

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Otto L. Maynard
Vice President Plant Operations

July 15, 1994

WO 94-0094

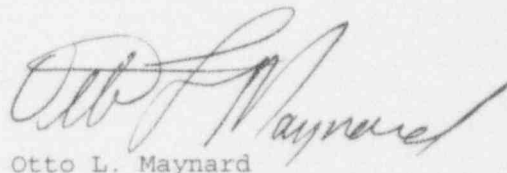
U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Subject: Docket No. 50-482: Licensee Event Report 94-006-00

Gentlemen:

The attached Licensee Event Report (LER) is being submitted pursuant to 10 CFR 50.73 (a) (2) (i) concerning a Technical Specification violation.

Very truly yours,



Otto L. Maynard

OLM/jad

Attachment

cc: L. J. Callan (NRC), w/a
G. A. Pick (NRC), w/a
M. A. Miller (NRC), w/a
W. D. Reckley (NRC), w/a

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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 PFR 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 STATIONDOCKET NUMBER (2)
05000482PAGE (3)
1 OF 5

TITLE (4)

Inadequate Review of Motor Operated Valve Retest Sequence Caused Unanticipated Emergency Diesel Generator Inoperability

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
06	15	94	94	006	00	07	15	94	FACILITY NAME	DOCKET NUMBER 05000
OPERATING MODE			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
1			20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	
POWER			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 ServicesTELEPHONE 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

SUPPLEMENTAL REPORT EXPECTED (14)

YES				NO			
(If yes, completed EXPECTED SUBMISSION DATE)							

EXPECTED

MONTH

DAY

YEAR

ABSTRACT:

Limitorque actuators on the Motor Operated Valves (MOV's) in the Essential Service Water (ESW) lines to and from the Component Cooling Water heat exchangers were sequentially changed out on both safety trains. During the subsequent retest activities, the ESW flow balance was altered and the related Emergency Diesel Generator (EDG) might not have received sufficient cooling water flow had that EDG been required to provide Safeguards power.

Technical Specification 3.8.1.1. Action statement "b" requires, in part, that offsite A.C. power sources be demonstrated operable within one hour after declaring an EDG inoperable. That Action statement was not entered at the appropriate time for either train. Consequently the appropriate surveillance test procedure was not completed in the required time. Both incidents are therefore reportable under 10 CFR 50.73 (a) (2) (i) (B) as conditions prohibited by Technical Specifications.

The root cause of this occurrence was inadequate job scoping in that interaction with other systems was not adequately considered in the MOV retest sequence.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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				YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Wolf Creek Generating Station		05000					
		482		94	006	00	2 OF 5

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

PLANT CONDITIONS AT THE TIME OF EVENT

Plant Operational Condition: Mode 1
Reactor Coolant System Pressure: 2235 psig
Reactor Coolant System Temperature: 586.4 Degrees Fahrenheit

BASIS FOR REPORTABILITY

Technical Specification 3.8.1.1, Action statement "b" requires, in part, that offsite A.C. power sources be demonstrated operable within one hour after declaring an Emergency Diesel Generator (EDG) [DG] inoperable.

On May 4, 1994, and again on June 15, 1994, Motor Operated Valve (MOV) [20] testing rendered an EDG inoperable for greater than one hour. In neither case was the above Action completed in the required time. This incident is therefore reportable under 10 CFR 50.73 (a) (2) (i) (B) as a condition prohibited by Technical Specifications.

DESCRIPTION OF EVENT

The Component Cooling Water (CCW) [CC] heat exchangers are cooled by Essential Service Water (ESW) [BI], with an inlet and an outlet MOV on the ESW side. In parallel with the outlet MOV is a locked throttled manual valve. The Safeguards position for the MOV's is the inlet open and the outlet closed. This arrangement provides proper cooling water flow for the CCW system while balancing the ESW flow to ensure sufficient cooling for other components, in particular the EDG's.

The Limitorque actuators on these MOV's were changed out under Plant Modification Request (PMR) 4764. Work on the "B" train valves was performed on May 3, 1994, and "A" train on June 15, 1994. The actuator replacement was accomplished with both the inlet and outlet valves blocked in their respective Safeguards position, maintaining the CCW system operable. The clearance order was then lifted, removing the blocks and leaving the valves de-energized in their Safeguards position. This configuration was desired to begin setting the limit switches and performing required Valve Operation Test and Evaluation System (VOTES) testing.

During the VOTES testing, cooling flow to the CCW heat exchanger would be intermittent. Therefore, in both instances, Control Room personnel declared the appropriate train of CCW

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

inoperable and entered Technical Specification 3.7.3. For the "A" train work, this occurred at 2035 hours CDT on June 15, 1994.

As the limit switches were being set on the "A" train outlet valve, EF HV-59, the drive sleeve was driven past the worm gear which operates the limit switches. This rendered the valve incapable of being closed. The problem was reported to the Control Room at 2140 hours on June 15, 1994. Subsequent discussion with the ESW System Engineer led to the realization that the ESW Safeguards flow balance was altered and, most limiting, the "A" train EDG might not receive sufficient ESW flow if it were needed to provide Safeguards power.

The Shift Supervisor declared the "A" train ESW system and the "A" DG inoperable at 2233 hours and entered Technical Specifications 3.7.4 and 3.8.1.1 respectively. He also ordered that the ESW inlet valve to "A" train CCW heat exchanger, EF HV-51, be maintained closed. At 2254 hours, EF HV-51 was verified closed and Technical Specifications 3.7.4 and 3.8.1.1 were exited.

Technical Specification 3.8.1.1, Action statement "b" requires, in part, that offsite A.C. power sources be demonstrated operable within one hour after declaring an EDG inoperable. This is accomplished through performance of surveillance test procedure STS NB-005, "Breaker Alignment Verification." In this case, STS NB-005 was completed satisfactorily at 2323 hours.

In planning the PMR implementation for these MOV's, CCW operability was considered but not ESW operability. The retest activities could have been sequenced so that ESW operability would not be affected. As these activities were actually performed, the appropriate ESW system and EDG should have been declared inoperable at the same time as their related CCW system.

For the "A" train evolution, entry into Technical Specifications 3.7.4 and 3.8.1.1 should have been made at 2035 hours on June 15, 1994. As STS NB-005 was not completed until 2323 hours, Technical Specification 3.8.1.1, Action statement "b" was not satisfied.

The "B" train CCW was inoperable from 1935 hours CDT on May 3, 1994 until 1523 hours on May 5, 1994 for work on its room cooler. That two day period encompassed the PMR 4764 implementation. However, retest activities on the "B" train ESW outlet valve, EF HV-60, between 0119 hours CDT until 0320 hours on May 4, 1994, created a similar occurrence. During that two hour period of time, the inlet valve, EF HV-52, was blocked open and the outlet valve, EF HV-60, would not have responded reliably to a Safe... closure signal. Technical Specifications 3.7.4 and 3.8.1.1 were not entered as STS NB-005 was not performed.

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Both of these incidents are therefore reportable under 10 CFR 50.73 (a) (2) (i) (B) as a condition prohibited by Technical Specifications.

ROOT CAUSE AND CORRECTIVE ACTIONS

The root cause of this occurrence was inadequate job scoping of the MOV retest sequence. Special conditions were created through maintaining CCW system operability during actuator replacement. The failure to recognize those conditions led to unanticipated interaction with the ESW system and an inoperable EDG.

Performance Improvement Request (PIR) 94-1083 and Reportability Evaluation Request (RER) 94-025 were initiated by Operations to determine the operability of the ESW system during VOTES testing on the CCW heat exchanger outlet valves. The PIR also evaluated the need for a more formal method of determining the prerequisites for future VOTES testing.

Initially, a hold was placed on all VOTES testing. The Vice President Plant Operations subsequently authorized such testing to continue provided an evaluation of the conditions required for the work and retest is approved by Operations. This will remain in force until the below corrective actions are fully implemented.

Operations will coordinate an assessment of all Limitorque MOV's in the VOTES program in order to determine special conditions and system interrelationships which may be applicable in testing each valve. This assessment will be completed by August 15, 1994.

The results of this assessment will be included in the Integrated Plant Scheduling database for consideration when scheduling work on these valves. This Action will be implemented as soon as practical, not later than November 30, 1994.

SAFETY ANALYSIS

Retest of the CCW heat exchanger outlet valves took about two hours for each train. During that time, the cooling water flow to the associated EDG might have been reduced but was never lost. In both cases, although the appropriate surveillance was not completed in the required time, offsite power was continuously available and the opposite Safety train was fully operable. Also, there was never a time during the MOV testing when Emergency power was required from either EDG. It can therefore be concluded that public health and safety were assured at all times.

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OTHER SIMILAR OCCURRENCES

There have been no previous similar occurrences at Wolf Creek Generating Station.