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)

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FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
WOLF CREEK GENERATING STATION	05000482	1 OF 5

TITLE (4)

Securing ESF Switchgear Room Cooler During Normal Operations Results in Technical Specification Violation

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	29	98	98	007	00	11	24	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)		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	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):

Wolf Creek Generating Station (WCGS) personnel identified that procedures were in place which allowed operation with one class 1E electrical air conditioning (A/C) unit inoperable. The procedural controls associated with this allowed condition were inconsistent with the Technical Specifications (TS) and Generic Letter 91-18 guidance for support system operability. An engineering disposition and design basis requirements were misinterpreted when developing a 1989 technical specification interpretation that originally sanctioned this condition. This misinterpretation was due to the same root cause that has been previously identified at WCGS, a historical misalignment between WCGS organization culture and the regulatory environment. A configuration change package was completed and the controlling procedure revised, instituting appropriate controls to ensure operability of the equipment in both rooms. WCGS is pursuing a Technical Specification change to provide a Limiting Condition for Operation for the Class 1E A/C units. In addition, deleted and current TS clarifications will be reviewed. The safety significance of this condition is considered minimal, since adequate controls were in place to ensure at least one train of supported equipment remained operable and the allowed time frame of the condition was limited to less than 72 hours.

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
Reactor Coolant Pressure 2233 psig
Reactor Coolant Temperature 586.5 degrees Fahrenheit

Basis for Reportability:

The Technical Specification definition of OPERABLE-OPERABILITY (Definition 1.19) states, "A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s), and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its functions(s) are also capable of performing their related support functions(s)."

There is no explicit Technical Specification (TS) Limiting Condition for Operation (LCO) for the Class 1E Switchgear air conditioning (A/C) units. However, the TS definition of OPERABLE for the components in the switchgear rooms, battery rooms, and Engineered Safety Features (ESF) switchgear rooms mandates that support systems necessary for OPERABILITY of supported systems be capable of performing their intended functions. Engineering documentation indicates that the SGK05 A/C units are required to function following a design basis accident. A 1989 TS interpretation was put in place without appropriate consideration of the impact of not having one unit of A/C for the affected rooms following a design basis accident. In addition, a referenced disposition indicated: "...by engineering judgment, one SGK05 unit does not have sufficient capacity to cool both trains of switchgear and battery rooms under accident conditions." This statement would mean that, without compensatory measures, the equipment in ONE or BOTH rooms must be declared inoperable (associated functions could not be performed) and the applicable Technical Specifications entered.

The 1989 TS interpretation, and subsequent procedures, did not provide appropriate compensatory measures to ensure operability of the supported equipment following a design basis event. Therefore, since the applicable action statement was not entered, conditions existed which were prohibited by Techncial Specifications. These conditions are being reported under 10 CFR 50.73(a)(2)(i)(B), as a condition prohibited by the plant's Technical Specifications.

Event Description

As indicated above, there is no TS LCO for the Class 1E electrical equipment A/C units. A Technical Specification Interpretation, TSI 002-89, was approved that allowed operation with one A/C unit inoperable without entry into an LCO for the supported electrical equipment. This TSI was in effect from February 23, 1989 to April 28, 1997. The TSI was based on a 1988 engineering disposition (EER 88-GK-13); however, the disposition was

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misunderstood and the TSI consequently allowed actions that were not in compliance with the 10 CFR 50.2 Design Basis requirements for the Class 1E A/C system and therefore did not support Operability of Technical Specification equipment.

In September, 1988, Operations requested outside temperature limitations from Engineering for operating the Class 1E electrical equipment A/C units (SGK05A/B) to satisfy design basis requirements. One A/C unit was out of service at the time Engineering provided a disposition stating that influence of outside air has little effect on A/C system performance. The disposition stated that continued power operation, with one A/C unit inoperable, is not in conformance with single failure criteria; temporary means of cooling equipment supported by the A/C unit that is inoperable cannot be relied upon to function during post accident conditions. Therefore, operability of the supported Class 1E electrical equipment is dependent on the associated A/C unit operability.

Operations then requested from Engineering guidance for the acceptability of a 72 hour action limit for one Class 1E electrical equipment A/C unit out of service. The disposition to that request determined conditions for which one A/C unit is predicted to maintain both trains of supported equipment rooms below the TS room temperature limits for a duration of 72 hours. The disposition required doors between equipment rooms to be closed upon Engineered Safety Feature Actuation System (ESFAS) actuation because there was at that time no analysis to show that one A/C unit can adequately cool the design heat loads of both trains of supported equipment under post accident conditions. A later revision of the disposition stated that the requirements for TS action and the risk associated with having one A/C unit inoperable during normal operations, and therefore not capable of meeting single failure criteria post-accident, should be addressed. However, this concern was not addressed in the implementing document.

In February, 1989, TSI 002-89 Rev. 0 was issued based on this disposition. The TSI allowed normal operations with one A/C unit inoperable, with restrictions on supported equipment room temperature and a 72 hour time limitation. The TSI misinterpreted the engineering disposition. Because of this, the TSI allowed actions that are in conflict with Updated Safety Analysis Report (USAR) Safety Design Basis requirements. In April 1991, procedure SYS GK-200, Revision 0, "Inoperable Class 1E A/C Unit," was issued which further allowed and supported the condition.

In April, 1997, TSI 002-89 was deleted. This deletion was based on having equivalent procedural controls in place. In August, 1998, Engineering was again requested to provide justification for having one A/C unit inoperable. This disposition again provided allowance for operation with a single operable A/C unit and justified the 72 hour administrative LCO.

In September, 1998, while reviewing the 1998 disposition, Licensing personnel identified the inadequacies associated with the controls in place for an inoperable class 1E switchgear room A/C unit. PIR 98-3259 was initiated to determine the root cause and corrective actions.

Root Cause:

The errors in TSC 002-89 and SYS GK-200 resulted from a misinterpretation of the disposition to EER 88-GK-13 and design basis requirements. This misinterpretation has the same root cause that was identified in WCNOC Incident Investigation Team (IIT) Report 96-004 and WCGS LERs 96-011 through 96-016, i.e., a historical misalignment between Wolf Creek organization culture and the regulatory environment.

The root cause for the errors associated with the August 1998 disposition was the individuals involved believing that single failure criteria of the USAR Safety Design Basis did not apply to this case. They incorrectly believed that in this respect, their disposition was just like other TS LCOs on other safety related systems. The individuals involved in the disposition believed that, since their disposition was reinstating actions previously approved by the Plant Safety Review Committee and routinely conducted by Operations during the previous seven years, there was no conflict between what the disposition allowed and the USAR Safety Design Basis of the Class 1E A/C system. This mindset is the root cause for their failure in 1998 to identify the conflict with USAR Safety Design Basis.

Corrective Actions Taken:

CCP 07905 Rev. 0 was initiated which supersedes the 1998 disposition and voids the original engineering disposition. The disposition now clearly states that securing one or both Class 1E electrical equipment A/C units during normal operations is an action not "supported by the current accident analysis or worst case Design Basis heat loads, accidents and events and would not meet the single failure design criteria for the system. Thus, SGK05A or SGK05B shall not be secured during normal operations, without also taking actions in accordance with existing Technical Specifications of the supported equipment." The actions specified by this CCP ensure continual functionality of the supported systems.

An IIT was formed at WCGS in 1996 to address the root cause for events associated with inaccurate Technical Specification clarifications (TSCs). The IIT report recommended two long term corrective actions to address the root cause. These were: The Chief Operating Officer will conduct follow-up sessions with all departments to communicate management expectation regarding the need for verbatim compliance with Nuclear Regulatory requirements; and periodic training to insure the proper alignment between the Wolf Creek culture and the regulatory environment on verbatim compliance. These corrective actions were completed. To validate the corrective actions associated to the IIT, an effectiveness follow-up was completed. No further concerns were identified by the follow-up. In addition, a review of the 1997 and 1998 LERs was completed. Effectiveness was evaluated by reviewing: reductions in recent human errors resulting in TS violations, and increases in identification of historical and long-term errors resulting in TS violations. No additional concerns were identified. Therefore, no additional corrective actions to address the mindset issues associated with the original TSI are necessary.

Corrective Actions to be Taken:

WCNOC is pursuing a change to Wolf Creek Technical Specifications that will add a Limiting Condition for Operation for the Class 1E electrical equipment A/C units. A License Amendment Request is expected to be submitted by February 15, 1999.

Prior to completion of the IIT in 1996, Operations had performed a review of current TSCs. This review resulted in several LERs and the deletion of numerous TSCs. This review occurred prior to the IIT corrective actions; therefore, a review of all deleted and current TSCs will be conducted. The review will determine whether the consequences of the TSC deletions have all been identified and properly addressed. The review will also determine whether the deleted and current TSCs have resulted in conflicts with Technical Specifications and/or USAR Safety Design Bases. This review will be completed by March 1, 1999.

Safety Significance:

Although the controls in place were inconsistent with the guidance of TS and NRC Generic Letter 91-18 regarding support system operation and the USAR Safety Design Basis, the controls in place 1) assured that one train of supported equipment would have remained operable, and 2) the time frame of the allowed condition was limited (72 hours). Therefore, the safety significance of this issue is considered minimal.

Other Previous Occurrences:

LER 89-011-00 discusses a condition in which both class 1E Air Condition Units, SGK05 A & B, were simultaneously inoperable. Although this situation is not explicitly addressed by the Technical Specifications, entry into Technical Specification 3.0.3 was declared in accordance with previously established administrative guidelines. This event is similar in that the inoperability of SGK05 A & B units caused entry into Technical Specification 3.0.3. The corrective actions for LER 89-011-00 focused on the hardware failure and therefore, would not have prevented the occurrence described by LER 98-007-00.

LERs 96-011-01, 96-012-01, 96-013-01, 96-014-01, 96-015-01 and 96-016-01 discussed conditions where Technical Specification Clarifications allowed violations of Technical Specifications. The root cause of these six LERs was found to be a misalignment between the Wolf Creek organization culture and the regulatory environment. This "mind set" root cause was the same as the root cause of this LER. However, the time frame for the occurrence of the condition described in this LER was the same; therefore, the corrective actions to address the mind set issue would not have prevented this occurrence.