January 8, 1997

Mr. Neil S. Carns President and Chief Executive Officer Wolf Creek Nuclear Operating Corporation Post Office Box 411 Burlington, Kansas 66839

SUBJECT: WOLF CREEK GENERATING STATION - TECHNICAL SPECIFICATION BASES CHANGE (TAC NO. M97494)

Dear Mr. Carns:

The staff has incorporated the revision of the technical specification Bases provided by your letter of December 20, 1996, into the Wolf Creek Generating Station Technical Specifications. The revision better defines the time restraints associated with Technical Specification 3.8.1.1, "Electrical Power Systems - A.C. Sources," Actions b and c.

The staff has reviewed the change and finds the revision to the associated technical specification Bases to be acceptable. The overleaf page is provided to maintain document completeness.

Sincerely,

Original Signed By

James C. Stone, Senior Project Manager Project Directorate IV-2 Division of Reactor Projects III/IV Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosure: Bases Page

cc w/encl: See next page

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### Mr. Neil S. Carns

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## 3/4.8 ELECTRICAL POWER SYSTEMS

#### BASES

## 3/4.8.1. 3/4.8.2. and 3/4.8.3 A.C. SOURCES. D.C. SOURCES. AND ONSITE POWER DISTRIBUTION

The OPERABILITY of the A.C. and D.C power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety-related equipment required for: (1) the safe shutdown of the facility, and (2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix A to 10 CFR Part 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss-of-offsite power and single failure of the other onsite A.C. source. The A.C. source and D.C. source allowable out-of-service times are based on Regulatory Guide 1.93. "Availability of Electrical Power Sources", December 1974. When one diesel generator is inoperable, there is an additional ACTION requirement to verify that 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 that the steam-driven auxiliary feedwater pump is OPERABLE. This requirement is intended to provide assurance that a lossof-offsite power event will not result in a complete loss of safety function of critical systems during the period one of the diesel generators is inoperable. The term verify as used in this context means to administratively check by examining logs or other information to determine if certain components are out-of-service for maintenance or other reasons. It does not mean to perform the Surveillance Requirements needed to demonstrate the OPERABILITY of the component.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that: (1) the facility can be maintained in the shutdown or refueling condition for extended time periods, and (2) sufficient instrumentation and control capability are available for monitoring and maintaining the unit status.

When determining compliance with action statement requirements, addition to the RCS of borated water with a concentration greater than or equal to the minimum required RWST concentration shall not be considered to be a positive reactivity change.

The surveillance requirements of Technical Specification 3/4.8.1 are based upon, in part, the guidance of Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators from Plant Technical Specifications," Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," Regulatory Guide 1.9, "Selection, Design, Qualification, and Testing of Emergency Diesel Generator Units Used as Class IE Onsite Electrical Power Systems at Nuclear Power Plants," Revision 3, and

WOLF CREEK - UNIT 1

Amendment No. 8,59,65,101 November 22, 1993

## 3/4.8 ELECTRICAL POWER SYSTEMS

#### BASES

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The OPERABILITY of the A.C. and D.C power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety-related equipment required for: (1) the safe shutdown of the facility, and (2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix A to 10 CFR Part 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss-of-offsite power and single failure of the other onsite A.C. source. The A.C. source and D.C. source allowable out-of-service times are based on Regulatory Guide 1.93. "Availability of Electrical Power Sources", December 1974. When one diesel generator is inoperable, there is an additional ACTION requirement to verify that all required systems, subsystems, trains, components and devices, that depend on the remaining OPERABLE diese? generator as a source of emergency power, are also OPERABLE, and that the steam-driven auxiliary feedwater pump is OPERABLE. This requirement is intended to provide assurance that a lossof-offsite power event will not result in a complete loss of safety function of critical systems during the period one of the diesel generators is inoperable. The term verify as used in this context means to administratively check by examining logs or other information to determine if certain components are out-of-service for maintenance or other reasons. It does not mean to perform the Surveillance Requirements needed to demonstrate the OPERABILITY of the component.

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## ELECTRICAL POWER SYSTEMS

#### BASES

## A.C. SOURCES, D.C. SOURCES, AND ONSITE POWER DISTRIBUTION (Continued)

NUREG-1431, "Standard Technical Specifications - Westinghouse Plants." Also, the guidance of NUMARC 87-00, "Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout at Light Water Reactors," Revision 1, and Regulatory Guide 1.160 has been adopted to formulate a comprehensive Emergency Diesel Generator Reliability Program.

Technical Specification 3.8.1.1. Action b and c, require, in part, the demonstration of the operability of the remaining operable emergency diesel generator by performing Technical Specification 4.8.1.1.2a.4. This test is required to be completed regardless of when the inoperable emergency diesel generator is restored to operable status unless the emergency diesel generator 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 emergency diesel generator. The requirement to test the remaining operable emergency diesel generator when one emergency diesel generator is inoperable is limited to those situations where the cause for inoperability cannot be conclusively demonstrated in order to preclude the potential for common mode failures. The test is not required to be accomplished if the emergency diesel generator was declared inoperable due to an inoperable support system or an independently testable component. When such a test is required, it is required to be performed within 24 hours for ACTION b and within 8 hours for ACTION c of having determined that the emergency diesel generator is inoperable.

Technical Specification 4.8.1.1.2a.4 is considered to be a "Start Test" as described in Regulatory Guide 1.9, Revision 3. A "Start Test" is performed to demonstrate proper startup from standby conditions and to verify that the required design voltage and frequency is attained. For these tests, Regulatory Guide 1.9. Revision 3, recommends that the emergency diesel generators be slow started and allowed to reach rated speed on a prescribed schedule that is selected to minimize stress and wear.

Regulatory Guide 1.9, Revision 3, considers Technical Specification 4.8.1.1.2a.5 to be a "Load-Run Test". A "Load-Run Test" demonstrates 90 to 100 percent (5580 to 6201 kilowatts) of the continuous rating (6201 kilowatts) of the emergency diesel generator for an interval of not less than 1 hour and until temperature equilibrium has been attained. This test may be accomplished by synchronizing the generator with offsite power and the loading and unloading of a diesel generator during this test should be gradual and based on a prescribed schedule that is selected to minimize stress and wear on the diesel generator.

Regulatory Guide 1.9, Revision 3, considers Technical Specification 4.8.1.1.2b to be a "Fast-Start Test". A "Fast-Start Test" demonstrates that each emergency diesel generator starts from standby conditions. If a plant normally has in operation keep warm systems designed to maintain lube oil and jacket water cooling at certain temperatures or prelubrication systems or both, this would constitute normal standby conditions for that plant. Verification that the emergency diesel generator reaches required voltage and frequency within acceptable limits and time is also required.

WOLF CREEK - UNIT 1

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