LICENSEE EVENT REPORT (LER) Form Rev. 2.0

Facility Name (1)	Docket Number (2)	Page (3)
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Title (4)

Both Trains of Standby Gas Treatment System inoperable due to Operator fuse replacement 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 Names	Docket Number(s)
0 5	0 4	9 7	9 7	-- 0 0 9	-- 0 0	0 5	2 2	9 7	Quad Cities Unit 2	0 5 0 0 0 2 6 5
										0 5 0 0 0

OPERATING MODE (9): 1

POWER LEVEL (10): 0 9 4

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	X 50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	Other (Specify in Abstract below and in Text)
20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (AREA CODE)
Charles Peterson, Regulatory Affairs Manager, ext. 3609	3 0 9 6 5 4 - 2 2 4 1

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 fifteen single-space typewritten lines) (16)

ABSTRACT

On 050497, at 2035 hours, Unit One was in Power Operation and Unit Two was shutdown and defueled. Operations made both trains of the Standby Gas Treatment System (SBGTS) inoperable for 40 minutes when the 1/2 B SBGTS Train Mode Selector Switch was placed in "OFF" in accordance with a surveillance procedure following the inadvertent installation of a blown fuse, which disabled the autostart capability of the A Train of SBGTS. The inoperability of the A train of SBGTS was identified when the A Train failed to start in the conduct of the procedure. Immediate actions were to enter a 1 hour Limiting Condition for Operation (LCO) because both trains of SBGTS were inoperable, stabilize plant conditions, replace the blown fuse, and reperform the applicable steps of the procedure to ensure the A Train of SBGTS would autostart. At 2115 hours the A Train was declared operable and Operations exited the 1 hour LCO.

The root cause of this event is a cognitive personnel error by the Senior Reactor Operator (SRO) test director who did not adequately control a blown fuse and the new replacement fuse to ensure the new fuse was installed. Corrective actions were to counsel the SRO test director and to conduct training on the event.

The safety consequences of this event to on-site personnel and the general public were minimal. The B Train of SBGTS could have been manually started within 10 minutes in the event of a Loss Of Coolant Accident.

LER254\97\009.WPF

PLANT AND SYSTEM IDENTIFICATION:
General Electric - Boiling Water Reactor - 2511 MWt rated core thermal power.

EVENT IDENTIFICATION: Both Trains of Standby Gas Treatment System inoperable due to Operator fuse replacement error.

A. CONDITIONS PRIOR TO EVENT:

Unit: 1		Event Date:	050497	Event Time:	2035
Reactor Mode:	1	Mode Name:	Power Operation	Power Level:	094
Unit: 2		Event Date:	050497	Event Time:	2035
Reactor Mode:	0	Mode Name:	None	Power Level:	000

This report was initiated by Licensee Event Report (LER)254\97-009.

Power Operation (1) - Mode switch in the RUN position with average reactor coolant temperature at any temperature.

None (0) - Per Technical Specifications, Table 1-2 (Definitions 1.0), when there is no fuel in the reactor vessel, the reactor is considered not to be in any OPERATIONAL MODE.

B. DESCRIPTION OF EVENT:

On 050497 at approximately 1830 hours, Unit 1 was in Power Operation at 94% reactor power and Unit 2 was shutdown and defueled. Operations was performing QCOS 1600-13, "Refueling Outage PCI (Primary Containment Isolation) [NH] Groups 2 and 3 Isolation Test", which includes testing of the Standby Gas Treatment System (SBGTS) [VI]. A Senior Reactor Operator (SRO) test director was stationed with an electrician in the plant to install electrical jumpers in accordance with the procedure. Operations had just completed step H.180, Test of SBGTS Train A to Auto-Start in Standby Mode, and was beginning to perform step H.181, Test of SBGTS Train B to Auto-Start in Standby Mode. In step H.181.a, the 1/2 A SBGTS Train Mode Selector Switch is placed in "OFF". In step H.181.b, the personnel in the plant would install a jumper around the 2212-29A panel relay 1/2-7541-28A at contacts 11 and 12, verify the 1/2-7541-29A relay was de-energized, and then remove the jumper. When the jumper was being removed, the electrician touched contact 14 with a jumper lead causing an arc. The electrician and SRO investigated and determined the arc blew fuse [FU] 8A in the 2212-29A panel. When fuse 8A blew, the A Train of SBGTS which was already in "OFF" was disabled from starting in Standby Mode, the B Train of SBGTS remained capable of starting and started successfully at step H.181.h. The oncoming Shift determined it would be necessary to replace the blown fuse and repeat steps H.180 and H.181.

At approximately 1900 hours, the B Train of SBGTS was running and the A Train was in "OFF". The oncoming SRO test director obtained a like-for-like new fuse from the storeroom. Using the old fuse for comparison, the SRO inadvertently placed both fuses in the same pocket. The SRO proceeded to the plant with electricians and pulled the blown fuse from his pocket unaware there were two fuses in his pocket. The electrician asked if he could check the fuse and the SRO said it would not be necessary. After the blown fuse 8A was inserted, the testing recommenced at step H.180.

At 2035 hours, the crew performed step H.180.b placing B Train of SBGTS Mode Selector Switch in "OFF", and at this time both trains of SBGTS became inoperable as neither train would autostart because the blown 8A fuse prevented the A Train of SBGTS from starting in the Standby Mode. At approximately 2100 hours, the Control Room operator performed step H.180.h, initiating a 25 second delayed start of Train A of SBGTS. The Control Room operator notified the SRO in the plant that Train A did not start. The SRO asked the electrician to check fuse 8A and it was the blown fuse. The SRO found the good fuse still in his pocket and notified the Control Room operator of the problem.

The Shift Engineer reviewed Technical Specification section 3.7.P.2 and determined Unit 1 entered a 1-hour Limiting Condition for Operation (LCO) for having both trains of SBGTS inoperable. The Control Room operator re-established initial conditions and at 2115 hours exited the 1-hour LCO when the H.180 step was successfully completed. Both Trains of SBGTS were inoperable for 40 minutes. The Shift Engineer (SE) reviewed and interpreted the Reportability Manual to state the event was not reportable as Train B was only inoperable for the surveillance and the blown fuse only made Train A inoperable and not the whole SBGTS.

On 050597, the oncoming dayshift SE was reviewing the SE log and noticed the log entry for the SBGTS 1-hour LCO. The SE contacted Regulatory Assurance and verified the event was reportable at 1315 hours. A 4-hour ENS phone call was made at 1453 hours.

C. CAUSE OF THE EVENT:

The root cause of this event is a cognitive personnel error by the SRO test director who did not adequately control the blown and new fuses to ensure the new fuse was installed.

D. SAFETY ANALYSIS:

The safety consequences of this event to on-site personnel and the general public were minimal. The SBGTS serves to limit both the on-site and off-site dose in the event of a Loss Of Coolant Accident (LOCA) by maintaining the secondary containment at a negative pressure to minimize exfiltration, and by treating air from the secondary containment during emergency conditions. Either train of the SBGTS can deliver the necessary flow rate and filtration capability to meet on-site and off-site dose rate limits in the event of a LOCA.

The most severe condition that could have existed during this event would have been a LOCA at full power. Since the SBGTS is designed to start during a LOCA with no operator action, the conditions existing at the time of this event would have prevented either train of the SBGTS from starting automatically had a LOCA occurred. The inability of either train of the SBGTS to automatically start existed from the time the Train B SBGTS Mode Selector Switch was placed in "OFF" at 2035 hours, until the 1-hour LCO was exited at 2115 hours. Operator action to start the available B Train of the SBGTS in the event of an LOCA during this time period would have been required. The actual time needed to perform this action is estimated to have taken no more than ten minutes. A ten minute delay in the starting of the available B Train of the SBGTS would have produced negligible increases to either the on-site or off-site dose rates had a LOCA occurred; therefore, the health and safety of on-site personnel or the general public would not have been at a greater risk had a LOCA occurred during this event.

E. CORRECTIVE ACTIONS

Corrective Actions Completed:

1. The blown fuse was replaced with the new fuse and the A Train of SBGTS was tested and declared operable.

2. The SRO test director was counselled on this event.

Corrective Actions To Be Completed:

1. This event will be included in Licensed Operator Retraining to address reportability requirements and to stress importance of attention to detail in all activities.
   (Training - NTS# 2541809700901)

F. PREVIOUS OCCURRENCES:

A search of LER's over the last 2 years associated with self-checking errors found the following events.

265/95-002 Unplanned start of Unit 2 Diesel Generator caused by opening of 4KV potential transformer fuses drawer.

254/97-013 RCIC Area High Temperature Switch would not actuate due to excess sealing varnish applied by technician.

G. COMPONENT FAILURE DATA:

Not Applicable.