

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Otto L. Maynard
Vice President Plant Operations

October 24, 1994

WO 94-0163

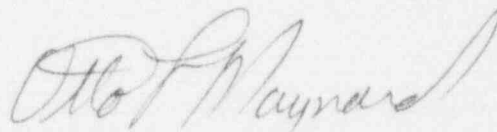
U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Subject: Docket No. 50-482: Licensee Event Report 94-012-00

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

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S PDR

P.O. Box 411 / Burlington, KS 66839 / Phone: (316) 364-8831

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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 4
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TITLE (4)
Failure To Correctly Calibrate Refueling Machine Load Monitor

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
09	01	94	94	012	00	10	24	94	FACILITY NAME	DOCKET NUMBER
OPERATING MODE		6	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (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
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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)

YES (If yes, complete, EXPECTED SUBMISSION DATE)	X	NO	EXPECTED	MONTH	DAY	YEAR
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ABSTRACT:

On September 25, 1994, at 0509 hours CDT, Wolf Creek Nuclear Operating Corporation (WCNOC) commenced core off-load activities. While conducting the core off-load the Refueling Crew experienced difficulty due to receipt of underload indications on the Refueling Machine [DF] while inserting assemblies into the Upender.

Investigation into the underload indications determined the cause to be bowed assemblies. However, the investigation further determined that the Refueling Machine Primary Automatic Overload Cutoff had been set 100 pounds in the non-conservative direction when handling heavy assemblies (fuel assemblies with inserted control rod assembly). This resulted in WCNOC being in violation of Technical Specification 3.9.6 for the eleven heavy assemblies moved prior to the time of discovery.

The root cause of this event was determined to be an inadequate procedure controlling the calibration, setup, and checkout of the Refuel Machine Load Monitor and personnel misunderstanding the need to perform a field calibration of the load monitor. The procedure was revised and the load monitor was re-calibrated. The core off-load was then completed without further incident.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Wolf Creek Generating Station	05000 482	94	012	00	2 OF 4

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

PLANT CONDITIONS AT TIME OF EVENT:

Plant Operational Condition: Mode 6
Plant Power Level 0%

BASIS FOR REPORTABILITY:

10 CFR 50.73(a)(2)(i)(B) requires the Licensee to report any operation or condition prohibited by the plant's Technical Specification.

Technical Specification 3.9.6 in part requires the Refueling Machine Primary Automatic Overload Cutoff to be set at less than or equal to 250 pounds above the indicated suspended weight for a wet assembly.

On September 26, 1994, in preparation for core off-load activities the Refueling Machine [DF] Primary Automatic Overload Cutoff was incorrectly set to 350 pounds above the actual suspended weight for a wet assembly. This occurred because the load monitor indication for the Refueling Machine had been incorrectly calibrated 100 pounds in the non-conservative direction. This calibration error resulted in the Refueling Machine Primary Automatic Overload Cutoff limit, as specified in Technical Specification 3.9.6, being exceeded by 100 pounds.

The failure to set the Refueling Machine Primary Automatic Overload Cutoff as specified in Technical Specification 3.9.6 is reportable in accordance with the requirements of 10 CFR 50.73(a)(2)(i)(B).

DESCRIPTION OF THE EVENT:

On September 25, 1994, at 0509 hours CDT, Wolf Creek Nuclear Operating Corporation (WCNOC) commenced core off-load activities associated with its seventh refueling outage. While conducting the core off-load the Refueling Crew experienced difficulty due to receipt of underload indications on the Refueling Machine while inserting assemblies into the Upender.

Investigation into the underload indications determined the cause to be fuel assembly interaction with the upender basket due to fuel assembly bowing. Additionally, the investigation found the Refueling Machine Primary Automatic Overload Cutoff for handling heavy assemblies had been set 100 pounds in the non-conservative direction due to a calibration error. Heavy assemblies are fuel assemblies containing a control rod assembly.

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

Upon discovery of the calibration error refueling activities were suspended until the load monitor was re-calibrated and the Refueling Machine Automatic Overload Cutoffs were correctly set. The core off-load was then completed without further incident.

Eleven heavy assemblies were moved prior to the discovery of the calibration error. When removing fuel from the core, the use of open water moves is maximized. Open water moves are those where axial movements are possible while maintaining a nominal, approximately two inch, space from any adjacent fuel assembly or core baffle surface. This approach significantly reduces the potential of a fuel assembly interacting with any other core component. Ten of the eleven heavy assemblies were removed from the Reactor Vessel in open water. The eleventh assembly was not an open water move but was removed from the Reactor Vessel without incident. Further, all of the eleven fuel assemblies were inspected and verified not to be damaged.

ROOT CAUSE AND CORRECTIVE ACTIONS:

Root Cause:

WCNOC's investigation into the event determined that the surveillance procedure used for demonstrating operability of the load monitor did not clearly identify when the load monitor needed to be calibrated in the field. The monitor had been bench tested to verify its operability and was installed in the refueling machine. This bench test is not intended to remove the need to perform a field calibration of the load monitor. During this bench test the load monitor was shown to be operable but the monitor's setpoints were not adjusted to their required values. A prerequisite in the surveillance procedure, intended to indicate that the bench test had been performed, called it a calibration. Later, the surveillance procedure provided the operator with an option of performing a field calibration or using previously derived values. The operator believed the load monitor had been calibrated by the bench test and used previously derived values. This resulted in the load monitor not being calibrated prior to use.

The root cause of the event is a combination of an inadequate procedure (the procedure was confusing) and personnel misunderstanding that the previously performed prerequisite calibration still required a field calibration to be performed.

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Wolf Creek Generating Station	05000 482	94	012	00	4 OF 4

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Corrective Actions:

- The load monitor was re-calibrated.
- The applicable refueling procedure was enhanced. This enhancement incorporated programmatic controls to assure the load monitor is correctly field calibrated to known weights of the dummy fuel assembly, previously measured using a calibrated spring scale. This will ensure the appropriate field calibrations are performed prior to placing the refueling machine in use.

SAFETY ANALYSIS:

During the above discussed event the Refueling Machine Secondary Automatic Overload Cutoff was functional and conservatively set. The Secondary Automatic Overload Cutoff is set slightly above the Primary Automatic Overload Cutoff and is designed to prevent significant damage to the core components if a fuel assembly were to come into contact with a core component and the Primary Automatic Overload Cutoff failed. Further, at no time during the event did a situation occur where the activation of the Secondary Automatic Overload Cutoff was warranted. Additionally, WCNO's use of the open water move concept further reduced the probability of any potential core component being damaged. Therefore, there were no adverse consequences to the plant, and the public health and safety were assured at all times.

OTHER SIMILAR OCCURRENCES:

None.