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10 CFR 50.73

December 13, 2002

RHLTR: #02-0096

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

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

Subject: Licensee Event Report 2002-004-00, "Main Steam Safety Valves Failed the Technical Specification As-Found Lift setpoint"

Enclosed is Licensee Event Report 2002-004-00, "Main Steam Safety Valves Failed the Technical Specification As-Found Lift Setpoint," for the Dresden Nuclear Power Station Unit 3. This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B), "Any event or condition which was prohibited by the plant's Technical Specifications."

If you have any questions, please contact Jeff Hansen, Regulatory Assurance Manager at (815) 416-2800.

Respectfully,



R. J. Hovey  
Site Vice President  
Dresden Nuclear Power Station

Enclosure

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

JE22

LICENSEE EVENT REPORT (LER)

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.

1. FACILITY NAME Dresden Nuclear Power Station Unit 3	2. DOCKET NUMBER 05000249	3. PAGE 1 of 3
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4. TITLE Main Steam Safety Valves Failed the Technical Specification As-Found Lift Setpoint

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
10	14	2002	2002	004	00	12	13	2002	N/A	N/A
									FACILITY NAME	DOCKET NUMBER
									N/A	N/A

9. OPERATING MODE 5	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)		X 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 Timothy P. Heisterman	TELEPHONE NUMBER (Include Area Code) (815) 416-2815

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	C568	N					

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

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

On October 14, 2002, during Dresden Station Nuclear Power Station's Unit 3 refueling outage (D3R17), two Main Steam Safety Valves (MSSV) failed the Technical Specification lift setpoint Surveillance Requirement (SR) 3.4.3.1. The SR requires the valves to test within plus/minus one percent of the lift setpoint. The valves both lifted at minus 2.6 percent.

Following testing, the valves were disassembled and inspected by NWS Technologies. Following disassembly, no discrepancies were found that would account for the low setpoint lifts. A review of industry events and discussions with the manufacturer found this to be attributed to routine drift. Setpoint drift of as much as three percent without any mechanical failures is normal throughout the industry.

The root cause of this event has been determined to be setpoint drift. The setpoint drift can be attributed to the inherent characteristics of the valve hardware in conjunction with heating/cooling cycles and the vibration on the valves during service. Corrective action to prevent recurrence is to expand the Technical Specification setpoint tolerance for Main Steam Safety Valves.

The event did not affect the safe operation of the plant or the health and safety of the public. The two MSSVs addressed in this report both lifted below the setpoint specified in the Technical Specifications. The MSSVs provide overpressure protection during the most severe pressurization transient. The safety significance of this event is minimal, since the MSSVs lifting below the setpoint would not have prevented the valves from performing their overpressure protection function should they have been required to perform this safety function.

NRC FORM 366A U.S. NUCLEAR REGULATORY COMMISSION (7-2001)		APPROVED BY OMB NO. 3150-0104 EXPIRES 07/31/2004 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.	
<b>LICENSEE EVENT REPORT (LER)</b> TEXT CONTINUATION			
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	
Dresden Nuclear Power Station Unit 3	05000249	YEAR	PAGE (3)
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		2002	004 00
			2 of 3

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

**A. Plant Conditions Prior to Event:**

Unit: 03	Event Date: 10-14-2002	Event Time: 1421 CDT
Reactor Mode: 5	Mode Name: Refuel	Power Level: 000 percent
Reactor Coolant System Pressure: 000 psig		

**B. Description of Event:**

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."

During D3R17, four Main Steam Safety Valves [SB] (MSSV) valves were removed and shipped to NWS Technologies in South Carolina for testing. On October 14, 2002, the four valves were tested, and two (BK6265 and BK6270) of the four valves were outside of the required Technical Specifications (TS) lift setpoint of plus/minus one percent of the setpoint. The as-found lift for valve BK6265 (setpoint of 1260 psig) was minus 2.6 percent (1227 psig). A second informational lift was performed and the result was minus 2.2 percent. During testing of valve BK6270 (setpoint of 1240 psig) the as-found lift was minus 2.6 percent (1208 psig). A second informational lift was performed and the result was minus 2.5 percent. Based on the Inservice Testing Program and American Society of Mechanical Engineers requirements, all four valves were within plus/minus three percent of the setpoint, eliminating the need for expanded testing of the other four Unit 3 valves.

The MSSV BK6265 was disassembled. A gall was found between the compression screw and the top washer. No other deficiencies were noted. The galled area showed no signs of surface irregularities that had flattened out to allow the spring to relax. There was no seat damage evident. The galled area was removed and the valve was assembled. The final lifts of the valve were obtained within the as-left acceptance limits of plus/minus one percent. The MSSV BK6270 was disassembled. During the inspection, only minor deficiencies were found. A rub area was noted between the disc holder and guide, but this would normally be suspect in the event of a high as-found lift. The rub was buffed out and determine to have no effect on valve performance. In addition, a gap between the bottom turns of the spring was noticeably closer than the other coil spacing. However, when disassembled the spring had the same configuration as when compressed and determined to have no effect on spring force and therefore was determined not to be a contributor to the early lift. Following reassembly, the final lifts of the valve were obtained within the as-left acceptance limits of plus/minus one percent.

**C. Cause of Event**

The root cause of the two MSSVs lifting low is setpoint drift beyond the TS limit of plus/minus one percent. The setpoint drift can be attributed to the inherent characteristics of the valve hardware in conjunction with heating/cooling cycles and the vibration on the valves during service. (NRC Cause Code X)

**D. Safety Analysis:**

The consequences of this event had minimal impact on the health and safety of the public and reactor safety. The two MSSVs both lifted below the setpoint specified in TS. Safety valves lifting at these lower limits will not prevent the valves from performing their overpressure protection function. The overpressure protection system must accommodate the most severe pressurization transient. Evaluations have determined that the most severe transient is the closure of all main steam isolation valves (MSIVs), followed by reactor scram on high neutron flux (i.e., failure of the direct scram associated with MSIV

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position). For the purpose of the analysis, eight safety valves are assumed to operate in the safety mode. The analysis results demonstrate that the design safety valve capacity is capable of maintaining reactor pressure below the ASME Code limit of 110% of vessel design pressure.

**E. Corrective Actions:**

Inspected, refurbished, and tested both valves BK 6265 and 6267.

Engineering to perform the required analyses in accordance with Updated Final Safety Analysis Report Section 15, "Accident and Transients Analysis," to justify a revision to the Technical Specifications in order to increase the Main Steam Safety Valve setpoint tolerance.

Engineering to perform all required containment and plant equipment analysis to support increased Main Steam Safety Valve tolerance established from the Updated Final Safety Analysis Report Section 15 analysis.

Regulatory Assurance to submit a Technical Specification Amendment Request to the Nuclear Regulatory Commission to increase the Main Steam Safety Valve setpoint tolerance as reflected in the analyses performed.

**F. Previous Occurrences:**

LER 98-007-00, 03/27/98 - "Main Steam Safety Valves 2-0203-4A and 2-0203-4B As-Found Lift Setpoint Outside Tech Spec Limit Due to Setpoint Drift." MSSVs 2-0203-4A and 2-0203-4B lifted outside the Technical Specification limit of plus/minus one percent. The as-found setpoints were minus 2.3 percent and plus 1.03 percent respectively. Both of these failures were attributed to setpoint drift. Corrective actions included inspection, refurbishment, and testing of the failed safety valve.

**G. Component Failure Data:**

Manufacturer	Nomenclature	Model Number
Consolidated Valve Corp/Dresser	Main Steam Safety Valve	3777Q