NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION
(6-1998)

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB NO. 3150-0104
EXPIRES 06/30/2001

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
WOLF CREEK GENERATING STATION	05000482	1 OF 4

TITLE (4)

Volume Control Tank Isolation Valve Does Not Have Redundant Fusing

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
10	8	98	98	004	00	11	06	98	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	MODE 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)	100 percent		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)
			20.405(a)(1)(i)		50.36(c)(1)	X	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)		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	TELEPHONE NUMBER (Include Area Code)
Michael J. Angus Manager, Licensing and Corrective Action	316-364-4077

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES	X NO				

ABSTRACT (16):

During review of an LER from another plant, Wolf Creek Generating Station (WCGS) personnel identified that the report details were relevant to operation of WCGS. The LER reported the Volume Control Tank isolation valve, which procedures direct operators to close by a local handswitch, did not have redundant control power fusing. In a postulated fire scenario a short circuit could blow the circuit fuse prior to circuit isolation. This would not be evident to operators manipulating the handswitch and could have resulted in failure to close the valve. This event was reported as an event which could have prevented a system from performing its safety function. The cause was determined to be inadequate administrative controls in that the appropriate fire response plan requirements were not incorporated into procedures. Immediate corrective action included a procedure revision to provide for manual closure of the valve.

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

Plant Conditions Prior to the Event:

Mode 1
100 percent power

Basis for Reportability:

NRC Licensing basis for nuclear power plant fire protection requires the capability to shutdown the plant from outside the Control Room in the event of a Control Room fire. Procedure OFN RP-017, "Control Room Evacuation," requires closing of the Volume Control Tank (VCT) [CB-TK] downstream isolation valve [CB-ISV] BG-LCV-112C. Closing this valve ensures gas used to pressurize the VCT is isolated from the inlet to Centrifugal Charging Pump (CCP) [CB-P] B in order to ensure the pump does not become gas bound. OFN RP-017 directs that the valve be closed using a local handswitch [HS]. The handswitch does not have redundant control power fusing, nor was there a procedure step in OFN RP-017 requiring manual closure of the valve. In the postulated fire scenario, a short circuit could occur and blow the control circuit fuse before the circuit was isolated. This failure would not be evident to the operators responsible for operating the local handswitch. This could have resulted in failure to close the valve, which in turn could have caused gas binding of CCP B.

10 CFR 50.73 (a)(2)(v) states that licensees shall report any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to maintain the reactor in a safe shutdown condition. Pursuant to 10 CFR 50.72 (b)(2)(iii) a four hour notification was made to the NRC Operation Center on October 8, 1998.

Event Description

Letter SLNRC 84-0109, dated August 23, 1984, from N. A. Petrick, SNUPPS to H. R. Denton, NRC, provided results of an evaluation and a summary of the fire response plan necessary to ensure achievement and maintenance of hot standby with a postulated control room fire. This letter stated that the VCT downstream isolation valve, BG LCV-112C would be manually closed. However, the procedure which incorporated the requirements from SLNRC 84-0109, OFN-OO-017, "Control Room Evacuation," did not contain this requirement. Procedure OFN OO-017 was renamed, OFN RP -017, "Control Room Evacuation," in December 1993.

Procedure OFN OO-017 and later OFN RP-017 both required closing of the Volume Control Tank (VCT) downstream isolation valve, BG LCV-112C. Closing this valve ensures gas used to pressurize the VCT is isolated from the inlet to Centrifugal Charging Pump (CCP) B in order to ensure the pump does not become gas bound. The procedure closed the valve by a local handswitch. The handswitch does not have redundant control power fusing, and the procedure did not require the valve to be manually closed. In the postulated fire scenario, a short circuit could occur and blow the control circuit fuse before the circuit was isolated. This failure would not be evident to the operators responsible for

operating the local handswitch. This could have resulted in failure to close the valve, which in turn could have caused gas binding to CCP B.

In June 1998, as part of WCNOC's Update Safety Analysis Report (USAR) Fidelity Review, USAR Section 9.5, "Fire Protection," was reviewed and SLNRC 84-0109 identified for verification with appropriate procedures. Operation's personnel were in the process of verifying inconsistencies identified by the USAR Fidelity Review when Callaway plant identified the concern and issued an LER on the topic. The LER was reviewed and found to be applicable to Wolf Creek Generating Station.

Root Cause:

The cause was determined to be inadequate administrative controls in that fire response plan for the VCT isolation valve requirements were not incorporated into procedures.

A contributing factor was identified in that revisions to OFN OO-017 and later, OFN RP-017 failed to review applicable portions of the USAR and verify the information contained in the procedure.

Corrective Actions Taken:

Since the original error in 1984, programs and processes described in procedures, AP 26A-003, "Screening and Evaluating Changes, Tests, and Experiments," and AP 15C-004, "Preparation, Review, and Approval of Documents," have been implemented which 1) ensure commitments are properly incorporated into procedure, and 2) procedure reviews appropriately validate/verify information contained in the procedure.

On-The-Spot-Change (OTSC) 98-0364 to OFN RP-017 was implemented on October 8, 1998, to locally verify closure of the VCT downstream isolation valve, BG LCV-112C, and OTSC 98-0372 was implemented on October 30, 1998, requiring operators to open breaker BGLCV0112C.

Operations is in the process of performing a self assessment to identify all commitments that are applicable to Operations and ensure that the commitments are properly implemented. The self assessment will be completed by February 19, 1999.

Operations will conduct a review of OFN RP-017 against letter SLNRC 84-0109 to ensure the response plan is fully incorporated into the procedure and to identify all commitments. The revision will be completed by January 15, 1999.

All isolation switch circuits used in OFN RP-017 were reviewed by Engineering. No other inconsistencies were identified between OFN RP-017 and SLNRC 84-0109.

Safety Significance:

For a fire in the Control Room which results in Control Room evacuation, a loss of offsite power is assumed, and only B train equipment is isolable from the Control Room.

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Therefore, during this event, credit is taken only for B train equipment. CCP B is part of the Chemical Volume and Control System and started as part of the mitigating actions for the event. CCP B is started to provide borated makeup water from the RWST to the Reactor Coolant System [AB] via the reactor coolant pump (RCP) [AB-P] seals.

If the VCT outlet valve, BG LCV-112C, fails to close, causing the VCT to empty, CCP B could be postulated to fail due to gas binding. This would prevent charging to the RCP seals resulting in approximately 32 gpm loss of RCS inventory through the RCP seals, similar to that which would occur during a loss of all AC power. The difference for the fire scenario is that the B train Emergency Diesel Generator and the associated safety related bus (NB02) are available during the fire in the Control Room. Specifically for this case, Component Cooling Water [CCW] is available to provide cooling water to the thermal barrier heat exchanger to preclude RCP seal degradation, and a motor-driven auxiliary feedwater pump is available to feed the Steam Generators. This equipment ensures decay heat removal via the Steam Generators and ensures that a catastrophic seal failure will not occur. Assuming a 32 gpm net inventory loss through the RCP seals, it is estimated that more than 24 hours are available to take actions to mitigate the loss of inventory prior to uncovering the core. Steam Generator level indication and auxiliary feedwater control are available such that feedwater can be controlled to conserve Condensate Storage Tank inventory. Existing Off-normal and emergency operating procedures provide adequate guidance to address this scenario thereby assuring continued core cooling, adequate decay heat removal, and assuring that the plant can attain a safe, stable state.

Other Previous Occurrences:

There have been no previous similar occurrences.

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 notify the Manager Licensing & Corrective Action at Wolf Creek Nuclear Generating Station of any questions regarding this document or any associated commitments.

COMMITMENT	Date/Event
Operations is in the process of performing a self assessment to identify all commitments that are applicable to Operations and ensure that the commitments are properly implemented. The self assessment will be completed by February 19, 1999.	2/19/99
Operations will conduct a review of OFN RP-017 against letter SLNRC 84-0109 to ensure the response plan is fully incorporated into the procedure and to identify all commitments. The revision will be completed by January 15, 1999.	1/15/99