NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Dresden Nuclear Power Station, Unit 3	05000249	1 OF 4

TITLE (4)
Main Steam Safety Valve 3-0203-4G 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
05	21	97	97	-- 007 --	00	06	13	97	None	
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	N	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)(3)(i)		50.73(a)(2)(iii)		73.71(b)
			20.2203(a)(1)		20.2203(a)(3)(ii)		50.73(a)(2)(iv)		73.71(c)
			20.2203(a)(2)(i)		20.2203(a)(4)		50.73(a)(2)(v)		OTHER
			20.2203(a)(2)(ii)		50.36(c)(1)		50.73(a)(2)(vii)		(Specify in Abstract below and in Text, NRC Form 366A)
			20.2203(a)(2)(iii)		50.36(c)(2)		50.73(a)(2)(viii)(A)		
			20.2203(a)(2)(iv)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(B)		
			20.2203(a)(2)(v)		50.73(a)(2)(ii)		50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
W. Poppe, System Engineering Ext. 3878	(815) 942-2920

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

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

On May 21, 1997, with Unit 3 in the Refuel mode with all fuel removed, during the performance of Dresden Maintenance Procedure (DMP) 0200-03, "Main Steam Safety Valve Pre-Maintenance Test", Main Steam [SB] Safety Valve 3-0203-4G (Serial Number BK 6526) opened at a conservative pressure outside of the Technical Specification 4.6.E limits of +/-1%. This failure was attributed to setpoint drift. The safety valve was replaced with a rebuilt safety valve. Valve disassembly and refurbishment is planned but has not been completed at this time. The safety significance of this event is minimal based on an evaluation which shows that with the valve setpoint in the "as found" condition, the reactor pressure safety limit would not have been exceeded during any design basis event. Previous occurrences of Main Steam Safety Valves testing outside the Technical Specification limits are listed in Section F.

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor - 2527 MWt rated core thermal power. Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

EVENT IDENTIFICATION:

Main Steam Safety Valve 3-0203-4G As Found Lift Setpoint Outside Tech Spec Limit due to setpoint drift.

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 3 Event Date: May 21, 1997 Power Level: 0%

Reactor Mode: N Mode Name: Refuel

Reactor Coolant System Pressure: 0 psig

B. DESCRIPTION OF EVENT:

This report is submitted in accordance with 10CFR50.73(a)(2)(i)(b), which requires the reporting of any operation or condition prohibited by the plant's Technical Specifications. On May 21, 1997 a Main Steam [SB] Safety Valve was determined during testing to have an as-found setpoint outside of Technical Specification limits.

On May 21, 1997, with Unit 3 in the Refuel mode (D3R14) with all fuel removed, during the performance of Dresden Maintenance Procedure (DMP) 0200-03, "Main Steam Safety Valve Pre-Maintenance Test", Main Steam [SB] Safety Valve 3-0203-4G (Serial Number BK 6526) opened at a pressure of 1234 psig. This lift setpoint is outside of the Technical Specification 4.6.E limits which require the safety valve setpoint of 1250 psig +/-1% (1238 to 1262 psig). Safety Valve 3-0203-4G had been installed on Unit 3 for two cycles with a setpoint of 1250 psig. No other out-of-tolerance conditions were identified for the other three safety valves that were removed and tested. While Safety Valve 3-0203-4G tested outside of the Technical Specification limits of +/-1%, it's setpoint was within the +/-3% Code limits. The test failure was reported to the Operations Department via the Problem Identification Form (PIF), in accordance with station procedures.

A replacement valve, which had been rebuilt and tested, was installed in place of the subject valve. Valve Serial Number BK-6526 will be disassembled, inspected, and rebuilt in accordance with DMP 0200-30, "Reactor Main Steam Safety Valve Repair and Post Maintenance Testing".

C. CAUSE OF EVENT:

The cause for the low out of tolerance opening setpoint of Main Steam Safety Valve 3-0203-4G is 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 reason for valve failure to lift at the required setpoint, as indicated in Section F of this LER. Safety Valve 3-0203-4G was the only valve, of four removed and tested during the current outage, to fail it's 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.

Only one valve was 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 setpoint for the safety valve drifted in the conservative direction, valve opening would have occurred earlier in the transient and reactor pressure would not have exceeded the current analyzed maximum calculated pressure. Even if the setpoint of the 3-0203-4G safety valve had drifted in the non-conservative direction, the reactor pressure would not have exceeded the 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 3-0203-4G Main Steam Safety Valve (Serial Number BK-6526) was replaced with a rebuilt and retested spare safety valve during the current outage. (Complete)

A potential common failure for the G positioned valve was considered because the safety valve in that position had previously failed the +/-1% Technical specification limit. None was identified. (Complete)

Valve Serial Number BK-6526 will be disassembled, inspected, rebuilt, and retested. If the result 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. (2491809700701)

An evaluation will be performed of the Technical Specification setpoint tolerance of +/-1% for the Main Steam Safety Valves to determine if an expanded tolerance band can be adopted. (2491809700702)

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 Valves 2-0203-4G and 2-0203-4C setpoints found outside technical specification limits while performing setpoint testing. Corrective actions were to disassemble and overhaul valves, 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.

G. COMPONENT FAILURE DATA:

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