

# WOLF CREEK

NUCLEAR OPERATING CORPORATION

Matthew W. Sunseri  
Vice President Operations and Plant Manager

January 6, 2010

WO 10-0002

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

Reference: Letter WM 09-0065 dated December 9, 2009, from R. A. Muench, WCNOC, to USNRC

Subject: Docket No. 50-482: Licensee Event Report 2009-006-00, Inadequate Common Cause Failure Determination Results in Condition Prohibited by Technical Specifications

Gentlemen,

The enclosed Licensee Event Report (LER) is being submitted in accordance with 10 CFR 50.73, "Licensee event report system," paragraph (a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications (TS). The LER involves the failure to perform an adequate common cause failure determination in accordance with TS 3.8.1, "AC – Source Operating."

On November 10, 2009, NRC Inspection Report 2009004 identified a Green noncited violation of TS 3.8.1 for failure to perform an adequate common cause evaluation within 24 hours to demonstrate no common cause failure mechanism existed between the OPERABLE and inoperable diesel generators. Therefore, this event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the plant's TSs based on the NRC Inspection Report 2009004 characterization of the issue as a violation of TSs. WCNOC's review of this event determined that the event was not reportable under this criterion and the basis for this determination is provided in the Enclosure. WCNOC's position and denial of the noncited violation has been provided to the NRC in the Reference. Based on the NRC's review of WCNOC's denial and their final position, a resolution will be provided in a supplement to this LER.

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NRK

The Attachment provides a list of regulatory commitments. If you have any questions concerning this matter, please contact me at (620) 364-4008, or Mr. Richard D. Flannigan, Manager Regulatory Affairs at (620) 364-4117.

Sincerely,



Matthew W. Sunseri

MWS/rlt

Attachment  
Enclosure

cc: E. E. Collins (NRC), w/a, w/e  
G. B. Miller (NRC), w/a, w/e  
B. K. Singal (NRC), w/a, w/e  
Senior Resident Inspector (NRC), w/a, w/e

### LIST OF REGULATORY COMMITMENTS

The following table identifies those actions committed to by WCNOG in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to Mr. Richard Flannigan at (620) 364-4117.

REGULATORY COMMITMENT	DUE DATE/EVENT
Based on the NRC's review of WCNOG's denial and their final position, a resolution will be provided in a supplement to this LER.	06/30/2010

**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: 80 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, 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 6
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**4. TITLE**  
Inadequate Common Cause Failure Determination Results in Condition Prohibited by Technical

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
06	30	2009	2009	- 006	- 00	01	06	2010	FACILITY NAME	DOCKET NUMBER
										05000
										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 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 checked="" 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 Richard D. Flannigan, Manager Regulatory Affairs	TELEPHONE NUMBER (Include Area Code) (620) 364-4117
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

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

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input checked="" type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b> MONTH: 06, DAY: 30, YEAR: 2010
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**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

At 1115 CDT on June 30, 2009, a through wall leak on Essential Service Water (ESW) System piping just upstream of valve EF HV-038 was identified by shift crew personnel during building watch rounds. The "B" ESW train was declared inoperable per Technical Requirement (TR) 3.4.17, "Structural Integrity," and Condition A of LCO 3.7.8, "Essential Service Water (ESW) System," was entered. This resulted in the "B" diesel generator (DG) being declared inoperable and entering Condition B of LCO 3.8.1.

Required Action B.3.1 for TS 3.8.1 is to determine if the operable DG is inoperable due to a common cause failure. Control room personnel utilized procedure SYS KJ-200, "Inoperable Emergency Diesel," when the DG was declared inoperable and determined that a common cause failure did not exist. At 1202 CDT Required Action B.3.1 was exited.

At 2140 CDT, a structural integrity evaluation utilizing Code Case N-513-2 demonstrated that adequate structural integrity of the "B" ESW train existed. The "B" ESW train and "B" DG were declared operable.

Subsequently, the NRC Resident Inspector challenged the adequacy of the common cause failure determination. This event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the plant's TSs based on the NRC Inspection Report 2009004 characterization of the issue as a violation of TSs.

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**NARRATIVE**

**PLANT CONDITIONS PRIOR TO EVENT:**

MODE - 1  
Power - 100

**EVENT DESCRIPTION:**

At 1115 CDT on June 30, 2009, a through wall leak on Essential Service Water (ESW) System [EIS Code: BI] piping just upstream of valve EF HV-038 was identified by shift crew personnel during building watch rounds. The "B" ESW train was declared inoperable based on Technical Requirement TR 3.4.17, "Structural Integrity," and Condition A of LCO 3.7.8, "Essential Service Water (ESW) System," was entered. Required Action A.1 of LCO 3.7.8 has a Note to enter the applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources – Operating," for a diesel generator (DG) made inoperable by the ESW System. This resulted in the "B" DG [EIS Code: EK] being declared inoperable and entering Condition B of LCO 3.8.1.

Required Action B.3.1 for TS 3.8.1 is to determine if the operable DG is inoperable due to a common cause failure. Control room personnel utilized procedure SYS KJ-200, "Inoperable Emergency Diesel," when the DG was declared inoperable and determined that a common cause failure did not exist. Step 6.1.5 of SYS KJ-200 specifies to document the evaluation of common cause on the procedure cover sheet. The documented evaluation indicated that "B" DG inoperability was not common cause due to the "B" train ESW being inoperable. At 1202 CDT Required Action B.3.1 was exited. Subsequent discussions with control room staff indicated that a dedicated walkdown after identification of the leak on the "B" train was not performed. This decision was due to the affected location on the "A" train being in the same room and a leak on the "A" train would have been easily observed by the building watch as part of building watch rounds (the leak on "B" ESW train was discovered during building watch rounds).

At 2140 CDT, a structural integrity evaluation utilizing Code Case N-513-2 demonstrated that adequate structural integrity of the "B" ESW train existed. The "B" ESW train and "B" DG were declared operable.

Condition Report (CR) 00018217 was initiated on June 30, 2009 for the identified leak on EF138HBC-30. The structural integrity evaluation was documented in Work Order (WO) 09-318203-002. Five augmented examinations at locations similar in configuration to the identified leak were required based on Code Case N-513-2. The code case requires the augmented examinations to be performed within 30 days. The below table provides information on the five augmented examinations.

Work Order	Description	Completed	Train	Results
09-318269	EF081HBC-30 D/S EFHV037	7/8/09	A	acceptable
09-318272	EF081HBC-30 U/S EFHV037	7/8/09	A	acceptable
09-318268	EF223HBC-30 D/S EFV108	7/8/09	A	acceptable
09-318271	EF138HBC-30 D/S EFHV038	7/21/09	B	acceptable
09-318270	EF139HBC-30 D/S EFHV040	7/21/09	B	acceptable

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**BASIS FOR REPORTABILITY:**

Subsequent to the restoration of the "B" ESW train and "B" DG on June 30, 2009, the NRC Resident Inspector challenged the adequacy of the common cause failure determination. On November 10, 2009, NRC Inspection Report 2009004 identified a Green noncited violation of Technical Specification 3.8.1 for failure to perform an adequate common cause evaluation within 24 hours to demonstrate no common cause failure mechanism existed between the operable and inoperable emergency diesel generators. This event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the plant's TSs based on the NRC Inspection Report 2009004 characterization of the issue as a violation of TSs. WCNOG's denial of the violation has been submitted and based on the NRC's further review and final position, a resolution will be provided in a supplement to this LER.

As identified above, Condition B of LCO 3.8.1 was entered at 1115 CDT due to "B" DG being declared inoperable due to an ESW leak (there was no failure of the DG itself). At 1202 CDT Required Action B.3.1 (24 hour Completion Time) was exited when the common cause failure determination identified there was no common cause failure. The "B" DG was declared operable at 2140 CDT when an evaluation determined that structural integrity of "B" ESW was maintained. If the common cause failure determination was inadequate, the 24 hour Completion Time clock for Required Action B.3.1 would have continued until 1115 CDT on July 1, 2009 or until Condition B was exited. In this case Condition B was exited prior to expiration of the 24 hour Completion Time of Required Action B.3.1 based on a structural integrity assessment in accordance with Code Case N-513-2. The TS 3.8.1, Required Action B.3.1 and B.3.2 Bases state, in part: "In the event the inoperable DG is restored to OPERABLE status prior to completing either B.3.1 or B.3.2, the plant corrective action program will continue to evaluate the common cause possibility. This continued evaluation, however, is no longer under the 24 hour constraint imposed while in Condition B."

LCO 3.0.2 states, in part, "If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required unless otherwise stated." There is no Note in Condition B of LCO 3.8.1 that requires Required Action B.3.1 or B.3.2 to be completed whenever Condition B is entered. As such, if the common cause evaluation was inadequate such that the Completion Time clock of Required Actions B.3.1 and B.3.2 continued, the LCO was met prior to the expiration of the specified Completion Times, and completion of Required Actions B.3.1 or B.3.2 is not required. Because the TS requirement to complete a common cause failure determination ceased to exist when operability of the "B" DG was restored within the specified Completion Time of Required Action B.3.1, WCGS remained in compliance with LCO 3.8.1.

WCNOG's review of this event determined that the event did not meet the criteria for reporting under 10 CFR 50.73(a)(2)(v) as an event or condition that could have prevented the fulfillment of a safety function. The "A" DG was operable during the time frame that the "B" DG was inoperable and the "B" DG was restored to operable status prior to the expiration of the Required Action B.3.1 Completion Time. There were no indications that the "A" DG was inoperable and a common cause determination would not have been required by TSs. Therefore, onsite emergency power was available to the plant and would not be reportable under 10 CFR 50.73(a)(2)(v).

**CAUSE:**

Specific information that was incorporated into the current technical specifications (CTS) (pre-improved TSs (ITS) via Amendment No. 123) and CTS Bases as a result of Amendment No. 101 was not incorporated into the expanded ITS and ITS Bases developed during the conversion to the ITS so as to more closely adhere to standardization. As a result, no changes were made to procedure SYS KJ-200, "Inoperable Emergency Diesel," as the basis for considering there is no common cause failure due to an inoperable support system was maintained. The bases for this cause is discussed below.

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On September 15, 1995, WCNOC submitted a license amendment request proposing to revise TS 3/4.8.1, "Electrical Power Systems – A.C. Sources," in part, based on the guidance in Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation (Generic Letter 93-05)," and Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators (Generic Letter 94-01)."

Specifically, Action b. of TS 3.8.1.1 was proposed to be revised as follows:

- b. With one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the offsite A.C. sources by performing Specification 4.8.1.1.1 within 1 hour and at least once per 8 hours thereafter. Demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Specification 4.8.1.1.2a.4 within 24 hours\*\*, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated, or if the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, preplanned preventative maintenance or testing, or maintenance to correct a condition which, if left uncorrected, would not affect the OPERABILITY of the diesel generator; restore the inoperable diesel generator to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

~~\*\*This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABLE status unless the diesel was declared inoperable to do preplanned preventative maintenance, testing, or maintenance to correct a condition which, if left uncorrected, would not affect the operability of the diesel generator.~~

The amendment request included proposed changes to the CTS Bases to reflect the changes to the CTSs. The changes were proposed based on the guidance in Generic Letter 93-05. Generic Letter 93-05 provided guidance for TS improvements to reduce surveillance requirements for testing based on the results reported in NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements." Specifically item 10.1 in Enclosure 1 of the generic letter recommended changes to the emergency diesel generator surveillance requirements. Recommendation (1) stated: "When a EDG itself is inoperable (not including a support system or independently testable component), the other EDG(s) should be tested only once (not every 8 hours) and within 8 hours unless the absence of any potential common mode failure can be demonstrated."

This specific change was approved in Amendment No. 101 on August 9, 1996. The Safety Evaluation associated with Amendment No. 101, stated, in part:

The proposed changes are consistent with the recommendations contained in GL 93-05. Also, these changes are in conformance with Action B of TS 3.8.1 of the STS. The GL suggests that when an EDG is inoperable (not including a support system or independently testable component), the other EDG should be tested only once, unless the absence of any potential common mode failure can be demonstrated. Information provided in the STS indicates that 24 hours is a reasonable time frame to confirm that the operable EDG is not affected by the same problem as the inoperable EDG. The licensee reports that 24 hours is compatible with plant operating experience. Thus, the proposed changes are acceptable.

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Note that Section 1.0 of the Safety Evaluation for Amendment No. 101 indicates that the proposed changes would incorporate recommendations and suggestions from GL 93-05; the improved Standard Technical Specifications, NUREG-1431, "Standard Technical Specification – Westinghouse Plants" (STS); and other NRC guidance documents. The wording in the Safety Evaluation indicates that the wording of the STS (NUREG-1431) are such that the common cause failure determination or performing SR 3.8.1.2 for the operable DG are not necessary if the inoperable DG were inoperable due to an inoperable support system, an independently testable component, preplanned preventative maintenance or testing, or maintenance to correct a condition which, if left uncorrected, would not affect the operability of the DG.

WCNOC letter ET 97-0050, dated May 15, 1997, provided the WCGS Technical Specification Conversion Application. The conversion application included a markup of current TS 3.8.1.1 Action b. and removed the associated wording associated with the DG being inoperable due to any cause other than an inoperable support system. The associated discussion of change (DOC 1-05-LS-6) indicates that the change was considered a less restrictive change and the DOC further indicates that the change was based on the guidance in Generic Letter 84-15 and Generic Letter 93-05. While the expanded wording that was in the CTSSs was not incorporated into the ITS or ITS Bases, the justification indicates that the intent of the ITS wording is based on the guidance in Generic Letter 84-15 and Generic Letter 93-05 (an inoperable support system that results in the inoperability of the DG is not considered a common cause failure or would not require the performance of SR 3.8.1.2).

**ACTIONS TAKEN:**

As a result of an additional leak on "B" ESW train on July 27, 2009 and additional discussions with NRC staff on July 28, 2009, direction was provided to control room personnel that when a DG is declared inoperable, for the purposes of meeting LCO 3.8.1, Required Actions B.3.1 or B.3.2, perform SR 3.8.1.2 for the operable DG unless the DG were declared inoperable for preplanned maintenance or testing. Procedure SYS KJ-200 was revised to reflect the guidance provided to control room personnel.

WCNOC submitted a license amendment request (letter WO 09-0039, dated November 20, 2009) that proposed to revise Technical Specification (TS) 3.8.1, "AC Sources – Operating," consistent with the changes previously approved in Amendment No. 101 and with the guidance provided in Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation (Generic Letter 93-05)."

**SAFETY SIGNIFICANCE:**

With one DG inoperable (due to one ESW train inoperable), the remaining operable DG and offsite circuits are adequate to supply electrical power to the onsite class 1E AC power distribution system. The 72 hour Completion Time takes into account the capacity and capability of the remaining ac sources, a reasonable time for repairs, and the low probability of a Design Basis Accident (DBA) occurring during this period. A structural integrity evaluation utilizing Code Case N-513-2 demonstrated that adequate structural integrity of the "B" ESW train existed.

The event did not result in any challenges to the fission product barriers or result in the release of radioactive materials. Therefore, there were no adverse safety consequences or implications as a result of this event and the event did not adversely affect the safe operation of the plant or health and safety of the public.



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## OPERATING EXPERIENCE/PREVIOUS EVENTS:

NRC Inspection Report 2007005 identified a green noncited violation of TS 3.8.1 for failure to perform an adequate common cause failure evaluation within 24 hours when the "A" DG tripped on reverse power on November 1, 2007, and resulted in replacement of the digital reference unit. This noncited violation identified that an evaluation of the "A" DG did not use correct information to explain the observed failure mechanism, and both DGs were susceptible to a 10 CFR Part 21 notification that WCNOG did not evaluate until November 6, 2007. This event was not the result of an inoperable support system.