

August 28, 2007

Mr. Rick A. Muench  
President and Chief Executive Officer  
Wolf Creek Nuclear Operating Corporation  
Post Office Box 411  
Burlington, KS 66839

SUBJECT: WOLF CREEK GENERATING STATION - ISSUANCE OF AMENDMENT RE:  
ADOPTION OF TSTF-491, REVISION 2, REMOVAL OF MAIN STEAM AND  
MAIN FEEDWATER VALVE ISOLATION TIMES (TAC NO. MD5266)

Dear Mr. Muench:

The U.S. Nuclear Regulatory Commission (NRC, or the Commission) has issued the enclosed Amendment No.174 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 March 14, 2007 (ET 07-0004).

The amendment revised Surveillance Requirements 3.7.2.1 and 3.7.3.1 for the main steam isolation valves and main feedwater isolation valves, respectively, to replace the valve isolation times with the phrase "within limits." The valve isolation times are stated in the TS Bases, which is controlled by TS 5.5.14, "Technical Specification (TS) Bases Control Program." This amendment is consistent with the NRC-approved Technical Specification Task Force (TSTF) Traveler 491, Revision 2, "Removal of Main Steam and Main Feedwater Isolation Times." There are other proposed changes to the TSs and the plant in the application dated March 14, 2007, that are not being addressed in this amendment. These will be addressed in future letters to you.

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  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosures: 1. Amendment No. 174 to NPF-42  
2. Safety Evaluation

cc w/encls: See next page

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Wolf Creek Generating Station

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February 2006

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 174  
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 March 14, 2007, 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 and Paragraph 2.C.(2) of Facility Operating License No. NPF-42 as indicated in the attachment to this license amendment.
3. The license amendment is effective as of its date of issuance and shall be implemented within 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Thomas G. Hiltz, Chief  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Facility  
Operating License and  
Technical Specifications

Date of Issuance: August 28, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 174

FACILITY OPERATING LICENSE NO. NPF-42

DOCKET NO. 50-482

Replace the following pages of the Facility Operating License No. NPF-42 and Appendix A Technical Specifications with the attached revised 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.

Facility Operating License

REMOVE

INSERT

- 4 -

- 4 -

Technical Specifications

REMOVE

INSERT

3.7-7

3.7-7

3.7-9

3.7-9

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 174 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 March 14, 2007 (Agencywide Documents Access and Management System Accession No. ML 070800193), 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 (WCGS). The proposed changes to the TSs are the following:

1. Changes to TS 3.3.2, "Engineered Safety Features Actuation System (ESFAS) Instrumentation," to separate the main steam and feedwater isolation system (MSFIS) from the solid state protection system (SSPS) in ESFAS Functions 4.b and 5.a of Table 3.3.2-1.
2. Changes to 3.7.3, "Main Feedwater Isolation Valves (MFIVs)," for the addition of the main feedwater regulating valves (MFRVs), and associated MFRV bypass valves to TS 3.7.3.
3. Changes to Surveillance Requirements (SRs) 3.7.2.1 and 3.7.3.1 to adopt the Nuclear Regulatory Commission (NRC)-approved Technical Specification Task Force Traveler 491, Revision 2 (TSTF-491R2), "Removal of Main Steam and Main Feedwater Isolation Times."
4. Changes to the TS Table of Contents.

The only changes to the TSs that are being addressed in this amendment are the changes in No. 3 above, the adoption of TSTF-491R2. In adopting this TSTF, the licensee proposed to revise SRs 3.7.2.1 and 3.7.3.1 for the main steam isolation valves (MSIVs) and main feedwater isolation valves (MFIVs), respectively, to replace the valve isolation times in the SRs with the phrase "within limits."

The availability of TSTF-491R2 for inclusion in plant TSs was announced in the *Federal Register* on December 29, 2006 (71 FR 78472), as part of the NRC consolidated line item improvement process.

In Attachments IV and V to the application, the licensee identified (1) changes to the TS Bases for the proposed amendment and (2) the list of regulatory commitments. In identifying changes to the TS Bases for TSs 3.7.2 and 3.7.3, the licensee is not requesting that NRC approve these changes; however, the changes to the TS Bases and the regulatory commitment is for the entirety of the proposed license amendment request in the application dated March 14, 2007.

The identified changes to the TS Bases come under TS 5.5.14, "Technical Specification (TS) Bases Control Program," which requires that "Licensees may make changes to the [TS] Bases without prior NRC approval provided the changes do not require either of the following: 1. a change to the TS incorporated in the license; or 2. a change to the update FSAR [Final Safety Analysis Report] that requires approval pursuant to 10 CFR 50.59."

## 2.0 REGULATORY EVALUATION

In Section 50.36 of Title 10 of the *Code of Federal Regulations* (10 CFR 50.36), the Commission established its regulatory requirements related to the content of the TSs. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. The rule does not specify the particular requirements to be included in a plant's TSs. As required by 10 CFR 50.36(c)(3), SRs are the requirements related to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

As required by 10 CFR 50.36(c)(2)(ii), an LCO must be included in TS for any plant structure, system, or component (SSC) meeting one of the following four criteria:

- Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.
- Criterion 2: A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- Criterion 3: An SSC that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- Criterion 4: An SSC which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

Those items that do not fall within or satisfy any of the above criteria are not required to be included in the TSs.

## 3.0 TECHNICAL EVALUATION



### 3.1 Proposed Changes to the Technical Specifications

In its application, the licensee proposed the following changes to TS 3.7.2, "Main Steam Isolation Valves (MSIVs)," and TS 3.7.3, "Main Feedwater Isolation Valves (MFIVs)":

- Revise SR 3.7.2.1, which requires the verification of the valve isolation time of each MSIV in accordance with the inservice testing program, by replacing the criterion of " $\leq 5$  seconds" with the phrase "within limits."
- Revise SR 3.7.3.1, which requires the verification of the valve isolation time of each MFIV in accordance with the inservice testing program, by replacing the criterion of " $\leq 5$  seconds" with the phrase "within limits."

The surveillance requirement to verify the valve isolation time is within limits and the frequency of performing the verification is not being changed by this amendment. The proposed changes are to remove the criterion of the valve isolation time must be  $\leq 5$  seconds from the TSs and refer to this time instead by the phrase "within limits." The criterion of  $\leq 5$  seconds would be relocated to the TS Bases for TSs 3.7.2 and 3.7.3. The requirement to verify the isolation time of the MSIVs and MFIVs, and frequency of performing the verification is not being changed.

In the application, the licensee is also proposing to replace the MSIVs and MFIVs with new valves that have longer isolation times than the current valves. This proposed extension to the valve isolation times for the MSIVs and MFIVs in the application is also not being considered in this amendment.

### 3.2 Background

As presented in the licensee's application, there is one MSIV located in each of the four main steam lines outside of the containment and, therefore, there are four MSIVs. Closing each MSIV isolates each steam generator (SG) from the other SGs and the turbine. By isolating the steam flow from the secondary side of the SG, the MSIVs prevent overcooling of the reactor core following a high-energy line break and thus protect the reactor core from being damaged from overcooling. The Wolf Creek accident analyses involving the MSIVs assume these valves close in no more than 5 seconds, and SR 3.7.2.1 is performed periodically to ensure these valves can meet this requirement.

The MFIVs isolate the nonsafety-related portions from the safety-related portions of the feedwater system to the SGs. In the event of a secondary-side pipe rupture inside containment, these valves limit the quantity of high-energy fluid that enters the containment through the break and provide a pressure boundary for the controlled addition of auxiliary feedwater to the intact loops. By isolating the feedwater flow from the affected SG, the MFIVs prevent overcooling the reactor core and overpressurizing of the containment from feedwater pump runout. Again, the Wolf Creek accident analyses involving the MFIVs assume these valves close in no more 5 seconds, and SR 3.7.3.1 is performed periodically to ensure these valves can meet this requirement.

### 3.3 NRC Staff Technical Evaluation

In adopting TSTF-491, the licensee is proposing to replace the required valve isolation times of  $\leq 5$  seconds for the MSIVs in SR 3.7.2.1 and MFIVs in SR 3.7.3.1 with the phrase "within limits." The value of  $\leq 5$  seconds for the required isolation time for these valves is stated in the TS Bases for SRs 3.7.2.1 and 3.7.3.1.

The TS Bases provide the bases for the TSs. The TS Bases provide a description of the SSCs that meet the four criteria in 10 CFR 50.36(c)(2)(ii) in that an LCO for each such SSC is required to be in the TSs and explain the requirements that the SSCs must meet in the TSs. The TSs briefly state the requirements on the SSCs (e.g., the SSC must be operable) and the details to determine the SSC is operable are given in the TS Bases. The TS 3.7.2 Bases state that SR 3.7.2.1 verifies that the MSIV isolation time is  $\leq 5$  seconds on an actual or simulated actuation signal from each actuator train. The TS 3.7.2 Bases state that SR 3.7.2.1 verifies that the MFIV isolation time is  $\leq 5$  seconds on an actual or simulated actuation signal from each actuator train. Therefore, it is clear in the TS Bases that the limits on the valve isolation times for the MSIVs and MFIVs are  $\leq 5$  seconds.

In its application, the licensee stated that the proposed changes are consistent with the NRC-approved TS changes in TSTF-491R2, the valve isolation times that are consistent with the Wolf Creek accident analyses would be stated in the TS Bases, and any changes to the TS Bases including these valve isolation times would be controlled by TS 5.5.14. The licensee further said that TS 5.5.14 provides adequate assurance that NRC review and prior approval would be requested for changes to the TS Bases requirements, including these valve isolation times, as would be required for changes to the plant in accordance with 10 CFR 50.59. The NRC staff agrees with the statements made by the licensee. Based on this, the NRC staff concludes that the TS Bases change criteria required by TS 5.5.14 provide sufficient control over any changes to the isolation times and, therefore, having the isolation time limits in the TS bases for the MSIVs and MFIVs is acceptable.

In the licensee proposing that the specific isolation time of  $\leq 5$  seconds for the MSIVs and MFIVs in SRs 3.7.2.1 (MSIVs) and 3.7.3.1 (MFIVs) be replaced by the phrase "within limits," the surveillance requirement to verify that these valves close within the isolation time required by the Wolf Creek accident analyses is not being changed. Therefore, the requirement that the valves must close in  $\leq 5$  seconds to be considered operable is not being changed. The rewritten SRs still meets 10 CFR 50.36(c)(3) in that SRs are requirements related to a test, calibration, or inspection to assure that the necessary quality of systems and components is maintained and the related LCOs are met. Based on this, the NRC staff concludes that the rewritten SRs 3.7.2.1 and 3.7.3.1 continue to meet 10 CFR 50.36(c)(3) even though the specific valve isolation times will be listed in the TS Bases.

### 3.4 Conclusion

The licensee has proposed to replace the valve isolation times of  $\leq 5$  seconds that is specified in SRs 3.7.2.1 (MSIV) and 3.7.3.1 (MFIV) by the phrase "within limits." The valve isolation times of  $\leq 5$  seconds would be specified in the TS 3.7.2 and TS 3.7.3 Bases and any changes to these valve isolation times would be controlled by TS 5.5.14. Based on the above evaluation, the NRC staff concludes that the proposed change meet 10 CFR 50.36 and, therefore, the proposed amendment is acceptable.

In Attachment IV to its application dated March 14, 2007, the licensee identified changes to the TS Bases including changes to the TS 3.7.2 and TS 3.7.3 Bases. The identified changes in Attachment IV are for the other proposed changes to the TSs in the application dated March 14, 2007, and the proposed extension of the MSIV and MFIV valve isolation times that are not being addressed in this SE. These other changes to the TSs are listed in Section 1.0 of this SE. Therefore, these identified changes to the TS Bases can not be made to the TS Bases until these other proposed changes to the TSs and the proposed extension of the MSIV and MFIV isolation times are addressed in future letters and SEs to the licensee. This has been discussed with the licensee and the licensee agrees with this conclusion.

In its application, the licensee stated that the amendment would be implemented prior to the restart from the Refueling Outage (RO) 16, which is scheduled for the spring of 2008. This implementation is based on the other proposed changes to the TSs and the proposed extension of the MSIV and MFIV isolation times. The licensee is planning to replace the MSIVs and MFIVs in RO 16 with new valves that have longer isolation times. For this amendment, the licensee does not need to wait for RO 16 to implement the amendment. In a conference call with the NRC staff, the licensee agreed that (1) this amendment could be implemented sooner than RO 16 and (2) an implementation period of 90 days was acceptable. Because the 90-day period is a reasonable time to implement the amendment, the NRC staff concludes that the 90 days is acceptable.

#### 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 requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 (72 FR 33785, published on June 19, 2007). 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 Contributors: Peter Hearn  
Jack Donohew

Date: August 28, 2007