

June 26, 1987

Docket No. 50-482

*Correction to
Amdt. 8 to NPF-42*

Mr. Bart D. Withers
President and Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
Post Office Box 411
Burlington, Kansas 66839

Dear Mr. Withers:

SUBJECT: CORRECTION TO AMENDMENT NO. 8 TO FACILITY OPERATING LICENSE
NO. NPF-42

On May 29, 1987, the Commission issued Amendment No. 8 to Facility Operating License No. NPF-42 for the Wolf Creek Generating Station. The amendment changed the Technical Specifications (TS) to increase overall emergency diesel generator reliability and to prevent undue stress and wear on the diesel generator changes.

Several of the TS pages contained mismarking of the area of changes and some typographical errors. The corrected TS pages are enclosed.

Please accept our apology for any inconvenience this error may have caused you.

Sincerely,

/s/ P. W. O'Connor

Paul W. O'Connor, Project Manager
Project Directorate - IV
Division of Reactor Projects - III, IV,
V, and Special Projects
Office of Nuclear Reactor Regulation

Enclosure:
As stated

DISTRIBUTION

Docket File	NRC PDR
Local PDR	PD4 Reading
F. Schroeder	D. Crutchfield
J. A. Calvo	P. Noonan
P. O'Connor	OGC-Beth
D. Hagen	E. Jordan
J. Partlow	T. Barnhart (4 cys for each docket No.)
W. Jones	E. Butcher
ACRS (10)	GPA/PA
ARM/LFMB	LFMB
PD4 Plant file	

PD4 <i>PM</i>	PD4 <i>pwol</i>	PD4 <i>MC</i>
PNoonan	PO'Connor: as	JACalvo
6/24/87	6/25/87	6/25/87

8707090344 870626
PDR ADDCK 05000482
P PDR

Mr. Bart D. Withers
Wolf Creek Nuclear Operating Corporation

Wolf Creek Generating Station
Unit No. 1

cc:

Mr. Gary L. Haden, Director
Research & Energy Analysis
Kansas Corporation Commission
4th Floor - State Office Building
Topeka, Kansas 66612-1571

Mr. Gary Boyer, Plant Manager
Wolf Creek Nuclear Operating Corp.
P.O. Box 411
Burlington, Kansas 66839

Jay Silberg, Esq.
Shaw, Pittman, Potts & Trowbridge
1800 M Street, NW
Washington, D.C. 20036

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
Office of Executive Director
for Operations
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Chris R. Rogers, P.E.
Manager, Electric Department
Public Service Commission
P. O. Box 360
Jefferson City, Missouri 65102

Resident Inspector/Wolf Creek NPS
c/o U.S. Nuclear Regulatory Commission
P. O. Box 311
Burlington, Kansas 66839

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Mr. Brian Moline
Chief Legal Counsel
Kansas Corporation Commission
4th Floor - State Office Building
Topeka, Kansas 66612-1571

Senior Resident Inspector/Wolf Creek
c/o U. S. Nuclear Regulatory Commission
P. O. Box 311
Burlington, Kansas 66839

Mr. Robert Elliot, Chief Engineer
Utilities Division
Kansas Corporation Commission
4th Floor - State Office Building
Topeka, Kansas 66612-1571

Mr. Otto Maynard, Manager Licensing
Wolf Creek Nuclear Operating Corp.
P. O. Box 411
Burlington, Kansas 66839

Mr. Gerald Allen
Public Health Physicist
Bureau of Air Quality & Radiation
Control
Division of Environment
Kansas Department of Health
and Environment
Forbes Field Building 321
Topeka, Kansas 66620

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. Two physically independent circuits between the offsite transmission network and the Onsite Class 1E Distribution System, and
- b. Two separate and independent diesel generators, each with:
 - 1) A separate day tank containing a minimum volume of 390 gallons of fuel,
 - 2) A separate Fuel Oil Storage System containing a minimum volume of 85,300 gallons of fuel, and
 - 3) A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With an offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining off-site A.C. source by performing Specification 4.8.1.1.1 within 1 hour and at least once per 8 hours thereafter. If either diesel generator of the above required A.C. electrical power sources has not been successfully tested within the past 24 hours, demonstrate OPERABILITY by performing Specification 4.8.1.1.2a.4* separately for that diesel generator within 24 hours. Restore at least two offsite circuits 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.
- 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**; 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.

*The automatic start and sequence loading of a diesel generator satisfies the testing requirements of Specification 4.8.1.1.2a.4 for this Action Statement.

**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.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

- c. With one offsite circuit and one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining offsite A.C. source by performing Specification 4.8.1.1.1 within 1 hour and at least once per 8 hours thereafter and Specification 4.8.1.1.2a.4* within 8 hours** on the redundant diesel generator; restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the remaining A.C. electrical power source (offsite circuit or diesel generator) to OPERABLE in accordance with Specification 3.8.1.1 ACTION a. or ACTION b. as applicable with the time requirement for the ACTION based on the time of the initial loss of the remaining inoperable A.C. electrical power source. A successful test of diesel generator OPERABILITY performed in accordance with Specification 4.8.1.1.2a.4* under this ACTION for an OPERABLE diesel generator or a diesel generator that was restored to OPERABLE, satisfies the subsequent testing requirement of Specification 3.8.1.1 ACTION a. or ACTION b. for an OPERABLE diesel generator.
- d. With one diesel generator inoperable in addition to ACTION b. or c. above, verify that:
1. All required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generator as a source of emergency power are also OPERABLE, and

*The automatic start and sequence loading of a diesel generator satisfies the testing requirements of Specification 4.8.1.1.2a.4 for this Action Statement.

**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.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

2. When in MODE 1, 2, or 3, the steam-driven auxiliary feedwater pump is OPERABLE.

If these conditions are not satisfied within 2 hours be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

- e. With two of the above required offsite A.C. circuits inoperable, demonstrate the OPERABILITY of two diesel generators by sequentially performing Specification 4.8.1.1.2a.4 within 8 hours unless the diesel generators are already operating; restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. Following restoration of one offsite A.C. electrical power source, follow ACTION a. above with the time requirement of ACTION a. based on the time of the initial loss of the remaining inoperable offsite A.C. electrical power source. A successful test of diesel generator OPERABILITY performed in accordance with Specification 4.8.1.1.2a.4* under this ACTION for the OPERABLE diesel generators, satisfies the subsequent testing requirement of Specification 3.8.1.1 ACTION a.
- f. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Specification 4.8.1.1.1 within 1 hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Following restoration of one diesel generator follow ACTION b. with the time requirement of the ACTION based on the time of initial loss of the remaining inoperable diesel generator. A successful test of diesel generator operability performed in accordance with Specification 4.8.1.1.2a.4 under this ACTION for the OPERABLE diesel generators, satisfies the subsequent testing requirement of Specification 3.8.1.1 ACTION b.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the Onsite Class 1E Distribution System shall be determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability.

*The automatic start and sequence loading of a diesel generator satisfies the testing requirements of Specification 4.8.1.1.2a.4 for this Action Statement.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

- a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:
 - 1) Verifying the fuel level in the day tank,
 - 2) Verifying the fuel level in the fuel storage tank,
 - 3) Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day tank,
 - 4) Verifying the diesel starts and accelerates to at least 514 rpm in less than or equal to 12 seconds.** The generator voltage and frequency shall be $4160 \pm 160 - 420$ volts and 60 ± 1.2 Hz within 12 seconds** after the start signal. The diesel generator shall be started for this test by using one of the following signals:
 - a) Manual, or
 - b) Simulated loss-of-offsite power by itself, or
 - c) Safety Injection test signal.
 - 5) Verifying the generator is synchronized, gradually loaded to an indicated 6000 to 6201 kW*** for at least 60 minutes, and
 - 6) Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.
- b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day tanks;
- c. At least once per 31 days by checking for and removing accumulated water from the fuel oil storage tanks;

**This test shall be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

***This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring or momentary variations due to changing bus loads shall not invalidate this test.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 5) Verifying that on a Safety Injection test signal without loss-of-offsite power, the diesel generator starts* on the auto-start signal and operates on standby for greater than or equal to 5 minutes; and the offsite power source energizes the auto-connected emergency (accident) load through the LOCA sequencer. The generator voltage and frequency shall be $4160 \pm 160 - 420$ volts and 60 ± 1.2 Hz within 12 seconds after the auto-start signal; the generator steady-state generator voltage and frequency shall be maintained within these limits during this test;
- 6) Simulating a loss-of-offsite power in conjunction with a Safety Injection test signal, and
 - a) Verifying deenergization of the emergency busses and load shedding from the emergency busses;
 - b) Verifying the diesel starts* on the auto-start signal, energizes the emergency busses with permanently connected loads within 12 seconds, energizes the auto-connected emergency (accident) loads through the LOCA sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with emergency loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at $4160 \pm 160 - 420$ volts and 60 ± 1.2 Hz during this test; and
 - c) Verifying that all automatic diesel generator trips, except high jacket coolant temperature, engine overspeed, low lube oil pressure, high crankcase pressure, start failure relay, and generator differential, are automatically bypassed upon loss of voltage on the emergency bus concurrent with a Safety Injection Actuation signal.
- 7) Verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to an indicated 6600 to 6821 kW** and during the remaining 22 hours of this test, the diesel generator shall be loaded to an indicated 6000 to 6201 kW.** The generator

*This test shall be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

**This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring or momentary variations due to changing bus loads shall not invalidate this test.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

voltage and frequency shall be 4160 + 160 - 420 volts and 60 + 1.2 Hz, - 3 Hz within 12 seconds after the start signal; the steady-state generator voltage and frequency shall be maintained within 4160 + 160 - 420 volts and 60 ± 1.2 Hz during this test. Within 5 minutes after completing this 24-hour test, perform Specification 4.8.1.1.2g.6b*;

- 8) Verifying that the auto-connected loads to each diesel generator do not exceed 6201 kW;
 - 9) Verifying the diesel generator's capability to:
 - a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,
 - b) Transfer its loads to the offsite power source, and
 - c) Be restored to its standby status.
 - 10) Verifying that with the diesel generator operating in a test mode, connected to its bus, a simulated Safety Injection signal overrides the test mode by: (1) returning the diesel generator to standby operation and (2) automatically energizing the emergency loads with offsite power;
 - 11) Verifying that the fuel transfer pump transfers fuel from each fuel storage tank to the day tank of each diesel via the installed cross-connection lines; and
 - 12) Verifying that the automatic LOCA and Shutdown sequence timer is OPERABLE with the interval between each load block within ± 10% of its design interval.
- h. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting** both diesel generators simultaneously, during shutdown, and verifying that both diesel generators accelerate to at least 514 rpm in less than or equal to 12 seconds; and

*If Specification 4.8.1.1.2g.6b is not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead, the diesel generator may be operated at 6201 kW for 1 hour or until operating temperature has stabilized.

**This test shall be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

TABLE 4.8-1

DIESEL GENERATOR TEST SCHEDULE

<u>NUMBER OF FAILURES IN LAST 20 VALID TESTS*</u>	<u>NUMBER OF FAILURES IN LAST 100 VALID TESTS*</u>	<u>TEST FREQUENCY</u>
<u>≤ 1</u>	<u>≤ 4</u>	At least once per 31 days
<u>> 2**</u>	<u>> 5</u>	At least once per 7 days

*Criteria for determining number of valid failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108, Revision 1, August 1977, but determined on a per diesel generator basis. For the purposes of determining the required test frequency, the previous test failure count may be reduced to zero if a complete diesel overhaul to like-new conditions is completed, provided that the overhaul including appropriate post-maintenance operation and testing, is specifically approved by the manufacturer, and if acceptable reliability has been demonstrated. The reliability criterion shall be the successful completion of 14 consecutive tests in a single series. Ten of these tests shall be in accordance with Specifications 4.8.1.1.2a.4 and 4.8.1.1.2a.5, four tests, in accordance with Specification 4.8.1.1.2f. If this criterion is not satisfied during the first series of tests, any alternate criterion to be used to transvalue the failure count to zero requires NRC approval.

**The associated test frequency shall be maintained until seven consecutive failure free tests have been performed and the number of failures in the last 20 valid tests has been reduced to one.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and
- b. One diesel generator with:
 - 1) A day tank containing a minimum volume of 390 gallons of fuel,
 - 2) A fuel storage system containing a minimum volume of 85,300 gallons of fuel, and
 - 3) A fuel transfer pump.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel, or crane operation with loads over the spent fuel pool. In addition, when in MODE 5 with the reactor coolant loops not filled, or in MODE 6 with the water level less than 23 feet above the reactor vessel flange, immediately initiate corrective action to restore the required sources to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the requirements of Specifications 4.8.1.1.1, 4.8.1.1.2 (except for Specification 4.8.1.1.2a.5)), and 4.8.1.1.3.