

SVPLTR # 10-0005

February 5, 2010

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

Dresden Nuclear Power Station, Unit 2
Renewed Facility Operating License No. DPR-19
NRC Docket No. 50-237

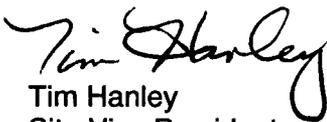
Subject: Licensee Event Report 237/2009-008-00, Unit 2 Core Spray Break Detection
Instrument Line not Seismically Supported

Enclosed is Licensee Event Report 237/2009-008-00, Unit 2 Core Spray Break Detection Instrument Line not Seismically Supported, for Dresden Nuclear Power Station, Unit 2. This event is being reported in accordance with 10 CFR 50.73(a)(2)(ii)(A), Any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded.

There are no regulatory commitments contained in this submittal.

Should you have any questions concerning this letter, please contact Ms. Marri Marchionda at (815) 416-2800.

Respectfully,



Tim Hanley
Site Vice President
Dresden Nuclear Power Station

Enclosure

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

IE 22
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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 Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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 2	2. DOCKET NUMBER 05000237	3. PAGE 1 OF 4
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4. TITLE
Unit 2 Core Spray Break Detection Instrument Line not Seismically Supported

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	03	2009	2009	008	00	02	05	2010	N/A	N/A
									N/A	N/A

9. OPERATING MODE 5	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)									
	<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 checked="" 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)						
10. POWER LEVEL 000	<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 type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER						
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input 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

FACILITY NAME Dresden Nuclear Power Station – R. Ruffin	TELEPHONE NUMBER (Include Area Code) (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
N/A					N/A				

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO			

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

On November 3, 2009, during a refueling outage walk down of the drywell, plant personnel discovered that a small bore pipe was not connected to two of its supports and the piping appeared to be bent downward away from the supports. Additionally, there was one pipe support that was determined to be missing. The three-quarter inch line was connected to the Core Spray injection line near the Reactor Vessel wall. The unsupported line was identified to be the Core Spray system line break detection for the 2B Core Spray pump injection line. This line is connected to the Core Spray injection line between the Core Spray injection manual isolation valve and the reactor vessel nozzle. Following an engineering evaluation, it was determined that in the event of a design basis earthquake, there was a potential for the instrument line to fail, which may have resulted in an unisolable three-quarter inch piping leak from the reactor vessel. This condition represents serious degradation to a principal safety barrier of the Nuclear Power plant and is being reported in accordance with 10 CFR 50.73(a)(2)(ii)(A).

Based on the investigation, it is believed that this condition is historical in nature. Therefore, no definitive cause could be determined. However, it is believed that the piping supports may have been stepped on which resulted in the instrument line becoming disconnected from the supports. Additionally, based on an inspection of the drywell wall, it was evident that the missing pipe support had been broken off the wall.

The plant's emergency core cooling systems were available to provide inventory control in the event that an instrument line failure occurred. Therefore the safety significance of this event is minimal due to the health and safety of the public not being compromised.

**LICENSEE EVENT REPORT
(LER)**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE		
Dresden Nuclear Power Station, Unit 2	05000237	YEAR	SEQUENTIAL NUMBER	REV NO.	2	OF	4
		2009	- 008	- 000			

NARRATIVE

PLANT AND SYSTEM IDENTIFICATION

Dresden Nuclear Power Station (DNPS) Unit 2 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: 02	Event Date: 11-03-2009	Event Time: 0900 hours CST
Reactor Mode: 5	Mode Name: Refuel	Power Level: 000 percent

B. Description of Event:

On November 3, 2009 during refueling outage D2R21, plant engineering personnel were performing system walk downs of inaccessible portion of systems located in the DNPS Unit 2 drywell. During these walk downs personnel identified that a small bore pipe was not connected to its two supports. The unsupported piping run was greater than twenty feet and appeared to be bent away from its supports. The supports were tube steel/unistrut type supports. Further walk downs revealed that a third pipe support for this line was missing. Based on an inspection of the drywell wall, it is evident that the missing support had been broken off the wall.

The piping was a three-quarter inch instrument line to detect a break in the injection line of the Unit 2B Core Spray system [BM]. The instrument line is used to monitor differential pressure between the Core Spray injection line downstream of the injection check valve and the above core plate region. The instrument line is connected to the Core Spray injection line between the manual isolation valve and the reactor vessel nozzle N19B.

Following identification of the condition, personnel initiated work orders to reconnect the instrument line to the existing supports and to reinstall the missing support.

The instrument line was inspected and found to have wear marks where it had rubbed against structural beam. Ultrasonic examination was used to determine wall thickness. The measurements confirmed that the instrument line had experienced some metal loss. However, a subsequent evaluation determined that the metal lost was acceptable following the line's restoration to the original design configuration. Personnel also inspected the outer diameter and ovality of the instrument line. Surface examinations of some piping welds were also completed.

Plant personnel performed walk downs of the remaining instrument line runs for the 2B Core Spray system and the 2A Core Spray system to confirm that no additional degraded condition existed.

The loads that actually occurred on the piping system while the piping and supports were discrepant were considered to assess for historical piping damage. Since no SSE seismic event had occurred, it was determined there was enough operational and design margin to conclude the piping has not sustained any historical damage. Therefore, piping replacement was not required.

An engineering evaluation was initiated to determine the effects of this condition on plant functions. The evaluation concluded that with the missing support and the other two supports, which were

**LICENSEE EVENT REPORT
(LER)**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE	
Dresden Nuclear Power Station, Unit 2	05000237	YEAR	SEQUENTIAL NUMBER	REV NO.	3	OF
		2009	- 008	- 000		

NARRATIVE

disconnected, the instrument line could not be qualified to meet the plant's seismic design qualifications.

Consequently, in the event that the plant experienced ground acceleration equivalent to a safe shutdown earthquake (0.2 g horizontal; 0.133 g vertical), the line could have failed resulting in an unisolable leak from the reactor vessel.

The condition represents degradation of a principal safety barrier and is being reported in accordance with 10 CFR 50.73(a)(2)(ii)(A).

C. Cause of Event:

An investigation was initiated to review the condition and determine the potential causes. Interviews with plant personnel were conducted; however, no relevant information was obtained to aid in cause determination. A review of work history and corrective action documents did not reveal any indication of when the supports may have been broken or disconnected. The cause of this condition is indeterminate. The most likely cause of the instrument line being disconnected from the existing supports and the support being broken from the wall is attributed to personnel stepping on or attaching equipment to the piping and/or the supports.

Previous inspections of the drywell had not identified this condition; therefore no corrective action documents had been generated to rectify the issues.

The type of supports originally designed for this instrument line utilized an open bottom Unistrut design, which allows the clips to slide out the bottom of the support if they become loose and a downward force is applied.

D. Safety Analysis:

In the event that the plant experienced a safe shutdown earthquake and the instrument line failed, a small break loss of coolant would have occurred. The first indication of this condition would have been the associated line-break annunciator in the main control room. The three-quarter inch break-size is well within the break spectrum assumed in the accident analyses. A break of this size would not have resulted in rapid depressurization. The High Pressure Coolant Injection [BJ] or the Automatic Depressurization System was available to mitigate the consequences of an unisolable small break in the primary coolant boundary.

Therefore, reactor makeup capability was not affected and was available to provide adequate flow for level control in the event of a leak. Emergency Core Cooling Systems were operable and capable of performing their intended safety functions during the time that the instrument line was not properly supported. Therefore, the safety significance of this event is minimal due to the health and safety of the public not being compromised.

E. Corrective Actions:

The supports for the instrument line were restored to their original design configuration prior to startup from the outage.

A request for training was initiated to include a discussion regarding the investigation of the as-found condition of the instrument line for contractor in-processing and in-house training.

**LICENSEE EVENT REPORT
(LER)**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE	
Dresden Nuclear Power Station, Unit 2	05000237	YEAR	SEQUENTIAL NUMBER	REV NO.	4	OF 4
		2009	- 008	- 000		

NARRATIVE

A preventative maintenance activity will be created to perform pipe support walk downs in specified areas of the drywell prior to closeout.

An action was created to perform walk down of the Unit 3 drywell and verify that piping supports are connected and tight.

F. Previous Occurrences:

A review of DNPS Licensee Event Reports (LERs) was performed and the following events were identified.

- 249/95-023 (12/19/1995) Unsupported Cable In Panel 903-33 Could Have Rendered Safety Related Relays Inoperable During A Seismic Event Due To Inadequate Modification Package
- 249/94-022 (12/14/1994) Control Rod Drive Insert/Withdraw Lines Outside Design Basis Due To Inadequate Seismic Supports

G. Component Failure Data:

N/A