

# WOLF CREEK

NUCLEAR OPERATING CORPORATION

Otto L. Maynard  
Vice President Plant Operations

October 7, 1994

WO 94-0149

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Station P1-137  
Washington, D. C. 20555

Subject: Docket No. 50-482: Licensee Event Report 94-009-00

Gentlemen:

The attached Licensee Event Report (LER) is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) concerning a failure to comply with the Technical Specifications.

Very truly yours,



Otto L. Maynard

OLM/jad

Attachment

cc: L. J. Callan (NRC), w/a  
D. D. Chamberlain (NRC), w/a  
J. C. Stone (NRC), w/a  
J. F. Ringwald (NRC), w/a

180049

9410190102 941007  
PDR ADDCK 05000482  
S PDR



## LICENSEE EVENT REPORT (LER)

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

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)

WOLF CREEK GENERATING STATION

DOCKET NUMBER (2)

05000482

PAGE (3)

1 OF 3

TITLE (4)

Inoperable Boron Injection Flow Path

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
9	18	1994	94	009	00	10	07	94	FACILITY NAME	DOCKET NUMBER 05000
OPERATING MODE		5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER		0%	20.402(b)			20.405(c)			50.73(a)(2)(iv)	73.71(b)
			20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)	73.71(c)
			20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)	OTHER
			20.405(a)(1)(iii)		X	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

Richard D. Flannigan  
Manager Regulatory Services

TELEPHONE NUMBER (Include Area Code)

316-364-4117

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
N/A									

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED

MONTH

DAY

YEAR

YES

(If yes, completed EXPECTED SUBMISSION DATE)

X

NO

## ABSTRACT:

On September 18, 1994, at 1130 hours, Wolf Creek Nuclear Operating Corporation (WCNOC) added hydrogen peroxide to the reactor coolant system. This addition constituted a positive reactivity insertion of less than 1 pcm, or 10 parts per million boron. Subsequently it was determined, this positive reactivity insertion occurred without an operable boron injection flow path.

The 'A' Centrifugal Charging Pump [BQ] was technically inoperable due to the 'A' Emergency Diesel Generator [EK] being inoperable. The 'A' Emergency Diesel was determined to be inoperable on September 19, 1994, at 2300 hours CDT and to have been inoperable since 0600 hours CDT on September 18, 1994, due to a loose overspeed trip limit switch, which could have caused the diesel to trip during a seismic event.

The 'B' Centrifugal Charging Pump was tagged out for cold over-pressure protection.

The loose limit switch was replaced. The retaining screws for the limit switch were coated in locking compound to prevent vibrational backout. The overspeed trip limit switch for the 'B' Emergency Diesel Generator was inspected and found to be in good physical condition.

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

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)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Wolf Creek Generating Station	05000 482	94	009	00	2 OF 3

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

**PLANT CONDITIONS:**

Plant Operational Condition: MODE 5  
Reactor Power: 0%  
Reactor Boron Concentration: 2220 ppmB

**BASIS FOR REPORTABILITY:**

10 CFR 50.73 (a)(2)(i)(B) requires the licensee to report to the NRC, within 30 days, any operation or condition prohibited by the plant's Technical Specifications. The failure to have an operable boron injection flow path on September 18, 1994, at 1130 hours, when a positive reactivity insertion occurred was a violation of Technical Specification 3.1.2.3.

**DESCRIPTION OF EVENT:**

On September 18, 1994, at 1130 hours Wolf Creek Nuclear Operating Corporation (WCNOC) added hydrogen peroxide to the reactor coolant system. This addition constituted a positive reactivity insertion of less than 1 pcm, or 10 parts per million boron.

At the time the positive reactivity insertion was made the 'A' Centrifugal Charging Pump [BQ] was available to provide a boron injection flow path. However, the 'A' Centrifugal Charging Pump was technically inoperable due to the 'A' Emergency Diesel Generator [EK] being inoperable. The 'A' Emergency Diesel Generator was inoperable due to a loose overspeed trip limit switch. If a seismic event had occurred during the time of the positive reactivity insertion where the emergency diesel generator was the sole source of power for the 'A' Centrifugal Charging Pump then the damaged limit switch may have activated, resulting in the loss of the operable boron injection flow path.

The 'B' Centrifugal Charging Pump was tagged out, in accordance with Technical Specification 3.1.2.3, for cold over-pressure protection.

It is important to note, that during the time of the positive reactivity insertion, the 'A' Emergency Diesel Generator was being tested at 100% load and that no seismic event occurred which could have caused the limit switch to be activated.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Wolf Creek Generating Station	05000 482	94	009	00	3 OF 3

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

CORRECTIVE ACTIONS:

Root Cause/Contributing Factors:

The root cause of this problem was determined to be a normal mechanical vibration from the diesel operation during the 24 hour operability test. This vibration resulted in the screws disengaging and allowing the limit switch to move freely.

Corrective Actions To Prevent Recurrence:

The loose limit switch was replaced. The limit switch retaining screws on the new limit switch were coated with locking compound to prevent disengagement during normal diesel operations.

The overspeed trip limit switch for the 'B' Emergency Diesel Generator was inspected and found to be in good physical condition. As an enhancement the retaining screws for this limit switch will be coated with locking compound during the seventh refueling outage. This activity is scheduled for completion on October 11, 1994.

SAFETY SIGNIFICANCE:

The health and safety of the public was assured because the 'A' Centrifugal Charging Pump was available and was being supplied electrical power from a reliable off site power source. Additionally, the plant conditions did not require the 'A' Centrifugal Charging Pump to operate; and the positive reactivity insertion from the September 18, 1994, hydrogen peroxide insertion did not constitute a significant change to the safe shutdown margin.

PREVIOUS OCCURRENCES:

Licensee Event Report (LER) 88-025-00 discusses a previous similar occurrence in which core alterations occurred without the required boron injection flow path being operable due to an emergency diesel generator being inoperable. The corrective actions for that event were specific to the event and would not have prevented this event from occurring.

LER 86-061-00 discusses a previous similar occurrence of performing core alterations with both Centrifugal Charging Pumps inoperable due to personnel error. The corrective actions for that event were specific to the event and would not have prevented this event from occurring.