

## 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 5

TITLE (4)

Use of Fire Protection Pumps for Non-Fire Protection Purposes Constituted a Significant Degradation of Fire Protection System

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	03	97	97	16	02	01	27	98	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
MODE 1			20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	
POWER LEVEL (10)			20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)	
100 percent			20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		X OTHER	
			20.405(a)(1)(iii)		X 50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		WCNOC Operating	
			20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		License NPF-42	
			20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)		Section 2.C(5)(a)	

LICENSEE CONTACT FOR THIS LER (12)

NAME

Michael J. Angus  
Manager Licensing and Corrective Action

TELEPHONE NUMBER (Include Area Code)

316-364-8831 Extension 4077

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS

SUPPLEMENTAL REPORT EXPECTED (14)

YES		X NO		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

ABSTRACT (16)

Testing performed on September 19, 1997, provided results which indicate that uses of the Fire Protection (FP) system water flow for non-fire protection purposes resulted in a significant reduction of FP system capability; however, adequate flow would have been available to achieve and maintain safe shutdown in the event of a fire. These uses constitute a violation of License Condition 2.C (5)(a); therefore, this event is being reported per the Wolf Creek Generating Station (WCGS) Operating License, Condition 2.F. The cause of this event is attributed to the inadequacy of Fire Protection Program management with respect to training of personnel and ensuring compliance with licensing requirements. WCGS has initiated interim actions to ensure no further uses of the fire protection system pumps would occur for non-fire protection purposes without Engineering evaluation and approval of the plant manager. A comprehensive procedure is being developed for FP system use. An assessment of the fire protection organization structure and program ownership will be completed by July 15, 1998.

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TEXT CONTINUATION

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				97	016	02	

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

**Plant Conditions Prior to the Event:**

MODE = 1  
Reactor Coolant Pressure = 2233 psig  
Reactor Power = 100 percent

**Basis for Reportability:**

Condition 2.F of the WCNOG Operating License requires WCNOG to report any violation of the requirements contained in Section 2.C of the license as follows: initial notification within 24 hours to the NRC Operations Center via the Emergency Notification System, with written followup within thirty days in accordance with the procedures described in 10 CFR 50.73(b), (c), and (e). Section 2.C, Item (5)(a), requires WCNOG to maintain in effect all provisions of the approved fire protection program as described in the SNUPPS Final Safety Analysis Report for the facility... and as approved in the NRC Safety Evaluation Report.

Testing performed on September 19, 1997, provided results which indicate that uses of the Fire Protection System (EIS Code: KP) pumps for non-fire protection purposes resulted in a significant reduction of fire protection system capability. WCNOG believes these uses constituted a violation of License Condition 2.C (5)(a). Therefore, this event is being reported per the WCNOG Operating License, Condition 2.F. The required 24-hour notification was made on September 19, 1997 at 1658 hours. Revision 0 of this report (LER 97-016-00, dated October 3, 1997) satisfied the 30-day written followup requirement of License Condition 2.F.

Although Fire Protection operational restrictions are no longer a part of the WCNOG Technical Specifications (i.e., they were relocated to the USAR by License Amendment 15, February 24, 1988), similar uses of the fire protection system pumps occurred during the time the restrictions were a part of the WCNOG Technical Specifications. These uses resulted in certain surveillance requirements regarding system flow not being met, resulting in an inoperable fire suppression system for greater than 24 hours with no compensatory measures in place. These historical conditions constituted violations of the WCNOG Technical Specifications, and are reportable under 10 CFR 50.73(a)(2)(i)(B).

**Description of Event:**

On September 3, 1997, during a review of uses of the fire protection system, the fire protection engineer determined that the diversion of significant quantities of water could impair the fire suppression system's capability. A Performance Improvement Report (PIR) was initiated, and further investigation conducted to determine the extent of this



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concern. Historical uses were identified as far back as January 1987. An evaluation, including flow testing, was then conducted to determine the extent of the impact these uses had on fire suppression capability.

On September 19, 1997, testing of the fire protection system provided results which indicate that uses of the fire protection system pumps to provide water for non-fire protection purposes would have resulted in a significant degradation of fire protection capability.

**Root Cause:**

The event investigation identified two primary root causes for this event:

- Fire Protection Program management was not adequate to ensure compliance with design/licensing requirements. Program management did not ensure that all uses of the fire protection pumps were thoroughly evaluated; and,
- Fire Protection Program management failed to ensure that engineers and operating personnel were adequately trained with respect to system operability requirements. Lack of adequate training resulted in personnel that were not prepared to effectively evaluate non-fire protection uses of the fire protection system.

The following contributing factors to this event were identified:

- The lack of a comprehensive procedure for Fire Protection system use; and,
- Inadequate regulatory screenings of non-fire protection uses of the fire protection system, in that all USAR requirements were not addressed or identified during the various reviews which allowed the non-fire protection uses.

**Immediate Corrective Actions:**

WCNOC initiated interim actions to ensure no further uses of the fire protection system pumps would occur for non-fire protection purposes without Engineering evaluation and approval by the plant manager.

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**Additional Corrective Actions:**

With respect to limiting the use of the fire protection system to fire protection uses, the following corrective actions are being taken:

- Operations is reviewing its procedures to identify uses of the Fire Protection System water in supplementing other systems. This review, and necessary procedure changes, will be completed by February 16, 1998.
- A comprehensive procedure will be written to govern starting and stopping of the fire protection system pumps. This procedure will be developed by April 15, 1998.

With respect to the adequacy of the regulatory screenings:

- The WCNOG Licensing organization is reviewing the 10 CFR 50.59 Regulatory Screening form to determine whether enhancement is needed to the wording of the question regarding whether a proposed activity impacts the fire protection program. Any identified enhancements to the procedure will be completed by July 15, 1998.
- The WCNOG Training organization is reviewing the Regulatory Screening qualification training to identify whether enhancements are necessary with respect to Fire Protection Program information provided in that training. This review will be completed by February 16, 1998.

With respect to the Fire Protection Program management issues identified in the root cause evaluation, a self-assessment of the fire protection organization structure and program ownership will be completed by July 15, 1998.

**Safety Significance:**

WCNOG Engineering has evaluated the safety significance of the identified uses of the fire protection system for non-fire protection purposes. The design capacity of the Fire Protection water supply system is based on the largest postulated power block suppression system water demand plus an allowance for 1000 gpm of outside hose stream capacity. Using this criteria, the fire protection water supply system piping and pumps were sized and installed to supply 3300 gpm at 80 psi at the furthest interface point, which is a non-safety related area (i.e., turbine area). The largest system demand identified in the



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Fire Hazards Analysis for a fire in a safety-related area is 1035 gpm. That demand equates to a minimum margin of 2265 gpm (3300 gpm - 1035 gpm = 2265 gpm) for safety related areas.

The most significant usage identified during the investigation occurred in the fall/winter of 1996 through the spring of 1997. This usage involved two 45 degree angles with 2-inch straight nozzles attached directly to the hydrant connections. Testing conducted on September 19, 1997, using a conservative configuration, indicated that demands on the fire protection system during this time would have been approximately 2140 gpm. Given a pump capability of 3300 gpm, a resulting flow of 1160 gpm was available during those periods. A flow of 1160 gpm is sufficient to meet the largest suppression demands (either automatic or manual) evaluated in the Fire Hazards Analysis for safety related areas (i.e., 1035 gpm). Therefore, the ability to achieve and maintain safe shutdown in the event of a fire would have been maintained.

For non safety related areas, specifically the turbine building, the available flows would have accounted for less than half of the demand of the largest systems in the building. This flow diversion would constitute a significant reduction in capability for those areas; however, this reduction would not have affected the ability to achieve and maintain the plant in a safe shutdown condition.

Other Previous Occurrences:

There have been no other reportable events with respect to non-fire protection uses of the fire protection system.