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Dresden Nuclear Power Station
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10 CFR 50.73

SVPLTR # 10-0055

December 29, 2010

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

Dresden Nuclear Power Station, Unit 3
Renewed Facility Operating License No. DPR-25
NRC Docket No. 50-249

Subject: Licensee Event Report 249/2010-002-00, "MSIV Leakage Exceeds Technical Specifications Allowable Limits"

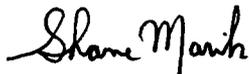
Enclosed is Licensee Event Report 249/2010-002-00, MSIV Leakage Exceed Technical Specification Allowable Limits for Dresden Nuclear Power Station, Unit 3. This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B), Any operation or condition which was prohibited by the plant's Technical Specifications" and 10 CFR 50.73(a)(2)(v)(C), Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material.

The causal analysis for this event has not been completed at this time. Therefore a supplemental Licensee Event Report will be submitted upon completion of the analysis.

There are no regulatory commitments contained in this submittal.

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

Respectfully,



For
Tim Hanley
Site Vice President
Dresden Nuclear Power Station

Enclosure

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

JED2
NRC

LICENSEE EVENT REPORT (LER)

(See reverse 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 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.

1. FACILITY NAME Dresden Nuclear Power Station, Unit 3	2. DOCKET NUMBER 05000249	3. PAGE 1 OF 3
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4. TITLE
MSIV Leakage Exceeds Technical Specifications Allowable Limits

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	01	2010	2010	002	00	12	29	2010	N/A	05000
									N/A	05000

9. OPERATING MODE 4	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: <i>(Check all that apply)</i>									
10. POWER LEVEL 000	<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)						
	<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 checked="" 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 type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A						

12. LICENSEE CONTACT FOR THIS LER

NAME Riley Ruffin	TELEPHONE NUMBER <i>(Include Area Code)</i> 815-416-2815
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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
X	JM	ISV	C684	N					

14. SUPPLEMENTAL REPORT EXPECTED <input checked="" type="checkbox"/> YES <i>(If yes, complete 15. EXPECTED SUBMISSION DATE)</i> <input type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE	MONTH 03	DAY 31	YEAR 2011
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ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On November 1, 2010, plant personnel performed local leak rate testing of the Main Steam Line Isolation Valves. During the testing, it was identified that the valves combined leakage exceeded the limits allowed by the plant's Technical Specifications.

Based on a preliminary investigation, the primary contributor to main steam isolation valve leakage seems to be seat ring wear. Seat ring wear is a normal occurrence in valves. Seats are hardfaced with Stellite or other hard materials to minimize the wear that occurs each time the plug closes onto the valve seat. The wear is associated with the high friction that develops between the plug and the seat as initial contact occurs, followed by sliding action as the plug centers itself in the seat. Seat wear results in misalignment between the plug and the seat ring.

The MSIVs that exhibited excessive leakage were repaired and as-left leakage rates were verified to be within Technical Specifications leakage limits.

This LER is being submitted based on preliminary results of the investigation. Following completion of the investigation, a supplemental report is scheduled to be submitted.

The safety significance of this condition is low. Three MSIVs exceeded the allowed limits for leakage as specified by the plant's Technical Specifications. The combined leakage of all main steam lines was within the limits allowed for overall primary containment leakage. The health and safety of the public was not compromised as a result of this condition.

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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: 11-01-2010	Event Time: 1600 hours
Reactor Mode: 4	Mode Name: Cold Shutdown	Power Level: 000 percent

B. Description of Event:

On November 1, 2010, at approximately 1600 CDT, Dresden Unit 3 had been shutdown for a refueling outage. After entering Mode 4, plant personnel performed the local leak rate test (LLRT) for the main steam line isolation valves (MSIVs) [JM]. During the testing it was identified that leakage rates on three MSIVs exceeded the allowable limits specified in the plant's Technical Specifications. The 3-0203-1C, 3-0203-1D and 3-0203-2D valves were found have 52.8, 34.6 and 36.9 scfh leakages, respectively. Based on the as-found leakage rates, Surveillance Requirement (SR) 3.6.1.3.10 was not met.

Technical Specification SR 3.6.1.3.10 states, "Verify the leakage rate through each MSIV leakage path is less than or equal to 34 scfh when tested at greater than or equal to 25 psig, and the combined leakage rate for all MSIV leakage paths is less than or equal to 86 scfh when tested at greater than or equal to 25 psig."

The failed valves were repaired and successfully retested. The as-left leakage rates were within the limits for the Technical Specification SR.

C. Cause of Event:

Based on preliminary results of the apparent cause investigation, the apparent cause of MSIV excessive leakage seems to be undetected seat ring wear. It is surmised from the inspections that minor, even undetectable, seat ring wear may have been a primary contributor to the MSIV LLRT failures.

Seat ring wear is a normal occurrence in these valves. Seats are hardfaced with Stellite or other hard materials to minimize the wear that occurs each time the plug closes onto the valve seat. The wear is associated with the high friction that develops between the plug and the seat as initial contact occurs, followed by sliding action as the plug centers itself in the seat. When closure occurs while high pressure steam is flowing, as in the case of MSIVs, the friction forces are amplified. It has been noted in previous evaluations that the force involved at the initial point of contact with the valve seat is magnified for the final valve that is closed, due to the high pressure differential across the plug and seat.

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NARRATIVE

Inadequate guidance of the plug is a known issue that has caused previous failures due to localized seat wear. It is likely that the same design characteristic could also cause the valve plug to not fully self-align during closure, resulting in a specific leak path due to the misalignment.

This LER is being submitted based on preliminary results of the investigation. Following completion of the investigation, a supplemental report is scheduled to be submitted.

D. Safety Analysis:

The safety significance of this condition is low. Three MSIVs exceeded the allowed limits for leakage as specified by the plant's Technical Specifications. The combined leakage of all main steam lines was 96.4 scfh. The allowed limit (0.6L_a) for overall primary containment leakage is 810.5 scfh. The combined MSIV leakage was within the allowed leakage limits for overall primary containment. Therefore, health and safety of the public was not compromised as a result of this condition.

E. Corrective Actions:

The three MSIVs that exhibited excessive leakage were repaired and successfully retested.

F. Previous Occurrences:

A review of DNPS Licensee Event Reports (LERs) for the last three years did not identify any LERs associated with failures of MSIVs during LLRTs.

G. Component Failure Data:

Manufacture	Model	Component
Crane Nuclear, Inc	YPATTERN	Isolation Valve