

January 20, 1995

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 - AMENDMENT NO. 84 TO FACILITY
OPERATING LICENSE NO. NPF-42 (TAC NO. M90686)

Dear Mr. Carns:

The Commission has issued the enclosed Amendment No. 84 to Facility Operating License No. NPF-42 for the Wolf Creek Generating Station. The amendment consists of changes to the Technical Specifications (TS) in response to your application dated October 21, 1994, as supplemented by letters dated October 27, 1994, and December 2, 1994.

The amendment revises TS Surveillance Requirements 4.7.1.2.1.c.2, operability testing of the auxiliary feedwater (AFW) pump auto start feature, and 4.3.2.2, engineered safety features (ESF) time response testing of the AFW pumps to exempt the testing of the turbine-driven AFW pump from the provisions of TS 4.0.4 for entry into Mode 3. In addition, TS Surveillance Requirement 4.7.1.2.1.c is revised to delete the requirement that the 18 month AFW surveillance be performed during shutdown.

A copy of our related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

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

Enclosures: 1. Amendment No. 84 to NPF-42
2. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 20, 1995

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Sincerely,

A handwritten signature in cursive script that reads "James C. Stone".

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

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2. Safety Evaluation

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Mr. Neil S. Carns

- 2 -

cc w/enclosures:

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Kansas Department of Health
and Environment
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 84
License No. NPF-42

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Wolf Creek Generating Station (the facility) Facility Operating License No. NPF-42 filed by the Wolf Creek Nuclear Operating Corporation (the Corporation), dated October 21, 1994, as supplemented by letters dated October 27, 1994, and December 2, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

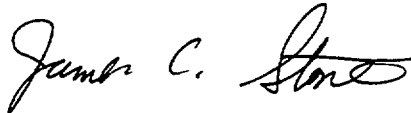
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-42 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 84, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated in the license. The Corporation shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 20, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 84

FACILITY OPERATING LICENSE NO. NPF-42

DOCKET NO. 50-482

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain marginal lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE

3/4 3-13

-

3/4 7-5

INSERT

3/4 3-13

3/4 3-13a

3/4 7-5

INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2 The Engineered Safety Features Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE with their Trip Setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4 and with RESPONSE TIMES as shown in Table 3.3-5.

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

- a. With an ESFAS Instrumentation or Interlock Trip Setpoint less conservative than the value shown in the Trip Setpoint column but more conservative than the value shown in the Allowable Value column of Table 3.3-4 adjust the Setpoint consistent with the Trip Setpoint value.
- b. With an ESFAS Instrumentation or Interlock Trip Setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, either:
 1. Adjust the Setpoint consistent with the Trip Setpoint value of Table 3.3-4 and determine within 12 hours that Equation 2.2-1 was satisfied for the affected channel, or
 2. Declare the channel inoperable and apply the applicable ACTION statement requirements of Table 3.3-3 until the channel is restored to OPERABLE status with its Setpoint adjusted consistent with the Trip Setpoint value.

Equation 2.2-1

$$Z + R + S \leq TA$$

Where:

Z = The value from Column Z of Table 3.3-4 for the affected channel,

R = The "as measured" value (in percent span) of rack error for the affected channel,

S = Either the "as measured" value (in percent span) of the sensor error, or the value from Column S (Sensor Error) of Table 3.3-4 for the affected channel, and

TA = The value from Column TA (Total Allowance) of Table 3.3-4 for the affected channel.

- c. With an ESFAS instrumentation channel or interlock inoperable, take the ACTION shown in Table 3.3-3.

INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each ESFAS instrumentation channel and interlock and the automatic actuation logic and relays shall be demonstrated OPERABLE by the performance of the ESFAS Instrumentation Surveillance Requirements specified in Table 4.3-2.

4.3.2.2 The ENGINEERED SAFETY FEATURES RESPONSE TIME* of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one train such that both trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.

*The provisions of Specification 4.0.4 are not applicable for response time testing of the steam turbine-driven auxiliary feedwater pump for entry into MODE 3.

TABLE 3.3-3

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
1. Safety Injection, (Reactor Trip, Phase "A" Isolation, Feedwater Isolation, Component Cooling Water, Turbine Trip, Auxiliary Feedwater-Motor-Driven Pump, Emergency Diesel Generator Operation, Containment Cooling, and Essential Service Water Operation)					
a. Manual Initiation	2	1	2	1, 2, 3, 4	18
b. Automatic Actuation Logic and Actuation Relays (SSPS)	2	1	2	1, 2, 3, 4	14
c. Containment Pressure-High-1	3	2	2	1, 2, 3	28*
d. Pressurizer Pressure-Low	4	2	3	1, 2, 3#	28*
e. Steam Line Pressure-Low	3/steam line	2/steam line any steam line	2/steam line	1, 2, 3#	28*
2. Containment Spray					
a. Manual Initiation	2 pair	1 pair operated simultaneously	2 pair	1, 2, 3, 4	18
b. Automatic Actuation Logic and Actuation Relays (SSPS)	2	1	2	1, 2, 3, 4	14
c. Containment Pressure-High-3	4	2	3	1, 2, 3	16

WOLF CREEK - UNIT 1

3/4 3-14

Amendment No. 43

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 31 days by:
- 1) Verifying that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in its correct position; and
 - 2) Verifying that each automatic valve in the flow path is in the fully open position whenever the Auxiliary Feedwater System is placed in automatic control or when above 10% RATED THERMAL POWER.
- c. At least once per 18 months by:
- 1) Verifying that each automatic valve in the ESW supply to the auxiliary feedwater pumps actuates to its full open position upon receipt of an Auxiliary Feedwater Pump Suction Pressure-Low test signal,
 - 2) Verifying that each auxiliary feedwater pump starts as designed automatically upon receipt of an Auxiliary Feedwater Actuation test signal. For the steam turbine-driven auxiliary feedwater pump, the provisions of Specification 4.0.4 are not applicable for entry into MODE 3, and
 - 3) Verifying that each auxiliary feedwater motor-operated discharge valve limits the flow to each steam generator from the motor-driven pump to less than or equal to 320 gpm.

4.7.1.2.2 An auxiliary feedwater flow path shall be demonstrated OPERABLE following each COLD SHUTDOWN of greater than 30 days prior to entering MODE 2 by verifying normal flow to at least two steam generators from one auxiliary feedwater pump.

PLANT SYSTEMS

CONDENSATE STORAGE TANK

LIMITING CONDITION FOR OPERATION

3.7.1.3 The condensate storage tank (CST) shall be OPERABLE with a contained water volume of at least 281,000 gallons.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

With the CST inoperable, within 4 hours either:

- a. Restore the CST to OPERABLE status or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours, or
- b. Demonstrate the OPERABILITY of the Essential Service Water (ESW) System as a backup supply to the auxiliary feedwater pumps and restore the CST to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.3.1 The CST shall be demonstrated OPERABLE at least once per 12 hours by verifying the contained water volume is within its limits when the tank is the supply source for the auxiliary feedwater pumps.

4.7.1.3.2 The ESW System shall be demonstrated OPERABLE at least once per 12 hours by verifying that the ESW System is in operation whenever the ESW System is the supply source for the auxiliary feedwater pumps.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 84 TO FACILITY OPERATING LICENSE NO. NPF-42

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

1.0 INTRODUCTION

By application dated October 21, 1994, as supplemented by letters dated October 27, 1994, and December 2, 1994, Wolf Creek Nuclear Operating Corporation (the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License No. NPF-42) (TS) for the Wolf Creek Generating Station. The proposed changes would revise the surveillance requirements for the performance of the auxiliary feedwater (AFW) pump automatic start feature (TS Surveillance Requirement 4.7.1.2.1.c.2) and engineered safety features actuation system time response tests of the AFW pump (TS Surveillance Requirement 4.3.2.2) to add an exemption from TS 4.0.4 for the turbine-driven AFW pump for entry into Mode 3. Also, the requirement of TS 4.7.1.2.1.c that the 18 month surveillance be performed during shutdown would be deleted.

The additional information contained in supplemental letter dated December 2, 1994, clarified the TS in that only the turbine-driven AFW pump was exempt from TS Section 4.0.4 for entry into Mode 3. This additional information is within the scope of the initial Federal Register notice and did not affect the staff's no significant hazards consideration determination.

2.0 BACKGROUND

The AFW system supplies feedwater to the steam generator to remove decay heat from the reactor coolant system (RCS) upon loss of the normal feedwater supply. Wolf Creek has two motor-driven AFW pumps and one turbine-driven AFW pump. The turbine-driven AFW pump receives steam from steam generators B and C. The turbine-driven AFW pump feeds all four steam generators. To ensure that the turbine-driven AFW pump is capable of fulfilling its safety function, the Wolf Creek TS require that the operability of the pump be demonstrated.

For operation in Modes 1, 2, and 3, TS 3.7.1.2 currently requires two motor driven and one steam turbine-driven AFW pumps to be operable. TS Surveillance Requirement 4.7.1.2.1.c.2 requires that each AFW pump automatically start, as designed, on receipt of an auxiliary feedwater actuation test signal. TS Surveillance Requirement 4.3.2.2 currently requires the response time of each engineered safety features actuation system (ESFAS) function be demonstrated to be within the limit at least every 18 months. Included within the ESFAS is

the start of the turbine-driven AFW pump on low-low steam generator level with a response time of ≤ 60 seconds (Functional Unit 6.d.2 of Table 3.3-3), and is required to be operable in Modes 1, 2, and 3. TS 4.0.4 requires that all surveillance tests be done before entering the mode in which the TS is applicable. In the case of the turbine-driven AFW pump, steam pressure of about 900 psig is required to test the pump.

If, during a shutdown, work is done on the automatic start circuits, ESFAS circuits associated with the turbine-driven AFW pump, or any work on the pump that would require retest, the TS requires the testing be performed before entering Mode 3, but the steam pressure is not sufficient in Mode 4 to adequately test the turbine-driven AFW pump.

In addition, TS Surveillance Requirement 4.7.1.2.1.c requires the 18 month surveillances be done during shutdown.

3.0 EVALUATION

The licensee has proposed to modify Surveillance Requirement 4.3.2.2 and 4.7.1.2.1.c.2 by adding an exemption from Surveillance Requirement 4.0.4 for the turbine-driven AFW pump. This will allow entry into Mode 3 to ensure proper steam conditions for the performance of the operability test of the turbine-driven AFW pump. Before entry into Mode 3, the two motor-driven pumps are required to be satisfactorily tested. The improved Standard Technical Specifications for Westinghouse plants (NUREG-1431) allows deferring the testing of the turbine-driven AFW pump for 24-hours after steam generator pressure reaches 1000 psig or greater in order to assure proper steam conditions before testing. However, the exemption from Surveillance Requirement 4.0.4 is consistent with the current Wolf Creek Surveillance Requirement 4.7.1.2.1a.2 that also requires testing of the turbine-driven AFW pump. This change does not modify any of the equipment or acceptance criteria, only defers testing of the turbine-driven AFW pump until adequate steam conditions are met for the operation of the turbine-driven AFW pump. The staff finds this change acceptable.

The licensee has also proposed to delete the requirement that Surveillance Requirement 4.7.2.1.c be performed during shutdown. TS 4.7.1.2.1a requires each AFW pump (motor-driven and turbine-driven) to be operationally tested every quarter. By insertion of an AFW actuation test signal, this change will provide additional flexibility for the licensee to use the quarterly test of TS 4.7.1.2.1a to satisfy the 18-month surveillance requirement of TS 4.7.1.2.1c.2. In a telephone conversation on December 21, 1994, with S. Wideman and others from WCNOG, it was stated that Surveillances 4.7.1.2.1c and 3 are normally done with the plant shut down (Modes 5 or 6) and would, at this time, continue to be done with the plant shut down. However, this change would allow the tests to be performed in other modes. The staff finds this change acceptable. This change is also in conformance with NUREG-1431.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Kansas State Official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (59 FR 60389). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: J. Stone

Date: January 20, 1995