

# WOLF CREEK

NUCLEAR OPERATING CORPORATION

Stephen E. Hedges  
Vice President Operations and Plant Manager

March 8, 2005  
WO 05-0013

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

Subject: Docket No. 50-482: Licensee Event Report 2005-001-00

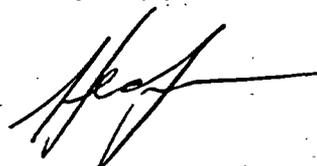
Gentlemen:

The enclosed Licensee Event Report (LER) 2005-001-00 is being submitted pursuant to 10 CFR 50.73(a)(2)(ii)(B) regarding an unanalyzed condition from a cable separation issue that could potentially affect post-fire safe shutdown equipment availability at Wolf Creek Generating Station.

Commitments made by Wolf Creek Nuclear Operating Corporation in the enclosed LER are identified in the Attachment to this letter.

If you have any questions concerning this matter, please contact me at (620) 364-4190, or Mr. Kevin Moles at (620) 364-4126.

Very truly yours,



Stephen E. Hedges

SEH/rlg

Attachment  
Enclosure

cc: J. N. Donohew (NRC), w/a  
D. N. Graves (NRC), w/a  
B. S. Mallett (NRC), w/a  
Senior Resident Inspector (NRC), w/a

IE22

### LIST OF COMMITMENTS

The following table identifies those actions committed to by Wolf Creek Nuclear Operating Corporation (WCNOC) in this document. Any other statements in this submittal are provided for information purposes and are not considered to be commitments. Please direct questions regarding these commitments to Mr. Kevin Moles, Manager Regulatory Affairs at Wolf Creek Generating Station, (620) 364-4126.

COMMITMENT	Due Date/Event
A design modification change package will be initiated and implemented to fire wrap the subject cable. The interim action of maintaining an hourly roving fire watch in the affected fire area remains in place until resolution of this condition is implemented.	January 20, 2006.

# LICENSEE EVENT REPORT (LER)

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

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects@nrc.gov](mailto:infocollects@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

<b>1. FACILITY NAME</b> WOLF CREEK GENERATING STATION	<b>2. DOCKET NUMBER</b> 05000 482	<b>3. PAGE</b> 1 OF 4
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**4. TITLE**  
Corrective Action to Fire Wrap Raceway for Valve EMHV8803A not included in Design Change Package.

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
01	07	2005	2005	001	00	03	08	2005		05000
									FACILITY NAME	DOCKET NUMBER
										05000

<b>9. OPERATING MODE</b> 1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§:</b> (Check all that apply)									
<b>10. POWER LEVEL</b> 100	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER							
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

**12. LICENSEE CONTACT FOR THIS LER**

FACILITY NAME Kevin J. Moles, Manager Regulatory Affairs	TELEPHONE NUMBER (Include Area Code) (620) 364-4126
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REORT**

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b>	MONTH	DAY	YEAR

**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On January 7, 2005, conditions were discovered where a postulated fire could cause the loss of a fire safe shut down success path.

During reviews associated with post-fire safe shutdown reanalysis work, Wolf Creek Nuclear Operating Corporation (WCNOC) personnel discovered that power and control cables for Boron Injection Tank (BIT) inlet valve, EMHV8803A, could be damaged by a fire in Fire Area A-1. This could cause the loss of the centrifugal charging pump's (CCP's) capability to successfully inject borated water, through the BIT, into the reactor. This does not meet WCNOC's commitments to 10 CFR 50 Appendix R.III.G as reflected in the approved Fire Protection Plan.

A 1-hour fire watch was implemented in the fire area.

The safety significance for this event is low.

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

**Background:**

The centrifugal charging pumps (CCPs) [EIS Code: P] are used to inject borated water into the reactor to maintain reactor water inventory, maintain shutdown reactivity margin, and maintain a flow of cooling water to the reactor coolant pump (RCP) seals to prevent damage to the seals. A Safety Injection Signal opens the Boron Injection Tank (BIT) inlet and outlet valves for the CCPs to inject borated water into the reactor. A fire in the plant has the potential to cause the BIT inlet valve, EMHV8803A, to remain closed and result in a loss of the capability to maintain reactor water inventory and borate the reactor.

**Plant Conditions Prior to the Event:**

MODE – 1  
Power – 100 percent  
Normal Operating Temperature and Pressure

**Event Description:**

In early January 2005, it was discovered that corrective actions for LER 2002-004-02 were not fully implemented for auxiliary building corridor at elevation 1974 ft. (Fire Area A-1) by the associated Design Change Package (DCP). Completion of the fire wrap modification by December 2003 was a commitment made in LER 2002-004-02.

Corrective action program documentation, PIR 2000-2378, had identified several electrical raceways that needed to be wrapped with a fire barrier to protect a safe shutdown success path if a fire occurred in Fire Area A-1. A design modification package, DCP 11038, was generated to implement the modification for the fire wrap barriers. The electrical raceway associated with the Boron Injection Tank (BIT) inlet valve, EMHV8803A, was not included in the modification package. The corrective action document, PIR 2000-2378, was closed incorrectly as a result of the implementation of the design modification.

EMHV8803A is needed in the case of fire in Fire Area A-1 to maintain the water level in the Pressurizer on scale by injecting borated water in excess of reactor water being lost by reactor coolant system (RCS) letdown, if letdown fails to isolate. This lack of fire wrapping could have prevented EMHV8803A from performing its post-fire safe shutdown function.

**Basis for Reportability:**

Due to intervening combustibles, a fire in Fire Area A-1 has the potential to cause valve EMHV8803A to not function properly and cause a loss of the capability to borate the reactor. Based on this information, WCNOG made an eight hour Emergency Notification System call in accordance with 10 CFR 50.72(b)(3)(ii)(B).

This condition is also reportable pursuant to 10 CFR 50.73(a)(2)(ii)(B) for any event or condition that resulted in the nuclear power plant being in an unanalyzed condition that significantly degraded plant safety.

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

**Root Cause:**

The root cause was human error by Design Engineering personnel, Fire Protection personnel, and contracting personnel involved with the design modification process. Greater than 95% of the work for the design modification process was located in the west corridor of Fire Area A-1. The power and control cables for valve EMHV8803A were located in the east/northeast corridor of Fire Area A-1. The personnel involved with the design modification process had tunnel vision that limited their focus to the west corridor modifications.

Additionally, the Design Engineer who closed the corrective action document did not fully utilize procedural guidance to ensure that the design modification process fully corrected the issues identified.

**Corrective Actions:**

A lesson-learned session for the entire Design Engineering Department will be conducted focusing, in part, on human performance error reduction and engineering rigor. This event will be part of initial and continuing training classes for engineers qualified to review and approve design modification change packages.

Design Engineering will initiate a plant modification change package. This modification will ensure that conduit for valve EMHV8803A will be fire wrapped in Fire Area A-1 of the Auxiliary Building. The implementation of this modification will be completed by January 20, 2006.

**Safety Significance:**

The potential for cables for valve EMHV8803A to be affected by a fire in Fire Area A-1, such that control of this valve is lost, is low because:

- (1) The separation between the trains is approximately 135 feet (Appendix R requires separation of "more than 20 feet with no intervening combustible or fire hazards."
- (2) The majority of "intervening combustibles" in this case are IEEE 383 electrical cables; such cables will not self-sustain a fire. Other combustibles in the general area consist only of personal anti-contamination clothing located in the RCA dress-out area. The dress-out area is located about 80 feet from the Train B cables. There is automatic fire suppression in that area.
- (3) Valve EMHV8803A cables are in electrical conduit and while the conduit is not a rated fire barrier, it would provide some protection against damage from a fire. In addition, a fire sprinkler line with several sprinkler heads runs less than two feet from this conduit for most of its distance in Fire Area A-1.
- (4) Valve EMHV8803A would be needed only in the case of a failure of letdown to isolate.

Therefore, potential safety significance of this condition in all areas (system/component operability, nuclear/radiological safety, health/safety of the public and environmental impact) is considered to be low.

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

**Operating Experience/Previous Events:**

An occurrence of a similar event was reported via licensee event report LER 1999-009-00. In LER 1999-009-00, it was determined that there was inadequate separation of cables for valves and level transmitters for the volume control tank. In the event of a fire, a potential existed for gas intrusion into the suction of the centrifugal charging pump. While corrective actions have been taken to address these conditions, an additional corrective action for LER 1999-009-00 was to validate the post fire safe shutdown analysis and to provide necessary correction to the Updated Safety Analysis Report (USAR). The validation consists of two phases: phase one reverified the design criteria and phase two completes the post-fire safe shutdown analysis review. The conditions identified in LER 2005-001-00 were discovered during phase two and reported in LER 2002-004-02.