

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 3

DOCKET NUMBER (2)

05000249

PAGE (3)

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TITLE (4)

Unit 3 Low Pressure Coolant Injection Pump 3B Inoperable Due to Inadequate Contact on Suction Line Stanchion Base-plate

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
10	27	98	98	008	00	11	25	98	N/A	N/A
									N/A	N/A

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more) (11)								
POWER LEVEL (10)	099	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)(l)		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 John N. Kish, System Engineer	TELEPHONE NUMBER (include Area Code) (815) 942-2920 ext 2360
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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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i. e., approximately 15 single-spaced typewritten lines) (16)

During a scheduled ASME Section XI Inservice Inspection (ISI) performed on October 27, 1998, Support M-3403-09 was noted to have a gap between the stanchion plate and the embedded floor plate. The corresponding support drawing did not indicate any gap between the stanchion and floor plate. The gap was estimated to be between 1/4" to 3/8". A Problem Identification Form was initiated on October 28, 1998, to document the discrepancy. Support M-3403-09 is located on the suction elbow of the 3B Low Pressure Coolant Injection (LPCI) pump. The inspection was performed with the 3B LPCI pump Out of Service in a planned maintenance Limiting Condition for Operation (LCO). The cause of this event was attributed to a support installation deficiency. A sample expansion was performed in accordance with ASME Section XI/Code Case N-491. The sample expansion included the supports adjacent to M-3403-09 as well as a similar stanchion support on the 3A LPCI pump suction elbow and similar Unit 2 supports. No additional discrepancies were noted. Based on a review of the UFSAR, it was determined that the plant was still within the design basis. Therefore, the safety significance was minimal

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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 (EIIIS) 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:

Unit 3 Low Pressure Coolant Injection (LPCI) Pump 3B Inoperable Due to Inadequate Contact on Suction Line Stanchion Plate.

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 3	Event Date: 10/27/98	Event Time: 1300 CDT
Reactor Mode: 1	Mode Name: Run	Power Level: 099
Reactor Coolant System Pressure: 1000 psig		

The Unit 3 LPCI Loop I (including the 3B LPCI pump) [BO] was inoperable for planned maintenance when this condition was discovered. No other equipment was inoperable at the time of discovery that contributed to this condition.

B. DESCRIPTION OF EVENT:

This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) which requires the reporting of any operation or condition prohibited by the plant's Technical Specifications.

During a scheduled ASME Section XI Inservice Inspection (ISI) performed on October 27, 1998, Support M-3403-09 was noted to have a gap between the stanchion plate and the embedded floor plate. The corresponding support drawing did not indicate any gap between the stanchion and floorplate. The gap was estimated to be between 1/4" to 3/8". A Problem Identification Form was initiated on October 28, 1998, to document the discrepancy. Support M-3403-09 is located on the suction elbow of the 3B LPCI pump. The inspection was performed during a planned maintenance LCO of LPCI Loop I. A sample expansion was performed in accordance with ASME Section XI/Code Case N-491. The sample expansion included the supports adjacent to M-3403-09, as well as a similar stanchion support on the 3A LPCI pump suction elbow. No additional discrepancies were noted.

A formal analysis has not been performed to determine if the pump casing could support the thermal expansion without some affect on its ability to perform its intended function. Therefore, the pump was conservatively considered to be inoperable due to the identified condition.

C. CAUSE OF EVENT:

Review of historical engineering records indicates that the support was inspected in 1980 as part of design walkdowns for various modifications to torus attached piping support systems. This 1980 inspection and evaluation concluded that support M-3403-09 had acceptable contact between the stanchion and floor plate at that time. Subsequently (between 1982 and 1984), numerous piping support modifications were installed including installation of a new support structure on the LPCI suction piping, which could have raised the piping causing a gap at support M-3403-09. However, review of a ten-year periodic inspection sheet for this support (performed in May 1988) indicates that it had no recordable indications or irregularities.

Further review was performed in order to accurately identify the most probable cause. Engineers involved with the attached torus piping support modifications indicated that the materiel conditions of the floor area were substandard at that time (evidence of water and corrosion). Therefore, it is believed that the 1988 inspection did not identify the gap due to corrosion at the base plate. Since 1995, significant improvements have been implemented throughout the LPCI rooms, including complete cleaning and painting of supports, floors, walls, and structures.

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It is most probable that the gap area of support M-3403-09 had corrosion which was subsequently removed during the comprehensive material condition improvement efforts.

Based upon the discussion above, the most probable cause of the unacceptable gap at support M-3403-09 was installation deficiency associated with installation of the support structure upstream of M-3403-09. The prior substandard material conditions are judged to be a contributing factor. (NRC Cause Code B)

D. SAFETY ANALYSIS:

In this condition, the effects of the gap in the stanchion plate would have been observed after a LOCA and during torus water heat-up. The torus water heat-up would have caused thermal expansion of the 3B LPCI pump suction line. The purpose of the stanchion was to support this expansion. With the gap, however, the thermal expansion would have been supported by the pump suction casing. A formal analysis has not been performed to determine if the pump casing could support the thermal expansion without some affect on its ability to pump water. It is possible that the added forces could twist the casing and cause binding between the impeller and the volute. The piping integrity would have been maintained, and containment and 3A LPCI pump operation would have been maintained.

At the time this condition was discovered, the Unit 3 LPCI Loop I, which included the 3B LPCI pump, was out of service for planned maintenance. The Unit was already in a seven day shutdown LCO.

The containment short-term response to a DBA LOCA in UFSAR Section 6.2.1.3.2.2 is not affected since the 3B LPCI pump would have still started upon an initiation signal and injected into the vessel. The containment long-term response to a DBA LOCA contained in UFSAR Section 6.2.1.3.2.3 assumes one LPCI pump operating 10 minutes into the event. Therefore, if the 3B LPCI pump were to bind up due to thermal expansion, there would still be no affect on containment. Based on the above throughout this event, the safety significance is minimal.

E. CORRECTIVE ACTIONS:

The support was repaired under Work Request 980113623-01, which brought the system back to a conforming condition. PIF #D1998-05698 and an ASME Non-Conformance Report were generated. (Complete)

As a result of this non-conformance, three more supports were inspected. This was in accordance with ASME Section XI/Code Case N-491. The sample expansion included supports adjacent to M-3403-09, as well as a similar stanchion support on the 3A LPCI pump suction elbow. No other service induced problems or stanchion gaps were noted. (Complete)

Substantial improvements to the modification process have been implemented. (Complete)

Similar Unit 2 LPCI supports were inspected. No non-conformances were identified. (Complete)

F. PREVIOUS OCCURRENCES:

At this time there were no previous documented non-conformances identified.

G. COMPONENT FAILURE DATA:

None.