



Dresden Nuclear Power Station
6500 North Dresden Road
Morris, IL 60450
815-942-2920 Telephone
www.exeloncorp.com

10 CFR 50.73

SVPLTR # 15-0048

August 7, 2015

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

Dresden Nuclear Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

Subject: Licensee Event Report 249/2014-001-02, Electromatic Relief Valve Failed to Actuate During Surveillance Testing

Licensee Event Report 237/2015-002-02, 2C ERV Failed to Actuate during Extent of Condition Testing

Enclosed are revised Licensee Event Reports 237/2015-002-02, "2C ERV Failed to Actuate during Extent of Condition Testing" and 249/2014-001-02, "Electromatic Relief Valve Failed to Actuate during Surveillance Testing." The enclosed reports are being revised to include the additional reporting criteria of 10 CFR 50.73(a)(2)(v)(D), "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequence of an accident."

There are no regulatory commitments contained in this submittal.

Should you have any questions concerning this letter, please contact Mr. Bruce Franzen at (815) 416-2800.

Respectfully,

A handwritten signature in black ink that reads "Shane M. Marik".

Shane M. Marik
Site Vice President
Dresden Nuclear Power Station

Enclosures: 1. Licensee Event Report 249/2014-001-02
2. Licensee Event Report 237/2015-002-02

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station

IE22
NRK

Enclosure 1

Licensee Event Report 249/2014-001-02



LICENSEE EVENT REPORT (LER)
(See Page 2 for required number of digits/characters for each block)

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 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.

1. FACILITY NAME Dresden Nuclear Power Station, Unit 3	2. DOCKET NUMBER 05000249	3. PAGE 1 OF 3
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4. TITLE
Electromatic Relief Valve Failed to Actuate during Surveillance Testing

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
11	06	2014	2014	001	02	08	07	15	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)			
5	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
10. POWER LEVEL 000	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<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)(C)	<input type="checkbox"/> OTHER
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT Bruce Franzen – Regulatory Assurance Manager	TELEPHONE NUMBER (Include Area Code) 815-416-2800
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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	D243	Y					

14. SUPPLEMENTAL REPORT EXPECTED <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR

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

On November 6, 2014, with the reactor in mode 5, an electromatic relief valve (ERV) actuator failed to open during the performance of scheduled surveillance testing. The surveillance involves an operator manually actuating the ERV from the main control room with operators staged in the field. The operators in the field reported an audible click when the manual actuation was initiated. However, when the demand signal was given, the actuator plunger did not move and the valve did not open. The Apparent Cause of failure was determined to be that actuator design is susceptible to vibration induced wear in conjunction with the vibration particularly on the 'B' Main Steam Line near the 3E ERV.

Corrective actions include replacement of ERV actuators with a hardened design, future inspections of supporting structures, and identifying the source of elevated vibrations.

This failure has been determined to be of very low safety significance.

This event is being reported under 10 CFR 50.73(a)(2)(i)(B) "Any operation or condition which was prohibited by the plant's Technical Specifications," and under 10 CFR 50.73(a)(2)(v)(D), "Any event or condition that could have prevented the fulfilment of the safety function of structures or systems that are needed to mitigate the consequence of an accident."



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

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 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.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Dresden Nuclear Power Station, Unit 3	05000249	2014	- 001	- 02	2 OF 3

NARRATIVE

PLANT AND SYSTEM IDENTIFICATION

Dresden Nuclear Power Station (DNPS), Unit 3, is a General Electric Company Boiling Water Reactor with a licensed maximum power level of 2957 megawatts thermal. The Energy Industry Identification System codes used in the text are identified as [XX].

A. Plant Conditions Prior to Event:

Unit: 03 Event Date: 11-06-2014 Event Time: 09:12 CST
 Reactor Mode: 5 Mode Name: Refuel Power Level: 000 percent

B. Description of Event:

On November 6, 2014, with the reactor in mode 5, Operations identified that an electromatic relief valve [RV] actuator failed to actuate during the performance of scheduled surveillance testing. The surveillance involves an operator manually actuating the ERV from the main control room with operators staged in the field. The operators in the field reported an audible click when the manual actuation was initiated. However, when the demand signal was given, the actuator plunger did not move and the valve did not open.

Exact valve failure time cannot be determined, however, based on actuator design vulnerability and the visual inspection and measurements of failure, it is estimated that the valve would not have been able to perform its function some time during the previous fuel cycle. Additionally, a review of the equipment history showed that there were occasions where, during surveillance testing, an additional ERV would have been inoperable. Having two of the five relief valves inoperable could challenge the ability of the ERVs to provide pressure control.

This event is being reported under 10 CFR 50.73(a)(2)(i)(B) "Any operation or condition which was prohibited by the plant's Technical Specifications," and under 10 CFR 50.73(a)(2)(v)(D), "Any event or condition that could have prevented the fulfilment of the safety function of structures or systems that are needed to mitigate the consequence of an accident as discussed in the Tech Spec basis."

Dresden Unit 3 has four main steam [SB] lines (MSL). Each main steam line has a different combination of ERVs, one Target Rock Relief valve [RV], and Safety Relief Valves [RV] (SRV). The 'A' MSL contains the Target Rock and two SRVs. The 'B' MSL contains two ERVs, the 3B and 3E, and two SRVs. The remaining MSLs each contain one ERV and two SRVs.

The ERV actuators are inspected each outage to perform proactive replacement of worn sub-components.

C. Cause of Event:

The Apparent Cause of failure was determined to be that actuator design is susceptible to vibration induced wear in conjunction with the vibration on the 'B' Main Steam Line near the 3E ERV. Of the

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NARRATIVE

remaining ERVs, degradation was discovered on the 3B ERV which is located on the same Main Steam Line.

D. Safety Analysis:

The ERVs are used, in conjunction with Low Pressure Coolant Injection (LPCI) [BO], as a back-up to the High Pressure Coolant Injection (HPCI) [BJ] system during a small area break loss of coolant accident. The ERVs are used with the SRVs and Target Rock for overpressure protection during Anticipated Transient Without Scram (ATWS) scenarios. Based upon the Dresden PSA notebook, success criteria can be met with one valve failing to operate. Degradation occurred on the 3E and 3B ERV following guide post replacement during the previous outage. Expected mechanical wear occurred on the 3C and 3D ERVs over the previous two cycles when the previous guide post replacement had been performed. 3B ERV, though degraded, passed surveillance testing during D3R23.

As HPCI, the Isolation Condenser [BL], the remaining three ERVs, the Target Rock relief valve, and eight safety relief valves were available; this failure is of very low safety significance.

E. Corrective Actions:

- The failed ERV was replaced with a hardened design during the Refueling Outage.
- The remaining Unit 3 actuators were replaced with the hardened design.
- Unit 2 actuators are scheduled to be replaced during the upcoming refuel outage.
- Detailed inspections of the supporting structure for the 3B MSL.
- Further investigation into the source of the increased vibrations on the 3B MSL will be performed.
- The new actuators will be inspected for wear during the next Unit 3 refuel outage.

Previous Occurrences:

3E failed during logic testing during the 2012 refueling outage. Failure was attributed to inadequate tightening of hardware. Inadequate tensioning of hardware was not an attribute of the current failure mechanism.

G. Component Failure Data:

Manufacturer	Model	S/N	Type
Dresser Industries	1525VX-3-OS108	BK7082	Relief Valve