

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 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.

FACILITY NAME (1)  
Dresden Nuclear Power Station, Unit 2

DOCKET NUMBER (2)  
05000237

PAGE (3)  
1 of 4

TITLE (4)  
Main Steam Safety Valves 2-0203-4A and 2-0203-4B As Found Lift Setpoint Outside Tech Spec Limit Due to Setpoint Drift

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
03	27	98	98	007	00	04	17	98	N/A	05000
									FACILITY NAME	DOCKET NUMBER
									N/A	05000

  

OPERATING MODE (9)	N/A	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more) (11)								
POWER LEVEL (10)	000	20.2201(b)	20.2203(a)(2)(v)	X	50.73(a)(2)(i)	50.73(a)(2)(viii)				
		20.2203(a)(2)(i)	20.2203(a)(3)(i)		50.73(a)(2)(ii)	50.73(a)(2)(x)				
		20.405(a)(1)(ii)	20.2203(a)(3)(ii)		50.73(a)(2)(iii)	73.71				
		20.2203(a)(2)(ii)	20.2203(a)(4)		50.73(a)(2)(iv)	OTHER				
		20.2203(a)(2)(iii)	50.36(c)(1)		50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A				
		20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)					

LICENSEE CONTACT FOR THIS LER (12)

NAME  
A. Lintakas, Program Engineering Group Lead

TELEPHONE NUMBER (Include Area Code)  
(815) 942-2920 ext 2245

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
X	SB	RV	C568	N					

SUPPLEMENTAL REPORT EXPECTED (14)

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

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

On March 27, 1998, with Unit 2 in the Refuel mode with all fuel removed from the reactor, during the performance of Dresden Maintenance Procedure (DMP) 0200-03, "Main Steam Safety Valve Pre-Maintenance Test", Main Steam [SB] Safety Valves 2-0203-4A (Serial Number BK-7161) and 2-0203-4B (Serial Number BK-6290) opened at pressures outside of the Technical Specification 4.6.E limits of +/-1%. These failures were attributed to setpoint drift. The safety valves were replaced with rebuilt safety valves. Valve disassembly and refurbishment are planned but has not been completed at this time. An evaluation will be performed to determine if a feasible resolution can be implemented to prevent recurrence, e.g., Technical Specification Change or safety valve parts changes. The safety significance of this event is minimal based on an evaluation which shows that with the valve setpoint "as found" values, the reactor pressure safety limit would not have been exceeded during any design basis event.

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Dresden Nuclear Power Station, Unit 2	05000237	98	007	00	2 OF 4

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

**PLANT AND SYSTEM IDENTIFICATION:**

General Electric – Boiling Water Reactor - 2527 MWt rated core thermal power

Energy Industry Identification System (EIS) Codes are identified in the text as [XX] and are obtained from IEEE Standard 805-1984, IEEE Recommended Practice for System Identification in Nuclear Power Plants and Related Facilities.

**EVENT IDENTIFICATION:**

Main Steam Safety Valves 2-0203-4A and 2-0203-4B As Found Lift Setpoint Outside Tech Spec Limit Due to Setpoint Drift.

**A. PLANT CONDITIONS PRIOR TO EVENT:**

Unit: 2	Event Date: 03-27-98	Event Time: 1300 CST
Reactor Mode: 5	Mode Name: Refuel	Power Level: 0
Reactor Coolant System Pressure: 0 psig		

No other equipment was inoperable or out of service that contributed to this event.

**B. DESCRIPTION OF EVENT:**

This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(i) which requires the reporting of any operation or condition prohibited by the plant's Technical Specifications. On March 27, 1998 two Main Steam [SB] Safety Valves were determined during testing to have as-found setpoints outside of Technical Specification limits of +/- 1%.

On March 27, 1998, with Unit 2 in the Refuel mode (D2R15) with all fuel removed from the reactor, during the performance of Dresden Maintenance Procedure (DMP) 0200-03, "Main Steam Safety Valve Pre-Maintenance Test", Main Steam [SB] Safety Valve 2-0203-4A (Serial Number BK 7161) opened at a pressure of 1212 psig. This lift setpoint is outside of the Technical Specification 4.6.E limit that requires the safety valve setpoint of 1240 psig +/-1% (1228 to 1252 psig). Safety Valve 2-0203-4B (Serial Number BK 6290) opened at a pressure of 1273 psig. This lift setpoint is outside of the Technical Specification 4.6.E limit that requires the safety valve setpoint of 1260 psig +/-1% (1248 to 1272 psig). Safety Valve 2-0203-4A had been installed on Unit 2 for two cycles with an initial setpoint of 1240 psig, and Safety Valve 2-0203-4B had been installed on Unit 2 for two cycles with an initial setpoint of 1260 psig. No other out-of-tolerance conditions were identified for the other safety valves that were removed and tested. While Safety Valve 2-0203-4A and 2-0203-4B tested outside of the Technical Specification limits of +/-1%, the setpoints were within the +/-3% ASME Code limits. The test failure was reported to the Operations Department via the Problem Identification Form (PIF), in accordance with station procedures.

Replacement valves, which had been rebuilt and tested, were installed in place of the subject valves. Valve Serial Numbers BK-7161 and BK-6290 will be disassembled, inspected, and rebuilt in accordance with DMP 0200-30, "Reactor Main Steam Safety Valve Repair and Post Maintenance Testing".

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

**C. CAUSE OF EVENT:**

The cause for the out of tolerance opening setpoint of Main Steam Safety Valves 2-0203-4A and 2-0203-4B are attributed to setpoint drift (NRC cause code X). This is based on the magnitude of deviation from the setpoint limit and past experience with Main Steam Safety Valve Setpoint testing failures. Past disassembly of Main Steam Safety Valves has not identified any mechanical deficit for valve failure to lift at the required setpoint, as indicated in Section F of this LER. Safety Valves 2-0203-4A and 2-0203-4B were the only valves, of four removed and tested during the current outage, to fail the setpoint testing.

**D. SAFETY ANALYSIS:**

The Main Steam Safety Valves are designed to relieve steam from the reactor vessel to provide overpressure protection. The four Electromatic relief valves and the Target Rock safety/relief valve are designed to automatically open prior to reactor pressure reaching the safety valve opening setpoints, relieving steam from the Reactor Vessel to the Torus.

The Dresden UFSAR Section 5.2.2.2.1, "Determination of the Number of Safety Valves" describes analysis performed in determining the minimum safety valve capacity to conform to the ASME Code overpressure limits. The minimum number of safety valves needed for conformance to these limits is three. An additional design margin was added in choosing eight safety valves and a ninth Target Rock dual-purpose safety/relief valve.

Two valves were found out of tolerance during testing of the Main Steam Safety Valves. Eight safety valves provide relief in excess of 50% of turbine design steam flow. The additional valves provide further pressure relief margin and increase the reliability of the Main Steam Safety Valve system.

The most limiting over-pressurization transient analysis is a Main Steam [SB] Line Isolation Valve (MSIV) closure at full power, in conjunction with a postulated failure of the direct position scram (MSIV closure from 90% open). With the as found setpoints for the safety valves that drifted, the reactor pressure would not have exceeded the ASME Code required limits, since only three safety valves are required to provide this overpressure protection. For these reasons, the significance of this event is minimal.

**E. CORRECTIVE ACTIONS:**

The 2-0203-4A and 2-0203-4B Main Steam Safety Valves (Serial Numbers BK-7161 and BK-6290) were replaced with rebuilt and retested spare safety valves during the current outage. (Complete)

Valve Serial Numbers BK-7161 and BK-6290 will be disassembled, inspected, rebuilt, and retested. If the results of the disassembly and inspection does not confirm the cause indicated above, a supplement to this LER will be issued to provide the results of the inspection and proposed corrective actions.  
 (NTS 237-180-98-00701)

An evaluation will be performed to determine if a feasible resolution can be implemented to prevent recurrence, e.g., Technical Specification Change or safety valve parts changes.  
 (NTS 237-180-98-00702)

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

**F. PREVIOUS OCCURRENCES:**

LER 90-21/Docket 50-237                      Main Steam Safety Valves 2-203-4E thru 4H Setpoints Found Outside Technical Specification Limits Due to Setpoint Drift.

Main Steam [SB] Safety Valves 2-203-4E thru 4H setpoints found outside technical specification limits while performing setpoint testing. Corrective actions were to clarify the testing procedure and to refurbish the valve. The corrective actions from this event would not have prevented the event currently being reported.

LER 96-004/Docket 50-237                      Main Steam Safety Valve 2-0203-4G As Found Lift Setpoint Outside Tech Spec Limit Due to Setpoint Drift.

Main Steam Safety Valve 2-0203-4G setpoint found outside technical specification limits while performing setpoint testing. Corrective actions were to disassemble and overhaul valve, and revise the testing procedure to provide guidance to the user when Technical Specification limits are exceeded. The corrective actions from this event would not have prevented the event currently being reported.

LER 97-007/Docket 50-249                      Main Steam Safety Valves 3-0203-4G Setpoint Found Outside Technical Specification Limits Due to Setpoint Drift.

Main Steam [SB] Safety Valves 3-0203-4G setpoint found outside technical specification limits while performing setpoint testing. The corrective actions were to disassemble and inspect the valve, and evaluate if an expanded Technical Specification tolerance can be adopted. This was evaluated and determined to be not feasible at this time. The corrective actions from this event would not have prevented the event currently being reported.

**G. COMPONENT FAILURE DATA:**

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