

LICENSEE EVENT REPORT (LER)

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.

FACILITY NAME (1)
Dresden Nuclear Power Station, Unit 3

DOCKET NUMBER (2)
05000249

PAGE (3)
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TITLE (4)
Degraded Secondary Containment Condition Observed During Testing Due to Procedure Deficiency and Personnel Error

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	31	95	95	-- 012 --	01	09	15	95	Dresden Unit 2	05000237	
									None		

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)				
		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)
POWER LEVEL (10)	000	20.2203(a)(2)(i)		20.2203(a)(4)	X 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
Jesse Williams, System Engineer

TELEPHONE NUMBER (Include Area Code)
Ext. 2708

(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

SUPPLEMENTAL REPORT EXPECTED (14)

YES
(If yes, complete EXPECTED SUBMISSION DATE).

X **NO**

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

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

On May 31, 1995 at 0302 hours, during performance of Dresden Technical Surveillance (DTS) 1600-22, "Secondary Containment Leak Rate Test", Standby Gas Treatment could only maintain 0.22 inches of water vacuum in the secondary containment with the Recirculation Pipe Replacement (RPR) material interlock inner door open. The RPR inner door was immediately closed and secondary containment pressure was restored to 0.30 inches water vacuum. Upon further review, it was determined that a 4 hour timeclock should have been entered. The RPR interlock is tested with both doors closed; however, the outer door has been opened for more than 4 hours in the past. On August 1, 1995 a review of ten completed DTS 1600-22 surveillances dating from August 8, 1991 was completed and revealed that they were routinely performed with greater than the TS limit of 5 miles per hour wind speed. The cause of the events are procedure deficiencies, personnel errors, and management deficiency. The corrective actions include; revision to DTS 1600-22 and Dresden Administrative Procedure (DAP) 13-14, "Unit 3 Reactor Building Material Interlock Door Access Control", and counseling of the individuals involved in the execution of the surveillance.

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

EVENT IDENTIFICATION:

Degraded Secondary Containment Condition Observed During Testing Due to Procedure Deficiency and Personnel Error

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 2(3) Event Date: 05/31/95 Event Time: 0330
 Reactor Mode: N Mode Name: Run (Shutdown) Power Level: 78% (0)
 Reactor Coolant System Pressure: 1000 (0) psig

B. DESCRIPTION OF EVENT:

On May 31, 1995 at 0302 hours, the Recirculation Pipe Replacement (RPR) Interlock Inner door was opened as directed by Dresden Technical Surveillance (DTS) 1600-22, Secondary Containment Leak Rate Test. With the door open, the Standby Gas Treatment (SBGT)[BH] system was unable to maintain 0.25 inches of water vacuum in the Secondary Containment with the reactor building ventilation system [AH] isolated and the Recirculation Pipe Replacement (RPR) material interlock inner door open and the outer door closed. At 0307 hours when it was determined that the SBGT system could only maintain 0.22 inches of water vacuum with respect to the atmosphere, personnel stationed at the material interlock immediately closed the inner door as required by DTS 1600-22. With the RPR inner door closed, the SBGT system immediately increased the secondary containment vacuum to 0.30 inches of water.

On June 1, 1995, a review of DTS 1600-22 by the Shift Manager (licensed senior reactor operator) concluded that Technical Specification (TS) Limiting Condition for Operation (LCO) 3.7.C.1 should have been entered during the brief period of time that the Secondary Containment was greater than 0.25 inches of water vacuum. He also questioned whether the RPR inner door had ever been open greater than the TS LCO 4-hour timeclock.

At 1658 hours an Emergency Notification System (ENS) call was made pursuant to 10 CFR 50.72(b)(2)(iii)(C) - any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material.

A review of the June 1, 1994 to June 11, 1995 RPR inner door's security alarm record indicated that it had not been continuously open longer than 4 hours during this period. The outer door does not have security monitoring however, in discussions with station personnel, it was stated that the outer door may have been opened for greater than 4 hours in the past.

The Secondary Containment Leakage surveillance is performed using DTS 1600-22. This surveillance tests the Secondary Containment with several interlock door configurations. The interlock door positions are: all 8 interlock doors closed, the equipment interlock inner door open, the equipment interlock outer door open, and the RPR material inner door open. The procedure also requires that the doors be closed if it is found that the SBGT system can not maintain the secondary containment at 0.25 inches of water vacuum with respect to atmosphere.

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

DTS 1600-22 limitations and actions states that control of the RPR material interlock is governed by Dresden Administrative Procedure (DAP) 13-14, (Unit 2 Reactor Building Material Interlock Door Access Control), and that secondary containment integrity must be maintained as required by TS 3.7.C.

Although one portion of DTS 1600-22 satisfactorily tested the RPR inner door in the closed position, the outer door was also closed and this configuration could mask the actual inner door seal performance in a non-conservative direction. When the RPR outer door is open, the interlock is in a untested configuration.

The RPR outer door is a rollup door and was originally designed to comply with TS 3.7.C. However, it was unable to maintain the required 0.25 inches of water vacuum during the initial construction testing and all subsequent tests. Additionally, the outer RPR Material Interlock structure is a corrugated steel building which is not missile proof nor is it designed to withstand tornado forces. Since the RPR Interlock Modification required the removal of the interlock after the Unit 3 reactor recirculation piping was replaced, the building was considered adequate. The RPR interlock was found to be useful as a storage area and as a direct equipment entrance for Unit 3. It was subsequently decided to keep the building. DAP 13-14 was written to provide the appropriate administrative controls for use of the RPR Interlock due to these deficiencies and ensure secondary containment integrity is maintained. DAP 13-14 specifies the approval and involvement of Operations Shift Management, and provides for constant attendance of the inner door as well as closure of the inner door should conditions develop that could challenge Secondary Containment.

Dresden Station TS LCO 3.7.C. requires Secondary Containment integrity during all modes of plant operation except when all of the following conditions are met:

- a. The Reactor is subcritical and the core reactivity margins are met.
- b. The Reactor water temperature is below 212 degrees F and the reactor coolant system is vented.
- c. No activity is being performed which can reduce the shutdown margin below that specified in TS 3.3.A.
- d. The fuel cask or irradiated fuel is not being moved in the reactor building.

If TS 3.7.C. cannot be met for either Unit 2 or Unit 3, (the reactor buildings are a common structure), secondary containment integrity must be restored within 4 hours or Units 2 and 3 must be in at least hot shutdown within the next 12 hours and in cold shutdown within the following 24 hours. This specification also requires testing of the secondary containment capability to maintain a 0.25 inches of water vacuum, with less than a 5 mile per hour wind and a filter train flow of not more than 4000 scfm, prior to each refueling outage.

On June 27, 1995, revision 0 of this report was mailed to the Nuclear Regulatory Commission (NRC). The NRC review of the LER determined that previous failures of the Material Interlock Outer Door Seal, during performance of DTS 1600-22 was not reported in the LER. This information was erroneously admitted.

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On July 29, 1995, DTS 1600-22 was performed to test the RPR Material Interlock Inner door Seal with the outer door open. The Inner door seal passed the surveillance with a wind corrected secondary containment pressure of 0.33 inches of water vacuum.

On August 1, 1995, during the review of DTS 1600-22 surveillance tests, performed between August 26, 1994 and March 10, 1995, it was discovered that tests were routinely performed with wind speeds greater than 5 miles per hour (mph). TS 3.7.C limit and DTS 1600-22 acceptance criteria requires calm winds (less than 5 mph). A Performance Improvement Form was filled out to document the event.

C. CAUSE OF EVENT:

This report is being issued pursuant to:

- a. 10CFR 50.73(a)(2)(v)(C) - any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material, and
- b. 10CFR 50.73(a)(2)(i)(B) - any operation or condition prohibited by the plant's Technical Specifications.

The causes of the event are attributed to:

- a. Procedural deficiencies in DAP 13-14 and DTS 1600-22.
- b. Personnel error by the engineering staff performing DTS 1600-22.
- c. Personnel error by the station personnel not following DAP 13-14 requirements when operating the RPR interlock doors.
- d. Management deficiency in not including the previous failure information in revision 0 of this report.

Procedural deficiency

Both DAP 13-14 and DTS 1600-22 referenced the proper TS; however, neither required an LCO entry when the secondary containment pressure is greater than 0.25 inches of water vacuum or when either RPR interlock door is opened.

Personnel error by the engineering staff related to performing DTS 1600-22.

The TS and the acceptance criteria for DTS 1600-22 states "The Secondary Containment must be able to demonstrate Secondary Containment Integrity by maintaining a 1/4 inch of water vacuum with a SBTG filter train flow of not more than 4000 cfm under calm wind (less than 5 mph) with all containment doors closed. DTS 1600-22 also contains wind correction factors. The engineers that conducted the surveillance with wind speeds greater than 5 miles per hour incorrectly concluded that the purpose of the wind correction was to allow the surveillance to be executed at wind speeds greater than 5 miles per hour.

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Personnel error by station personnel related to inadequate operation of the interlock doors.

Station Personnel has operated the Material Interlock doors in accordance with DAP 13-14. DAP 13-14 states the operation of the RPR Material Interlock must be in accordance with TS 3.7.C., however the text of the procedure directs personnel to immediately close any open RPR Interlock door for various events which could challenge secondary containment integrity or if Secondary Containment cannot be maintained. Because the action in the procedure is close the RPR Interlock doors, personnel attention is focused on closing the door. Review of the TS has verified that Secondary Containment has been restored, however formally entering and exiting the TS LCO has been over looked. DTS 1600-22 is similar TO DAP 13-14 as the LIMITATIONS AND ACTION STATEMENT of the procedure requires secondary containment integrity be maintained as required by TS 3.7.C., but the text of the procedure requires the door to be closed if Secondary Containment cannot be maintained or is threatened. The Main Control Room is notified of operation of the RPR Material Interlock Doors per DAP 13-14 and Secondary Containment status during performance of DTS 1600-22. The Secondary Containment was initially tested with all doors shut. If the test passed the Operations Department believed that Secondary Containment was initially proven operable, therefore subsequent tests, with different configurations of the Secondary Containment interlocks, were not governed by TS's. The normal operation of the RPR interlock is with the Reactor Building Ventilation in service. The Reactor Building Ventilation is Able to Maintain Secondary Containment pressure less than .25 inches of water vacuum with the RPR interlock inner door open. Because the pressure was maintained above the TS LCO with the inner door open, the LCO was not entered.

Management Deficiency

The original LER 95-012/Docket 50-249 erroneously admitted previous failures of the RPR Material Interlock outer door seal. However, pursuant to TS section 6.6, previous failures of the RPR outer door seal were reported to the Regional Administrator Director of Regulatory Operations Region III.

D. SAFETY ANALYSIS:

The event identified a slightly degraded condition of the Secondary Containment whereby a vacuum of 0.22 inches of water with respect to the outside atmosphere was observed with the RPR inner door open during performance of the secondary containment leak rate test. This differential pressure value was slightly less than the 0.25 inches of water vacuum required by the TS. It did provide negative pressure within the Reactor Building as is intended to prevent exfiltration of airborne contamination during postulated accident conditions.

Also, as described earlier in this report, DAP 13-14 was in place requiring constant attendance of the inner door whenever it is open, and prompt closure of the door under conditions that have the potential to challenge secondary containment. The TS allow for planned entries into degraded secondary containment conditions.

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TS section 3.7.C. and DTS 1600-22 require testing of the secondary containment integrity with calm winds (less than 5 mph). The tests that were performed with winds greater than 5 mph contained a wind correction calculation which compensates for wind velocity indication errors in the differential pressure gauges used to indicate secondary containment pressure. The indication errors are a result of increased external wind pressure exerted on the windward side of the Secondary Containment, and decreased external pressure exerted on the downwind side of the Secondary Containment. The wind correction results in accurate Secondary Containment pressure results when performing DTS 1600-22 with wind speeds greater than 5 mph. For these reasons, the safety significance of this event was minimal.

E. CORRECTIVE ACTIONS:

The immediate corrective action was to close the RPR inner door. Subsequent actions were to post signs on the RPR inner and outer doors instructing personnel using the door to notify the control room that opening the door will require entering an LCO. Further actions included.

1. DTS 1600-22 was revised to require entering TS 3.7.C. LCO whenever the Secondary Containment cannot be maintained at 0.25 inches of water vacuum with SBT system operating and the Reactor Building Ventilation system isolated for each procedure step being executed and to include the acceptance criteria of, less than or equal to 5 Mile per hour winds, on the data sheet.
2. DAP 13-14 was revised to require entering TS 3.7.C., if Secondary Containment cannot be maintained at 0.25 inches of water vacuum with the SBT system operating and the Reactor Building Ventilation system isolated, and the RPR inner or outer Interlock door is opened. The outer door has been successfully tested therefore does not require entering an LCO when the door is opened. Opening the Inner door will require entering a LCO since the outer door seal has failed to maintain secondary containment integrity during performance of DTS 1600-22.
3. DTS 1600-22 was successfully performed with the RPR Material Interlock outside door open. The average Secondary Containment Water Vacuum was 0.34 inches of water vacuum and the wind corrected vacuum was .33 inches of water vacuum.
4. Operating Personnel were trained on the procedure changes.
5. The Engineering Staff involved in the surveillance activities now understands DTS 1600-22 acceptance criteria and the T.S. requirements for .25 inches of water vacuum and less than 5 mph wind speed.
6. A letter was sent to departments who normally use the RPR interlock, explaining when a LCO should be entered. Signs have been posted on the RPR Interlock Inner door which state opening the door requires entering a TS LCO.

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- 7. A checklist is being prepared which will be incorporated into DAP 02-08, Licensee Event Report (LER), which will specify the information required to be in the LER. This revision should prevent omission of relevant information. This will be tracked to completion by NTS # 249-180-95-0120S101.

F. PREVIOUS OCCURRENCES:

LER Number/Docket Title

88-003/50-249 Potential Violation of Secondary Containment Integrity Due to Management Deficiency.

A NRC Inspector observed the RPR inner door open and unattended. This was brought about to the attention of a Technical Staff Engineer entering the area. The door was immediately closed and secured.

G. COMPONENT FAILURE DATA:

N/A