

NRC FORM 366 (5-92)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95
<b>LICENSEE EVENT REPORT (LER)</b>		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 (MNNB 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.

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**TITLE (4)**  
Potential To Bypass Containment Pressure Suppression Due To Inadequate Safety Evaluation and Review of Procedures

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
04	30	97	97	011	00	05	29	97	Dresden Unit 3	05000249
									FACILITY NAME	DOCKET NUMBER

<b>OPERATING MODE (9)</b>	4	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)</b>								
<b>POWER LEVEL (10)</b>	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)			X 50.73(a)(2)(ii)			50.73(a)(2)(x)		

**LICENSEE CONTACT FOR THIS LER (12)**

<b>NAME</b> J. Yancey, Design Engineering	<b>TELEPHONE NUMBER (Include Area Code)</b> Ext. 2324 (815) 942-2920
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**COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO MPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

<b>SUPPLEMENTAL REPORT EXPECTED (14)</b>				<b>EXPECTED SUBMISSION DATE (15)</b>		
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

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

Dresden Design Engineering reviewed LaSalle LER 97-005 (Docket 05000373), dated March 24, 1997, regarding the potential loss of Standby Gas Treatment Systems and the Containment Pressure Suppression function following a Loss of Coolant Accident. Subsequent investigation determined that the only applicable concern was the potential to partially bypass the pressure suppression pool function if a LOCA should occur during the time when the drywell and suppression pool were interconnected by purging or venting operations. In resolving this issue, it was determined at 1200 on April 30 that this condition was reportable. A Four (4) hour phone call to the NRC was initiated under 10CFR50.72(b)(2)(i).

The root causes of the event are 1) a failure in the original operating procedure for purging and its associated safety evaluation to address all interactions among the drywell and suppression chamber, and 2) failure to ensure that consistent operating alignment and philosophy were used in incorporating the design basis into operating procedure development.

Corrective actions include revising station procedures to preclude the possibility of operation with a pressure suppression bypass flow path. The safety significance of this event is moderate.

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**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

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**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] and are obtained from IEEE Standard 805-1984, IEEE Recommendation Practice for System Identification in Nuclear Power Plants and Related Facilities.

**EVENT IDENTIFICATION:**

Potential To Bypass Containment Pressure Suppression Due To Inadequate Safety Evaluation and Review of Procedures

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

Unit: 2(3)                      Event Date: 04/30/97                      Event Time: 1200  
 Reactor Mode: 4 (none)      Mode Name: Shutdown(No Mode)      Power Level: 0(0)  
 Reactor Coolant System Pressure: 0(0) psig

**B. DESCRIPTION OF EVENT:**

This report is being submitted in accordance with 10CFR50.73(a)(2)(ii), which requires the reporting of any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or that resulted in the nuclear power plant being in an unanalyzed condition that significantly compromised plant safety. Additionally, it is reported under 10CFR50.73(e)(2)(i), any condition or operation prohibited by plant Technical Specifications.

Dresden Station has the ability to vent or purge either the drywell or torus through their associated 18 inch isolation valve to Standby Gas Treatment (SBGT) [BH] or to the Reactor Building Ventilation System (RBHVAC) [VA]. Based on a review of a Licensee Event Report (LER) 97-005 from LaSalle County Station, a number of concerns were raised regarding the impact of operating the 18 inch valves in the Pressure Suppression system while the reactor is pressurized. A detailed review of the LaSalle LER identified two specific concerns which could be applicable to Dresden.

- A) Could the containment isolation valves associated with purging and venting activities close rapidly enough to prevent over pressurizing SBGT in the event of a Loss of Coolant Accident (LOCA) during the purging or venting of the drywell or suppression chamber and
- B) Do current operating procedures associated with inerting, deinerting, or venting of the containment result in the creation of a bypass flow path between the drywell and the suppression pool airspace greater than the accounted for in the containment response analyses?

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A subsequent review identified that the issue concerning SBTG was previously resolved with the NRC as part of Generic Issue B-24 with an analysis submitted by letter on February 17, 1982. This portion of the LaSalle LER is considered a closed licensing issue for Dresden, as no new event scenarios or design conditions were introduced which warranted additional investigation.

The second issue concerning the creation of a bypass flow path between the Drywell and suppression chamber was determined to be applicable to Dresden. A review of the Dresden procedures indicates that during inerting of the containment, use of both the drywell and suppression pool valves concurrently is not called out by the procedure, but neither is this valve lineup prohibited. During deinerting, the procedure indicates that valves to both areas are to be open. This was determined to be a violation of Section 4.7.K.3 of the Technical Specifications, which limit bypass leakage to the equivalent of a one inch diameter orifice.

The Dresden UFSAR does not specifically address any requirements for these valves during inerting or deinerting the containment as at LaSalle. Section 6.2.1.2.7 of the UFSAR under the subject of containment venting describes how containment venting is accomplished for the drywell and states that the suppression pool may be vented separately. This could be interpreted to imply a commitment not to vent the drywell and suppression pool concurrently.

It was determined that the use of four procedures permit simultaneous purging or venting of the drywell and the suppression chamber. If a LOCA were to occur while both the areas were connected, a short term bypass flow path would exist that could reduce or eliminate the pressure suppression function of the pool during the time the valves took to close. This scenario of a short term bypass is not addressed by any existing analysis.

C. CAUSE OF EVENT:

The creation of a drywell to suppression chamber bypass leakage path was recognized as a concern and a maximum leakage value was identified in the Technical Specifications. The impact of a LOCA during purge and venting conditions was identified as an issue during the resolution of Generic Issue B-24. However, this was never reflected in the operating procedures of the Purging and Inerting Systems. Though the Technical Specification limitations on Drywell to Suppression Chamber differential pressure require entry into a Limiting Condition for Operation (LCO) during simultaneous vent or purge operations, the requirements do not appropriately limit plant configuration.

The suppression pool bypass condition during a LOCA coincident with deinerting operation of these systems under an LCO has existed since the initial operation of the units. The cause is inadequate technical review of the original operating procedures for deinerting, and an inadequate safety evaluation that failed to consider the indirect implications of combining multiple procedures into the deinerting operating procedure [NRC Cause code E - Management/Quality Assurance Deficiency]. The Dresden Operating Procedures (DOP) involved are:

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- DOP 1600-1 "Normal Pressure Control of the Drywell or Torus"
- DOP 1600-5 "Primary Containment Inerting and Atmosphere Control"
- DOP 1600-7 "Primary Containment Deinerting"
- DOP 1600-18 "Temporary Drywell to Suppression Chamber Pressure Equalization"

The apparent cause of these deficiencies in the operating procedures for these systems was failure to ensure that consistent operating alignments and philosophy were used in the development of operating procedures for deinerting.

These breakdowns in the procedure review and safety evaluation process occurred more than five years ago. Substantial changes have been made to both the safety evaluation process and the procedure change review process that would be expected to preclude this type of event from occurring in the future.

D. SAFETY ANALYSIS:

The creation of a drywell to wetwell airspace path in excess of Technical Specifications limits could have reduced the suppression pool steam quenching which could result in containment loads in excess of those currently analyzed. The bypass flow path would have been automatically isolated in the first few seconds of the event. No fuel failure is postulated to occur during this time, minimizing the potential for a release.

This scenario is currently prohibited by a revision to the procedures. No further analysis is planned due to the extensive nature of the analysis required with no future impact on improving plant safety.

Since no further analysis will be conducted, it cannot be said that condition of the plant was not seriously degraded. As a result, the safety significance of this event is considered moderate.

There were no additional inoperable systems, structures, or components that contributed to this event.

E. CORRECTIVE ACTIONS:

- 1) Prior to the restart of Unit 2, all applicable procedures dealing with system pathways which can directly connect the drywell to the suppression pool air space will be reviewed and revised, as required, to eliminate the potential for two valves being open simultaneously that could create a bypass path. (Completed)
- 2) Regulatory Assurance and Engineering will perform further review regarding the timeliness of resolution of this issue. Coaching and counseling of involved personnel will be performed as required. (NTS 2371809701101)

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F. PREVIOUS OCCURRENCES:

None.

G. COMPONENT FAILURE DATA:

Not Applicable.