KG] meets GDC 2 and RG 1.29, Position C.2, with respect to the system's protection against natural phenomena and adequately ensures a sufficient supply of service water is available to accomplish unit shutdown and subsequent cooldown in the event of a flaming barge explosion incapacitating the Service Water System, SWS.

In 2001, a previous "Assessment of Operability", stated that there is a reasonable assurance and expectation that the SWS can perform its intended safety function while coupled to the SWE System (KG), and was used as the basis to revise the SWS/SWE System (KG) procedures to not declare the SWS inoperable when coupled to the SWE System (KG).

In 2016, the NRC issued a Green Finding with a corresponding NCV of 10CFR50, Appendix B, Criterion III, Design Control for inappropriately incorporating a design feature into the SWS/SWE System (KG) procedures. The Assessment of Operability, completed in 2001, was for an automatic actuation of the SWE System, and not intended to be used for intentionally starting the SWE (KG) pump to maintain SWS header pressure during surveillance testing. As a result BVPS, implemented a project to revise the SWS/SWE System (KG) procedures to declare the SWS inoperable when coupled with the SWE System (KG).

In March 2017, the 18 month frequency, refueling surveillance procedure, SWS DBA full flow test was being revised to declare the SWS train inoperable when aligned to the SWE System (KG) during surveillance testing as a result of a condition report captured in our corrective action process in January 2017. It was discovered during the procedure review process, that this change would have resulted in two trains of SWS inoperable, concurrently, during the past three year's performance of the test, due to one SWS train being aligned to the SWE (KG) System at the same time the other train was inoperable due to the test alignment. The procedure was subsequently re-organized in order to perform the test with only one train of SWS inoperable during the setup of the test configuration.

However, the past three year's performance of the test was assessed for reportability for a condition prohibited by Technical Specification 3.0.3, and a loss of Safety Function. The SWS DBA Full Flow test was not in progress, and had not been performed, since the non-conformance was determined. Therefore, this condition was not reportable under 10CFR50.72 for a condition that at the time of discovery could have prevented the fulfillment of the SWS safety function; and neither was it an unanalyzed condition that significantly degraded plant safety.

In order to determine if the condition was reportable under 10CFR50.73, BVPS applied the guidance provided in IM-0326, "Operability Determinations & Functionality Assessments for Conditions Adverse to Quality or Safety" in accordance with the guidance in NUREG-1022.



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NARRATIVE

In April 2017, BVPS determined that although there is reasonable assurance and expectation that the SWS can perform its intended safety function when coupled to the SWE System, (KG) the intentional use of the SWE System (KG) to maintain SWS header pressure during surveillance tests created a non-conformance with the current licensing basis. Therefore, during past performances of the SWS DBA full flow test, the testing configurations resulted in two trains of SWS inoperable for greater than the shutdown completion time of TS 3.0.3.

This is reportable under 10 CFR 50.73(a)(2)(i)(B), for a condition that is prohibited by plant TS 3.0.3. The condition is, also, reportable under 10 CFR 50.73(a)(2)(v)(B) as a condition which potentially affected the fulfillment of a safety function for the Service Water System, along with the systems it supports including the Emergency Core Cooling System (ECCS), the Primary Component Cooling System (CCP), and the Recirculation Spray System (RSS).

CAUSE OF EVENT

In 2001, an "Assessment of Operability" was used as the basis to change the SWS/SWE System (KG) procedures to intentionally couple the SWE System (KG) to the SWS during surveillance testing without declaring the SWS inoperable, which created a non-conformance with the current licensing basis.

BVPS did not recognize that, although it was shown there was a reasonable assurance and expectation that the SWS could perform its intended safety function when coupled with the SWE System (KG), the "Assessment of Operability", performed in 2001, provided the justification for past operability due to an automatic start of the SWE System, and was not intended to be used as the basis to intentionally couple the not Seismic CAT 1 SWE System (KG) to the Seismic CAT 1 SWS.

ANALYSIS OF EVENT

The plant risk associated with the past performances of the Unit 2 SWS DBA full flow tests is considered to be very low. This is based on the delta core damage frequency and delta large early release frequency for a total of 29.8 hours that the non-conformance condition existed in the past three years.

CORRECTIVE ACTIONS

All applicable surveillance tests have been revised to prevent the alignment as described in this event.

PREVIOUS SIMILAR EVENTS

A review of events of the previous three years has identified one event which was subsequently granted enforcement discretion by the NRC in accordance with the guidance provided in EGM 2015-002, Rev.1. Reference LER 2017-001(Unit 1/2), Inadequate Tornado Missile Protection Identified Due to Non-Conforming Design Conditions.