

February 6, 2001

Mr. Otto L. Maynard  
President and Chief Executive Officer  
Wolf Creek Nuclear Operating Corporation  
Post Office Box 411  
Burlington, KA 66839

SUBJECT: WOLF CREEK GENERATING STATION - ISSUANCE OF AMENDMENT RE:  
TABLE 3.3.2-1, "ENGINEERED SAFETY FEATURE ACTUATION SYSTEM  
INSTRUMENTATION" (TAC NO. MB0675)

Dear Mr. Maynard:

The Commission has issued the enclosed Amendment No. 136 to Facility Operating License No. NPF-42 for the Wolf Creek Generating Station. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated December 7, 2000 (ET 00-0041).

The amendment revises Table 3.3.2-1, "Engineered Safety Feature Actuation System Instrumentation," of the TSs. The change would add Surveillance Requirement (SR) 3.3.2.10 for the following two engineered safety feature actuation system instrumentation in the table: item 6.f, loss of offsite power, and item 6.h, auxiliary feedwater pump suction transfer on suction pressure - low. The licensee also identified that there would be changes to the Updated Safety Analysis Report and changes to the Bases for the TSs.

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,

/RA/

Jack N. Donohew, Senior Project Manager, Section 2  
Project Directorate IV & Decommissioning  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosures: 1. Amendment No. 136 to NPF-42  
2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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cc w/encls: See next page

Wolf Creek Generating Station

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UNITED STATES  
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WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 136  
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 December 7, 2000, 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.

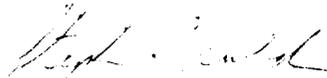
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-42 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 136, 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, including the changes to the Bases for the response times in the licensee's application, within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Stephen Dembek, Chief, Section 2  
Project Directorate IV & Decommissioning  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: February 6, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 136

FACILITY OPERATING LICENSE NO. NPF-42

DOCKET NO. 50-482

Replace the following page of the Appendix A Technical Specifications with the attached page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change. The corresponding overleaf page is provided to maintain document completeness.

REMOVE

INSERT

3.3-35

3.3-35

Table 3.3.2-1 (page 3 of 5)  
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE (a)
4. Steam Line Isolation (continued)					
d. Steam Line Pressure (1) Low	1,2 <sup>(i)</sup> , 3 <sup>(b)(i)</sup>	3 per steam line	D	SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10	≥ 571 psig <sup>(c)</sup>
(2) Negative Rate - High	3 <sup>(g)(i)</sup>	3 per steam line	D	SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10	≤ 125 <sup>(h)</sup> psi
5. Turbine Trip and Feedwater Isolation					
a. Automatic Actuation Logic and Actuation Relays	1,2 <sup>(j)</sup>	2 trains	H	SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.6 SR 3.3.2.14	NA
b. SG Water Level -High High (P-14)	1,2 <sup>(j)</sup>	4 per SG	I	SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10	≤ 79.7% of Narrow Range Instrument Span
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				

(continued)

(a) The Allowable Value defines the Limiting Safety System Setting. See the Bases for the Trip Setpoints.

(b) Above the P-11 (Pressurizer Pressure) Interlock and below P-11 unless the Function is blocked.

(c) Time constants used in the lead/lag controller are  $t_1 \geq 50$  seconds and  $t_2 \leq 5$  seconds.

(g) Below the P-11 (Pressurizer Pressure) Interlock; however, may be blocked below P-11 when safety injection on low steam line pressure is not blocked.

(h) Time constant utilized in the rate/lag controller is  $\geq 50$  seconds.

(i) Except when all MSIVs are closed.

(j) Except when all MFIVs are closed.

Table 3.3.2-1 (page 4 of 5)  
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE (a)
6. Auxiliary Feedwater					
a. Manual Initiation	1,2,3	1 per pump	O	SR 3.3.2.8	NA
b. Automatic Actuation Logic and Actuation Relays (Solid State Protection System)	1,2,3	2 trains	G	SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.6	NA
c. Automatic Actuation Logic and Actuation Relays (Balance of Plant ESFAS)	1,2,3	2 trains	N	SR 3.3.2.3	NA
d. SG Water Level Low - Low	1,2,3	4 per SG	D	SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10	≥ 22.3% of Narrow Range Instrument Span
e. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
f. Loss of Offsite Power	1,2,3	2 trains	P	SR 3.3.2.7 SR 3.3.2.10	NA
g. Trip of all Main Feedwater Pumps	1	2 per pump	J	SR 3.3.2.8	NA
h. Auxiliary Feedwater Pump Suction Transfer on Suction Pressure - Low	1,2,3	3	M	SR 3.3.2.1 SR 3.3.2.9 SR 3.3.2.10 SR 3.3.2.12	≥ 20.53 psia

(continued)

(a) The Allowable Value defines the Limiting Safety System Setting. See the Bases for the Trip Setpoints.



UNITED STATES  
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 136 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 December 7, 2000, Wolf Creek Nuclear Operating Corporation (the licensee) requested changes to the Technical Specifications (TSs, Appendix A to Facility Operating License No. NPF-42) for the Wolf Creek Generating Station. The proposed changes would revise TS Table 3.3.2-1, "Engineered Safety Feature Actuation System Instrumentation." The changes would add Surveillance Requirement (SR) 3.3.2.10 for the following two engineered safety feature actuation system instrumentation in the table: item 6.f, loss of offsite power, and item 6.h, auxiliary feedwater pump suction transfer on suction pressure - low. The licensee also identified that there would be changes to the Updated Safety Analysis Report (USAR) and changes to the Bases for the TSs.

2.0 BACKGROUND

The auxiliary feedwater (AFW) system supplies feedwater to the steam generators to remove decay heat from the reactor coolant system upon loss of the normal feedwater supply. The system has two motor-driven pumps and a turbine-driven pump. The turbine-driven pump is powered by steam from the steam generators. The AFW pumps normally take suction through a common suction line from the preferred source of water, the condensate storage tank (CST). A low-pressure signal in the AFW pump suction line protects the AFW pumps against a loss of water from the CST by transferring the suction to the essential service water (ESW) system. The CST is the preferred water supply to the AFW pumps due to the quality of the water; however, the CST is a non-seismic structure and the safety-related source of water to the pumps is the ESW system.

3.0 EVALUATION

The proposed amendment to the TSs would add SR 3.3.2.10 to Functions 6.f (start of the turbine-driven AFW pump on a loss of offsite power) and 6.h (AFW pump suction transfer from the CST to the ESW system on low suction pressure) of TS Table 3.3.2-1. This would add the requirement in SR 3.3.2.10 that engineered safety feature (ESF) response times be verified within limits every 18 months on a staggered test basis. Currently, Functions 6.f and 6.h do not have SR 3.3.2.10. Therefore, the proposed amendment request is adding requirements to the TSs.

In its application, the licensee stated that the current small-break loss-of-coolant accident analysis in Chapter 15 of the USAR includes a delay of not more than 60 seconds for the time between the AFW actuation signal and the time when the turbine-driven AFW pump is at full flow. This 60-second response time accounts for the delays associated with the delivery of flow from the turbine-driven AFW pump. For a loss of power that is assumed to occur with the reactor trip signal, this response time would be the time to sense the loss of power, the signal actuation delays, the time for the steam valves to open to provide steam to the steam-driven AFW pump, and the spin-up time of the steam-driven AFW pump.

In addition, the licensee stated that for non-LOCA transients, the USAR Chapter 15 analyses credits AFW pump start within 60 seconds after the associated ESF actuation signal is generated. This response time accounts for the delays associated with the transfer of the AFW pump suction from the CST to the ESW system on low suction pressure and includes all signal actuation delays, diesel generator starting and sequencer loading delays, valve stroke times, and ESF pump spinup time.

The licensee stated that the current TS Table 3.3.2-1 does not include response time requirements on the ESF actuation system instrumentation for the AFW with loss of offsite power (Function 6.f) and AFW pump suction transfer on low suction pressure (Function 6.h). The response time testing program must include these two ESF functions to ensure that the USAR Chapter 15 analyses are met. The response time for these two functions is  $\leq 60$  seconds as discussed above.

Therefore, to require that the response time testing program includes the two ESF functions for the AFW pumps, the licensee has proposed to add the requirement of performing SR 3.3.2.10 to verify ESF response times to Functions 6.f and 6.h of Table 3.3.2-1. Because the USAR accident analyses include response times of not more than 60 seconds for Functions 6.f and 6.h of Table 3.3.2-1 and adding the SR 3.3.2.10 to these functions in the table will require the response time to be verified as being consistent with the accident analyses, the staff concludes that the proposed changes to TS Table 3.3.2-1 are acceptable.

The ESF response times for the two functions are listed in Table B.3.3.2-2 of the Bases of the TSs because the response times do not meet the criteria in 10 CFR 50.36 to be included in the TSs. The licensee stated that the value of  $\leq 60$  seconds will replace the response times in Table B.3.3.2-2 for the functions that are equivalent to Functions 6.f and 6.h of TS Table 3.3.2-1 as a change to the TS Bases.

As requested by the licensee, the license amendment shall be implemented within 60 days of the date of issuance. This will include the changes to the Bases to add the ESFAS response times in the licensee's application. With the response times in the TS Bases, any changes to the response times would be controlled by the change criteria in 10 CFR 50.59, "Changes, tests, and experiments," as required by TS Section 5.5.14, "Technical Specifications (TS) Bases Control Program." The Bases change criteria required by the TSs provides sufficient control over any changes to the response times. Therefore, adding the response times to the TS Bases is acceptable to the staff.

#### 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 a surveillance requirement. 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 (65 FR 81932). 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: Jack Donohew

Date: February 6, 2001