

LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)

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) Susquehanna Steam Electric Station - Unit 1	DOCKET NUMBER (2) 05000387	PAGE (3) 1 OF 3
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TITLE (4)
Inboard Isolation Valves For The Drywell And Suppression Chamber Purge System Are Not Single Failure Proof

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	22	97	97	-- 024	-- 00	11	21	97	Susquehanna SES - Unit 2	05000388
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)									
POWER LEVEL (10) 100	20.2201(b)	20.2203(a)(2)(v)	X	50.73(a)(2)(i)	50.73(a)(2)(viii)					
	20.2203(a)(1)	20.2203(a)(3)(i)	X	50.73(a)(2)(ii)	50.73(a)(2)(x)					
	20.2203(a)(2)(i)	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 Cornelius T. Coddington - Senior Engineer, Licensing	TELEPHONE NUMBER (include Area Code) 717 / 542-3294

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)				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 October 22, 1997, with Unit 1 and Unit 2 both in Condition 1 (Power Operation) at 100% power, engineering personnel determined, based on information provided in a 10CFR Part 21 Notification from General Electric Company, that during a postulated single failure of an electrical raceway, both inboard containment isolation valves on the Drywell and Suppression Chamber Purge System could open, thus causing the Drywell and Suppression Chamber atmospheres to communicate during a postulated Loss of Coolant Accident (LOCA). This single failure condition could result in bypass leakage of the postulated LOCA environment around the suppression pool, thus losing the benefit of both quenching the blowdown energy and the scrubbing of any fission products. This event was determined to be reportable in accordance with 10CFR50.73(a)(2)(ii). Technical Specification 3.0.3 was conservatively entered on both units until at least one inboard containment isolation valve, in the affected penetrations, was deactivated in the closed position. The entry into Technical Specification 3.0.3 is reportable in accordance with 10CFR50.73(a)(2)(i)(B), per the guidance of NUREG-1022, Supplement No. 1, Item 2.4. The most likely cause was human error on the part of the original designers for failing to recognize the potential for creating a suppression pool bypass path through the nitrogen supply line. The corrective actions include: 1) Deactivation of both inboard containment isolation valves in the closed position on both units; 2) other containment penetrations with the potential to be suppression pool bypass paths will be reviewed to determine if they are susceptible to the same single failure; and 3) participate in the BWR Owners Group on-going effort to evaluate the credibility of the postulated single failure. There were no safety consequences or compromises to public health and safety as a result of this event since there were no events which challenged primary containment integrity.



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

EVENT DESCRIPTION

On October 22, 1997, with Unit 1 and Unit 2 both in Condition 1 (Power Operation) at 100% power, engineering personnel (Utility; non-Licensed) determined, based on information provided in a 10CFR Part 21 notification from General Electric Company (GE), that during a postulated single failure of an electrical raceway, both inboard containment isolation valves on the Drywell and Suppression Chamber Purge System (EIS Code: LK) could open, enabling the Drywell and Suppression Chamber atmospheres to communicate through a 6" bypass line following a postulated Loss of Coolant Accident (LOCA). This single failure condition could result in bypass leakage of the postulated LOCA environment around the suppression pool, thus losing the benefit of both quenching the blowdown energy and the scrubbing of any fission products. This event was determined to be reportable in accordance with 10CFR50.73(a)(2)(ii), as a condition outside the design basis. Until one of the affected valves on each unit had its air supply removed rendering the valve deactivated in the closed position, Technical Specification 3.0.3 was conservatively entered on both units. The entry into Technical Specification 3.0.3 is reportable in accordance with 10CFR50.73(a)(2)(i)(B), per the guidance of NUREG-1022, Supplement 1, Item 2.4. Both inboard isolation valves on each unit are deactivated in the closed position.

CAUSE OF EVENT

The most likely cause was human error on the part of the original designers (Bechtel/GE) for failing to recognize the potential for creating a suppression pool bypass path through the nitrogen supply line as a result of a postulated electrical raceway single failure.

REPORTABILITY/ANALYSIS

On October 21, 1997, Nuclear Engineering received a 10CFR Part 21 Notification from GE concerning the potential for suppression pool bypass paths due to a postulated single failure of a cable tray (electrical raceway) which contains the control wiring for the inboard containment isolation valves in the containment vent and purge lines. GE identified that the consideration of such a single failure was required by the GE design requirements and IEEE Standard 279-1971. As a result of this notification Nuclear Engineering personnel immediately investigated the potential for a similar single failure at Susquehanna SES. On October 22, 1997, Nuclear Engineering personnel completed the investigation and concluded that both Susquehanna SES units were susceptible to this postulated single failure. This condition is reportable in accordance with 10CFR50.73(a)(2)(ii). Technical Specification 3.0.3 was conservatively entered until at least one inboard containment isolation valve in the affected penetrations was deactivated in the closed position. Entry into Technical Specification 3.0.3 is reportable in accordance with 10CFR50.73(a)(2)(i)(B), per the guidance of NUREG-1022, Supplement 1, Item 2.4. There were no safety consequences or compromises to public health and safety as a result of this event since there were no events which challenged primary containment integrity.

In accordance with the guidance provided in NUREG 1022 Supplement 1 item 14.1, the required submission date for this report was determined to be November 21, 1997.

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

CORRECTIVE ACTIONS

The following corrective actions were identified and completed:

Both the inboard isolation valves in the Drywell and Suppression Chamber Purge System in each unit have been deactivated in the closed position. The isolation valves are being administratively controlled so that if the valves must be opened, only one valve at a time can be opened.

The following corrective actions have been identified and will be completed:

- Review the design of other containment penetrations with the potential to be suppression pool bypass paths to determine if they are susceptible to the same single failure.
- Participate in the BWR Owners Group effort to evaluate the credibility of the postulated single failure, and take additional corrective actions based upon the outcome of this effort.

ADDITIONAL INFORMATION

Past Similar Events: None

Failed Component: None

