

LICENSEE EVENT REPORT (LER)

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FACILITY NAME (1)

South Texas, Unit 1

DOCKET NUMBER (2)

05000 498

PAGE (3)

1 of 5

TITLE (4)

Unit 1 Train 'B' Control Room Makeup and Cleanup Filtration System Inoperable for Greater Than Allowed Outage Time

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
08	12	1999	1999	007	01	01	03	2000		
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)										
OPERATING MODE (9)			20.2201(b)			20.2203(a)(2)(v)			X 50.73(a)(2)(i)	50.73(a)(2)(viii)
POWER LEVEL (10)			20.2203(a)(1)			20.2203(a)(3)(i)			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)	
			20.2203(a)(2)(iv)			50.36(c)(2)			50.73(a)(2)(vii)	

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(11) 73.71

UNIT	STATUS	MODE	NUCON	N					
X	VI	FLT	NUCON	N					

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 July 19, 1999, in accordance with Surveillance Requirement 4.7.7.c.2, carbon samples were removed from the Unit 1 Train 'B' Control Room Makeup and Cleanup Filtration System and sent off-site for laboratory analysis. On August 2, 1999 the South Texas Project was notified that the as-found methyl iodide penetration for the makeup and cleanup filters exceeded the required 1.0% Technical Specification acceptance criteria. On August 2, 1999, at 1400 hours, the Train 'B' Control Room Makeup and Cleanup Filtration System was declared inoperable. Maintenance was initiated to replace the charcoal, and on August 5, 1999, work was completed and Train 'B' was declared operable. Per the guidance of NUREG-1022, it was determined that the Train 'B' Control Room Makeup and Cleanup Filtration System had been inoperable since July 19, 1999, and therefore had been inoperable for approximately 10 days greater than the allowed outage time. Additionally, due to a 'C' Train Extended Allowed Outage Time which occurred between July 26, 1999 and July 29, 1999, two trains of Control Room Makeup and Cleanup Filtration System had been inoperable concurrently for greater than the allowed outage time of 72 hours. Since the Train 'C' Emergency Diesel Generator was inoperable from July 26, 1999, at 0300 until July 30, 1999, at 0545 as part of the Train 'C' Extended Allowed Outage Time, Unit 1 had also unknowingly exceeded Technical Specification 3.8.1.1d requirements. This event was caused by degradation of the makeup filter and cleanup filter charcoal due to aging (i.e., the expected decline in charcoal performance attributed to the physical age of the charcoal and the consumption of background level contaminants during normal system use and testing). Although the Technical Specification limit of 1.0% methyl iodide penetration for the filters was exceeded, the as-found efficiencies were greater than the 95.0% efficiency values assumed for the cleanup filter and makeup filter unit charcoal in design basis accident analyses. Therefore, the Train 'B' Control Room Makeup and Cleanup Filtration System was at all times capable of performing its required design function of maintaining the Control Room habitability within the bounds of 10CFR50 Appendix A, and the overall safety impact as a result of this event was minimal.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
South Texas, Unit 1	05000 498	1999	-- 007 --	01	2	OF 5

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

DESCRIPTION OF THE EVENT:

On August 2, 1999, Unit 1 was in Mode 1 at 100% reactor power. On July 19, 1999, in accordance with Technical Specification Surveillance Requirement 4.7.7.c.2, carbon samples were removed from the Unit 1 Train 'B' Control Room Makeup and Cleanup Filtration System and sent off-site for laboratory analysis. On August 2, 1999 the South Texas Project was notified that the as-found methyl iodide penetration for the makeup and cleanup filter unit samples were 1.62% and 1.13% respectively, which exceeded the required 1.0% Technical Specification acceptance criteria. On August 2, 1999, at 1400 hours, the Train 'B' Control Room Makeup and Cleanup Filtration System was declared inoperable, and Limiting Condition for Operation 3.7.7.a was entered, which allowed seven days to restore the train to an operable condition. Maintenance was initiated to replace the charcoal, and on August 5, 1999 work was completed and Train 'B' was declared operable.

On August 12, 1999, a review of this event concluded that this event was reportable.

NUREG-1022, Rev.1, "Event Reporting Guidelines 10 CFR 50.72 and 50.73" provides guidance and clarification to the implementation of the 10 CFR 50.72 and 50.73 reporting criteria. NUREG-1022 Section 3.2.2, "Technical Specification Prohibited Operation or Condition", Discussion Item 3 states:

"For the purpose of evaluating the reportability of discrepancies found during TS surveillance tests, an operation or condition prohibited by the TS existed and is reportable if the time of equipment inoperability exceeded the LCO allowed outage time. It should be assumed that the discrepancy occurred at the time of discovery unless there is firm evidence, based on review of relevant information (e.g., the equipment history and cause of failure) to believe that the discrepancy existed previously."

Although Surveillance Requirement 4.7.7.c.2 allows up to 31 days to obtain charcoal sample analysis results, the allowed outage time for the respective train per Technical Specification 3.7.7 is 7 days. The charcoal samples were removed on July 19, 1999, and results were received on August 2, 1999 (14 days later). Replacement of the charcoal was completed and the train was returned to operable status on August 5, 1999. Because the date and time the samples were removed is known, it is assumed for reportability considerations that the discrepancy (methyl iodide penetration values outside the surveillance acceptance criteria) occurred at the time of sample removal, rather than at the time of notification of the charcoal analysis results. Therefore, the Unit 1 Train 'B' Control Room Makeup and Cleanup Filtration System was in a condition prohibited by Technical Specifications for approximately 10 days greater than the allowed outage time.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)	
South Texas, Unit 1	05000 498	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 5	
		1999	- 007	- 01		

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

DESCRIPTION OF THE EVENT (Continued):

Additionally, the Unit 1 Train 'C' Control Room Makeup and Cleanup Filtration System was inoperable as part of a Train 'C' Extended Allowed Outage Time from July 26, 1999, at 0300 to July 29, 1999, at 2227 (based on Train 'C' Essential Chiller out-of service and return to operable status times), and thus both Train 'B' and Train 'C' Control Room Makeup and Cleanup Filtration Systems were inoperable concurrently for a period of 91 hours and 27 minutes. Therefore, Unit 1 had also unknowingly exceeded Technical Specification 3.7.7 shutdown LCO requirements for two trains in an inoperable condition by 13 hours and 27 minutes (based on 72-hour LCO time plus 6 hours to enter Mode 3).

Furthermore, Technical Specification 3.8.1.1d requires that with an Emergency Diesel Generator inoperable, that "All required systems, subsystems, trains, components and devices that depend on the remaining operable diesel generator" are verified to be operable within 24 hours, or be in at least Hot Standby within the next 6 hours, and in Cold Shutdown within the following 30 hours. Since the Train 'C' Emergency Diesel Generator was inoperable from July 26, 1999, at 0300 until July 30, 1999, at 0545 (98 hours and 45 minutes) as part of the Train 'C' Extended Allowed Outage Time, Unit 1 had unknowingly exceeded 3.8.1.1d shutdown LCO requirements beginning on July 27, 1999, at 0900 (24-hour LCO time plus 6 hours to enter Mode 3) for a total of 68 hours and 45 minutes.

On August 12, 1999 at 1500 hours, this event was reported to the Nuclear Regulatory Commission.

CAUSE OF THE EVENT:

This event was caused by degradation of the makeup filter and cleanup filter charcoal due to aging (i.e., the expected decline in charcoal performance attributed to the physical age of the charcoal and the consumption of background level contaminants during normal system use and testing).

ANALYSIS OF THE EVENT:

This event is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B) for any operation or condition prohibited by the Technical Specifications

Although the Technical Specification limit of 1.0% methyl iodide penetration (i.e., 99.0% filter efficiency) for the filters was exceeded, the as-found efficiencies were 98.87% for the cleanup filter charcoal and 98.38% for the makeup filter charcoal. Since design basis accident analyses assume a 95.0% efficiency for the cleanup filter charcoal and a 95.0% efficiency for the makeup filter charcoal, the Train 'B' Control Room Makeup and Cleanup Filtration System was at all times capable of performing its required design function of maintaining the Control Room habitability within the bounds of 10CFR50 Appendix A, General Design Criteria 19, and therefore the overall safety impact as a result of this event was minimal.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
South Texas, Unit 1	05000 498	1999	- 007	- 01	4 OF 5	

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

CORRECTIVE ACTIONS:

The following corrective actions address this event:

1. The Unit 1 Train 'B' Control Room cleanup filter unit charcoal was replaced on August 4, 1999.
2. The Unit 1 Train 'B' Control Room makeup filter unit charcoal was replaced on August 5, 1999.

Previous charcoal laboratory analysis was performed per ASTM D3803-1979. Testing per this guideline did not provide trendable results that would allow predicting carbon failure. Generic Letter 99-02, "Laboratory Testing of Nuclear Grade Activated Charcoal", issued in June, 1999, changed the guidance for carbon filter laboratory testing to ASTM D3803-1989, which is expected to provide more predictable results. In accordance with Generic Letter 99-02, future charcoal laboratory analysis will be conducted in accordance with ASTM D3803-1989.

ADDITIONAL INFORMATION:

There have been no Licensee Event Reports submitted by the South Texas Project to the Nuclear Regulatory Commission regarding similar events in the past three years. However, in August, 1995 a similar event occurred in which charcoal laboratory analysis results were outside Technical Specification limits for the Unit 1 Train A Control Room Makeup and Cleanup Filtration System cleanup filter, and this incident was not reported (reference Condition Report 95-9872). It is believed that the failure to report this occurrence is due to a previous differing interpretation of NUREG-1022 resulting from the inconsistencies between the Technical Specification requirements and NUREG-1022 reporting criteria discussed above.

Subsequent to the Unit 1 Train 'B' failure discussed above, another similar event occurred on the Unit 1 Train 'C' Control Room Makeup and Cleanup Filtration System. On September 1, 1999, STPNOC was notified that the as-found methyl iodide penetration for the Unit 1 Train 'C' makeup filter unit charcoal sample (taken on August 23, 1999, at 0940 hours) was 2.87%, which exceeded the 1.0% Technical Specification acceptance criteria, but was within design basis assumptions. On September 1, 1999 at 0945 hours, the Unit 1 Train 'C' Control Room Makeup and Cleanup Filtration System was declared inoperable and Limiting Condition for Operation 3.7.7 Action a. was entered, which allowed seven days to restore the system to operable. The charcoal was replaced and Train 'C' was restored to operable on September 2, 1999, at 1702 hours. This event was reported to the Nuclear Regulatory Commission on September 2, 1999, at 1651 hours.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	5	OF 5
South Texas, Unit 1	05000 498	1999	- 007	- 01		

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

ADDITIONAL INFORMATION (Continued):

On December 6, 1999, the South Texas Project was notified that the as-found methyl iodide penetration for the Unit 1 Fuel Handling Building Exhaust Filter 13B was 2.91%, which exceeded the required 1.0% per the Technical Specification 4.7.8.b.2 acceptance criteria, but was within the design basis assumptions. The carbon sample was removed on November 22, 1999, and the test results from the offsite laboratory were received on December 6, 1999 (14 days later). On December 6, 1999, at 1233 hours, the Unit 1 Train 'B' Fuel Handling Building Exhaust Air System was declared inoperable and the Action for Limiting Condition for Operation 3.7.8 was entered, which allowed seven days to restore the system to operable status. The carbon for the Unit 1 Fuel Handling Building Exhaust Filter 13B was replaced and Train 'B' was declared operable on December 9, 1999, at 1430 hours. This event was reported to the Nuclear Regulatory Commission on December 6, 1999, at 1648 hours.