

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Otto L. Maynard
Vice President Plant Operations

May 25, 1994

WO 94-0056


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 94-004-00

Gentlemen:

The attached Licensee Event Report (LER) is being submitted pursuant to 10 CFR 50.73 (a) (2) (ii) (A) concerning entry in Technical Specification 3.0.3 and the resultant unanalyzed condition.

Very truly yours,



Otto L. Maynard

OLM/jad

Attachment

cc: L. J. Callan (NRC), w/a
G. A. Pick (NRC), w/a
W. D. Reckley (NRC), w/a
T. Keis (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: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNNB 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 5
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TITLE (4)
Loss of the Class 1E HVAC System Due to Inadequate Programmatic Controls

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
4	20	94	94	004	00	05	25	94		05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
	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)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)					
	20.405(a)(1)(iv)	X	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 Kevin J. Moles Manager Regulatory Services	TELEPHONE NUMBER (Include Area Code) 316-364-8831
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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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, completed EXPECTED SUBMISSION DATE)	X	NO	EXPECTED	MONTH	DAY	YEAR
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On April 26, 1994, at 1217 hours, Wolf Creek Nuclear Operating Corporation (WCNOC) personnel, while performing testing of the Fire Protection System [KQ], simultaneously disabled both trains of the Class 1E Heating, Ventilation and Air Conditioning (HVAC) [FG] System. The 'A' Train of the Class 1E HVAC System was disabled for testing. The 'B' Train of the Class 1E HVAC System became disabled due to human error while performing testing on the 'A' Train of the Class 1E HVAC System. The technician involved in the testing mistakenly jumpered the wrong terminals within the control panel causing the Electrothermal Links on one of the 'B' Train Dampers to melt; thus causing the damper to close. The closure of the damper effectively made the system inoperable.

Corrective actions included restoration of the 'A' Train of the Class 1E HVAC System, repair and restoration of the 'B' Train of the Class 1E HVAC System, counseling of the personnel involved in the incident and revision of the procedure used to perform the testing activity.

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				2 OF 5
	482	94	004	00	

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

PLANT CONDITIONS

Plant Operational Condition: 100% thermal power
 Reactor Coolant System Pressure: 2240
 Reactor Coolant System Temperature: 586.5 °F

BASIS FOR REPORTABILITY

10 CFR 50.72 (b) (1) (ii) (A) requires the licensee to report, to the NRC within one hour, any event that causes the plant to be in an unanalyzed condition. The event occurred on April 26, 1994, at 1217 hours and was reported to the NRC on April 26, 1994, at 1239 hours.

10 CFR 50.73 (a) (2) (ii) (A) requires the licensee to submit a Licensee Event Report within thirty days describing any event and the corrective actions associated with the event that results in the plant being in an unanalyzed condition.

At 1217 hours on April 26, 1994, both trains of the Class 1E Heating, Ventilation, and Air Conditioning (HVAC) System [FG] used to cool the Safety Related Electrical Switchgear Rooms became inoperable at the same time. The 'A' Train of the Class 1E HVAC System had been disabled for testing of the fire protection system dampers in accordance with an approved testing procedure. The 'E' Train of the Class 1E HVAC System was inadvertently disabled during testing of the 'A' Train. Loss of both trains of the Safety-Related HVAC System represented a minor reduction in the margin of safety previously evaluated and documented in the Wolf Creek Technical Specifications, and resulted in WCNOG entering Technical Specification 3.0.3. The NRC has defined in NUREG-1022 the reduction in the margin of safety as defined in the Technical Specifications as reportable per

10 CFR 50.72 (b) (1) (ii) (A).

DESCRIPTION OF EVENT

On April 26, 1994, at 1217 hours, Wolf Creek Nuclear Operating Corporation (WCNOG) personnel were performing surveillance testing of the fire protection system [KQ] in accordance with surveillance procedure STN FP-402, Revision 3, "Six Zone Halon System Checkout." Procedure STN FP-402 provides instructions for testing the Halon Systems and associated components of the Class 1E HVAC System for 4 vital and 2 non-vital Electrical Switchgear rooms.

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

This testing requires isolating the Halon supply and disconnecting the Electrothermal Links (ETLs) for Fire Dampers associated with the Switchgear room being tested. The testing also results in the associated train of the Class 1E HVAC system being rendered inoperable.

While performing the section of the Test Procedure involving Switchgear Room 1, the 'A' train Class 1E HVAC System was rendered inoperable as required. Testing had proceeded to a section of the procedure that tested the Electrical Circuits for the Inhibit Switch on the local Fire Protection Panel. The Inhibit Switch isolates all inputs from detection devices through an electronic module, and prevents the Fire Protection panel from actuating. Testing of the Inhibit Switch involves momentarily jumpering of the detection inputs from each of the six Halon zones, and verifying that no changes occur at the Fire Protection Panel. While performing this part of the procedure, the test performer incorrectly connected the jumper for the Switchgear Room 4 detector inputs causing the Switchgear Room 4 Fire Dampers to close and the 'B' Train HVAC System Fan to trip. Closure of the fire dampers and tripping of the fan rendered the 'B' Train of the Class 1E HVAC System inoperable.

Control Room personnel declared the system inoperable and entered Technical Specification 3.0.3 at 1217 hours CDT. Upon restoration of the 'A' Train of the Class 1E HVAC System to operable status the Control Room exited Technical Specification 3.0.3.

CORRECTIVE ACTIONS:

Corrective Actions Completed

Immediately upon closure of the damper and tripping of the fan (1217 hours CDT) in the 'B' Train of the Class 1E HVAC System the Control Room was notified of the error. Control Room personnel restored the 'A' Train of the Class 1E HVAC System to service and established temporary cooling to the rooms cooled by the 'B' Train of the Class 1E HVAC System (1220 hours CDT).

Control Room personnel contacted the NRC Operations Center and informed them of WCNOG entry into Technical Specification 3.0.3, the cause of the entry and the time the Technical Specification was exited. The HVAC System became inoperable at 1217 hours CDT and the notification was made at 1239 CDT.

Control Room personnel initiated corrective Work Request 02520-94 and 02521-94 to document the tripped damper and Electrothermal Links and implement corrective actions to restore the damper and Electrothermal Links to the required configuration. Troubleshooting of dampers, Electrothermal Links, and control systems associated with the Class 1E HVAC

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System was performed. This troubleshooting showed the dampers, Electrothermal Links, and control systems were functioning correctly.

Performance Improvement Request 94-0821 was initiated to investigate and document the programmatic cause of this event and the corrective actions implemented to prevent recurrence of the event.

The investigation determined this event had two root causes. The first root cause was determined to be human error. The test performer incorrectly connected the jumper to the wrong terminals. The second root cause was determined to be the procedure used to perform the testing instructed the test performer to disable one train of the Class 1E HVAC System and to test the electronics associated with both trains at one time. Testing of the electronics associated with both trains of the system at one time was thought to be an acceptable practice because the procedure and equipment provide the controls to assure the testing would not adversely affect the operable train. However, this practice failed to consider that if the tester made an error in jumpering the terminals than the operable train could be rendered inoperable; as happened on April 26, 1994.

The testing personnel involved in this event were counseled on the need to use STAR (Stop, Think, Act and Review), WCNO's Self-Checking Program.

A Group Meeting was held with the electricians. This meeting discussed in detail this event, the cause of the event, the correct action that would have prevented the event, the corrective action implemented to prevent recurrence of the event, and the STAR Program.

Procedure STN FP-402 was revised. This revision changed the testing philosophy used to test the electronics associated with the Class 1E HVAC System. The revised procedure now only allows the electronics associated with the disabled train of the HVAC System to be tested. This action will help to prevent the tester from connecting the jumper to the wrong terminals and causing the operable train of the HVAC System to become inoperable.

The event investigator reviewed all similar procedures and identified that procedure STN FP-401, Revision 3, "Two Zone Halon System Checkout," contains instructions similar to STN FP-402. These instructions when coupled with a human error event similar to that which is documented in this LER could result in the Class 1E HVAC System being made inoperable, thus placing the plant into a Technical Specification 3.0.3 entry.

Procedure STN FP-401 was revised. This revision changed the testing philosophy used to test the electronics associated with the Class 1E HVAC System. The revised procedure now only allows the electronics associated with the disabled train of the HVAC System to be

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tested. This action will help to prevent the tester from connecting the jumper to the wrong terminals and causing the operable train of the HVAC System to become inoperable.

Future Corrective Actions

The corrective actions described above are considered appropriate to prevent recurrence of this event. Therefore, all appropriate actions for this event are complete.

SAFETY ANALYSIS

The Class 1E HVAC System provides cooling to components required to shutdown the reactor and maintain the reactor in a safe shutdown condition. Although, this event disabled both trains of the Class 1E HVAC System for a short time, the safety significance is mitigated by Control Room Personnel actions to immediately restore the "A" Train of the Class 1E HVAC System and to provide temporary cooling to the "B" Train components cooled by the Class 1E HVAC System. Further, it is important to note that at no time during the event did the temperatures in the rooms cooled by the Class 1E HVAC System exceed the limits specified in the WCNO Technical Specification 3.7.1.2. Therefore, no adverse consequences to plant safety occurred and the health and safety of the public was assured at all times.

OTHER SIMILAR OCCURRENCES:

None.