

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

July 29, 2002

SUBJECT: WOLF CREEK GENERATING STATION - ISSUANCE OF AMENDMENT
RE: LIMITED REMOVAL OF SUSPENSION OF POSITIVE REACTIVITY
ADDITIONS (TAC NO. MB4236)

Dear Mr. Maynard:

The Commission has issued the enclosed Amendment No. 145 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 February 21, 2002 (WO 02-0004).

The amendment revises several of the Required Actions in the TSs that require suspension of operations involving positive reactivity additions or suspension of operations involving reactor coolant system (RCS) boron concentration reductions. In addition, the proposed amendment revises several Limiting Condition for Operation (LCO) Notes that preclude reductions in RCS boron concentration. This amendment revises these Required Actions and LCO Notes to allow small, controlled, safe insertions of positive reactivity, but limits the introduction of positive reactivity such that compliance with the required shutdown margin or refueling boron concentration limits will still be satisfied. This amendment is based on an NRC-approved traveler, Technical Specification Task Force (TSTF)-286, Revision 2.

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 Donohew, Senior Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosures: 1. Amendment No. 145 to NPF-42
2. Safety Evaluation

cc w/encls: See next page

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

July 23, 2002

SUBJECT: WOLF CREEK GENERATING STATION - ISSUANCE OF AMENDMENT
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WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 145
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 February 21, 2002, 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. 145, 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 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

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

Attachment: Changes to the Technical
Specifications

Date of Issuance: July 29, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 145

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 provided to maintain document completeness.

REMOVE

INSERT

3.3-4

3.3-4

3.3-5

3.3-5

3.4-9

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3.4-15

3.4-15

3.4-17

3.4-17

3.4-18

3.4-18

3.8-18

3.8-18

3.8-27

3.8-27

3.8-34

3.8-34

3.8-38

3.8-38

3.9-3

3.9-3

3.9-7

3.9-7

3.9-9

3.9-9

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 145 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 February 21, 2002, 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 would revise several of the Required Actions in the TSs that require suspension of operations involving positive reactivity additions or suspension of operations involving reactor coolant system (RCS) boron concentration reductions. In addition, the proposed amendment revises several Limiting Condition for Operation (LCO) Notes that preclude reductions in RCS boron concentration. This amendment revises these Required Actions and LCO Notes to allow small, controlled, safe insertions of positive reactivity, but limits the introduction of positive reactivity such that compliance with the required shutdown margin (SDM) or refueling boron concentration limits will still be satisfied. This amendment is based on an NRC-approved traveler, Technical Specification Task Force (TSTF)-286, Revision 2.

The licensee included in Attachment IV to its application, the changes to the TS Bases that are related to the proposed changes to the TSs.

2.0 BACKGROUND

The licensee adopted the Improved Technical Specifications in License Amendment No. 123 (issued March 31, 1999) based on NUREG-1431, "Standard Technical Specifications [STS] for Westinghouse Plants," Revision 1, dated April 1995. Since then, industry and the NRC staff have been working to improve the STS, in NUREG-1430 through NUREG-1434 for the different plant vendors, and as a result, generic changes have been developed for the STS in NUREG-1431. Changes to NUREG-1431 would be applicable to WCGS because the TSs for WCGS are based on NUREG-1431.

The proposed changes adopt NRC-approved generic changes in industry TSTF-286, Revision 2 (i.e., TSTF-286), which was approved by the staff in a letter dated July 6, 2000. This TSTF revises Required Actions (to suspend operations involving positive reactivity additions) and LCO Notes (to prevent operations involving a reduction in RCS boron concentration) to limit the introduction into the RCS of reactivity more positive than that required to meet the required SDM or refueling boron concentration, as applicable. TSTF-286 allows applicable licensees to

revise their plant TS and clarify limits on the introduction of reactivity such that the required SDM or refueling boron concentration will be satisfied. The licensee provided plant-specific differences in the TSs for TSTF-286.

The licensee employs two independent reactivity control systems: one uses the movable control and shutdown rod cluster control assemblies (RCCAs), and the other uses the chemical and volume control system (CVCS) to adjust the soluble boron concentration. In Modes 1 and 2, both systems are used to compensate for the reactivity effects from the fuel and coolant temperature changes in the RCS during power operation from full load to no load condition. In Modes 3, 4, and 5, the CVCS is used to compensate for the reactivity effects from core temperature and xenon changes. In Mode 6, the CVCS is used to maintain the boron concentration within the required limits.

The WCGS SDM limit provides sufficient subcritical reactivity margin to ensure that the specified acceptable fuel design limits (SAFDLs) will not be exceeded for normal shutdown and anticipated operational occurrences (AOOs). The SDM definition assumes that the single RCCA with the highest reactivity worth remains fully withdrawn. In Modes 1 and 2, the TSs satisfy the required SDM (which is the amount of subcriticality that would immediately occur following the insertion of control and shutdown RCCAs that had been withdrawn, assuming the fuel and moderator temperatures are at hot zero power values) by limiting the insertion of the control and shutdown banks. Small reactivity changes due to RCS coolant inventory management and temperature control are also considered in specifying SDM, including moderator temperature coefficient (MTC) effects. In Modes 3, 4, and 5, the TSs specify the required SDM (which is the reactivity margin by which the reactor will remain subcritical with the RCCAs fully inserted) by reference to the Core Operating Limits Report (COLR).

In Mode 6, the reactor subcriticality margin is ensured by the limit on the boron concentration of all filled portions of the RCS and the refueling pool that have direct access to the reactor vessel.

As shown in the licensee's application, the TSs will be modified by this amendment to permit the addition of positive reactivity and changes to the RCS boron concentration as long as the change preserves the margin to core criticality as defined by the SDM and refueling boron concentration limit specifications. The limit specifications for the SDM and refueling boron concentration are given in TSs 3.1.1 and 3.9.1, respectively, and specified in the COLR.

3.0 EVALUATION

3.1 Summary and Justification of Proposed Changes

In its application dated February 21, 2002, the licensee requested a change to the TSs for WCGS to revise TS Required Actions that currently require suspending all operations involving any positive reactivity additions, and to revise TS LCO Notes that preclude any reduction in boron concentration. The proposed changes would allow the introduction of reactivity while maintaining RCS coolant inventory and temperature as long as the required SDM or refueling boron concentration is properly maintained. These necessary operations may involve additions to the RCS of cooler borated water or require makeup from borated sources that have lower boron concentration than the existing RCS boron concentration. These changes would be

allowed if the overall effect on core reactivity still assures that the required SDM or the refueling boron concentration is maintained.

The proposed amendment would revise various TSs relating to the positive reactivity additions while in shutdown modes or TS 3.3.1, Action G.1, for two inoperable intermediate range neutron flux channels in Modes 1 and 2 above or below certain applicable interlocks. The proposed changes relax the TSs involving positive reactivity additions to the shutdown reactor. The proposed changes will allow small, controlled, safe insertions of positive reactivity while in shutdown modes or when the two required intermediate range neutron flux channels are inoperable.

The proposed changes conform with TSTF-286 except where noted in Section 3.2 below. The licensee provided plant-specific differences between the proposed changes and TSTF-286 as part of its application. A correlation of the proposed changes to the complete list of approved TSTF-286 changes was provided by the licensee. The correlation is summarized in Appendix A to this safety evaluation, and was provided as Appendix A to the licensee's application.

3.2 Staff Evaluation

TSTF-286 revises the following in the STS: (1) various Required Actions that require "Suspend operations involving positive reactivity additions," and (2) various LCO Notes precluding reduction in boron concentration. The revised TSs will limit the introduction of positive reactivity into the RCS to that which would maintain the TS-required SDM or refueling boron concentrations, as applicable. Additionally, the Required Actions, that require the suspension of positive reactivity changes, will have Bases additions that clarify the intent to preclude a loss of required SDM.

The justification given in the TSTF is that the change provides the flexibility necessary to provide for continued safe reactor operations, while also limiting any potential for excess positive reactivity addition to the core. The Required Actions and LCO Notes that preclude positive reactivity changes and/or reduction in boron concentration ensure either no power increases, or continued margin to core criticality operations. During conditions in which these Required Actions may be required, the following various activities for unit operation must be continued: RCS inventory must be maintained, and RCS temperature must be controlled. These activities involve addition to the RCS of cooler water and may involve inventory makeup from sources that are at boron concentrations less than the current RCS concentration, but limit the introduction into the RCS of reactivity more positive than that required to meet the required SDM or refueling boron concentration, as applicable. These activities do not need to be precluded in the TSs to ensure that, for the worst-case overall effect on the core, there would still be assurance that the required SDM is maintained.

In Modes 1 through 4, the minimum required SDM is assumed as an initial condition for the reload safety analyses to ensure that the SAFDLs will not be exceeded for normal shutdown and AOOs, assuming that the highest worth RCCA remains stuck out following a reactor scram. The main steamline break (MSLB) is the most limiting event to establish the minimum SDM value for LCO 3.1.1, and this ensures that the departure from nucleate boiling ratio safety limit is not exceeded.

In Modes 3, 4, and 5, the reactivity of the core must be consistent with the initial conditions assumed for the boron dilution accident analysis to ensure the minimum time required for operator action and alarms (see Amendment No. 96 issued March 1, 1996, which replaced the boron dilution mitigation system at WCGS with alarms, indicators, procedures, and controls) to terminate the event is met. This is satisfied by complying with the requirements of LCO 3.1.1 for the minimum SDM. Additionally, for Mode 6, the required boron concentration in LCO 3.9.1 ensures subcriticality during refueling operations.

As stated in the Bases for LCO 3.1.1, a sufficient shutdown margin ensures that: (1) the reactor can be made subcritical from all operating conditions, transients, and design basis events; (2) the reactivity transients associated with postulated accident conditions are controllable within acceptable limits; and (3) the reactor will be maintained sufficiently subcritical to preclude inadvertent criticality in the shutdown condition. The Bases for LCO 3.9.1 on refueling boron concentration in the RCS and refueling canal similarly indicate that the limitations on boron concentration during refueling ensure that the reactor will remain subcritical during Mode 6. The licensee is not making any changes to these TS Bases because of its proposed changes to the TSs. Because the proposed changes will not alter the limits established in these specifications, the staff concludes that the proposed changes will have no effect on the licensee's ability to shut down and maintain the reactor in a subcritical condition.

The intent of TSTF-286 is to ensure that, under the specified plant conditions for each operating mode, unplanned power increases or reductions in the margin to core criticality are precluded. The proposed revision to the existing TS LCO Notes and the addition of wording (i.e., Notes) to the TS Required Actions allow the small reactivity variations that result from addition of water with a reduced boron concentration compared to the RCS and temperature changes when forced circulation is not occurring. The proposed changes would only permit the addition of inventory from sources whose boron concentration is sufficient to maintain the required boron concentration if the entire RCS inventory was replaced from the selected source. That is, the source of the water being added must be of high enough boron concentration that the effects of stratification, and subsequent mixing upon restoration of forced flow, cannot result in failure to meet the required boron concentration limits. This limitation addresses potential concerns with stratification and subsequent introduction of the "reduced" concentration boroated water into the reactor vessel when forced circulation is re-established. These normal activities are permitted to be performed while maintaining the minimum SDM requirement of LCO 3.1.1 and the minimum refueling boron concentration requirement of LCO 3.9.1.

The bottom line is that, regardless of the TS changes in TSTF-286 which will allow the licensee to make controlled additions of positive reactivity not allowed in the current TSs, the plant must still meet LCO 3.1.1 for SDM in Modes 2 ($k_{eff} < 1$) through 5, LCOs 3.1.5 and 3.1.6 in Modes 1 and 2 ($k_{eff} \geq 1$ and any control bank not fully inserted) for shutdown and control bank insertion limits, and LCO 3.9.1 in Mode 6 for reactor coolant system boron concentration. It is in the plant meeting these LCOs, while operators are making controlled additions of positive reactivity changes, that the plant remains in a safe condition. LCOs 3.1.5 and 3.1.6 assure the SDM in Modes 1 and 2, where LCO 3.1.1 is not applicable. (See the discussion below in Section 3.2(a).)

In Appendix A of its application, the licensee stated that the TS changes in TSTF-286 apply to WCGS and identified plant-specific differences to the TS changes to take into account the WCGS plant design and operation. The technical analysis for the proposed amendment provided by the licensee follows the justification (above) given in TSTF-286. The WCGS plant-specific differences provide the staff the assurance that the initial assumptions of the most limiting accident safety analyses are still maintained, while acknowledging that necessary compensatory activities may still be taken by adding cooler water to the RCS to lower the current temperature; and makeup sources are of borated water at boron concentrations less than the current RCS boron concentration. Such plant procedures are described in Section 5.0 of Attachment 1 to the application, including these compensatory activities, and are part of plant procedures, which assure that the overall effect on core reactivity is properly monitored and the required SDM or the required refueling boron concentration maintained. The required SDM is determined during the reload core design and is ensured during plant operation by the positioning of the RCCA control and shutdown rod banks and through adjustments of the soluble boron concentration in the reactor coolant.

Appendix A to the application summarizes the licensee's proposed changes in terms of the TS changes in TSTF-286 that are applicable to NUREG-1431 (i.e., is the proposed change the same as that in the TSTF, or is there a plant-specific design difference). This is repeated in Appendix A to this safety evaluation. Only the changes in TSTF-286 that are applicable to NUREG-1431 are part of this amendment (because the WCGS TSs are based on NUREG-1431). The changes in TSTF-286 applicable to other NUREGs are not discussed. The changes to the TS Bases in the TSTF are also not discussed because changes to the Bases are made in accordance with TS Section 5.5.14, "Technical Specifications (TS) Bases Control Program."

In Appendix A to this safety evaluation, the TS changes in TSTF-286 are broken down into the following categories: (1) deviations from TSTF changes applicable to WCGS that are proposed to be incorporated into the TSs, (2) TSTF changes that are applicable to WCGS and proposed as written, (3) TSTF changes applicable to WCGS, but proposed with minor editorial changes, (4) TSTF changes not applicable to WCGS and, therefore, not proposed, and (5) TSTF changes not applicable to NUREG-1431 and, therefore, not applicable to WCGS. The proposed TS changes with the plant-specific differences from the TSTF are the TSTF changes listed as Category (1) and (2) of Appendix A. Category (3) in Appendix A for WCGS involves only changes to the TS Bases, and are not being evaluated by the staff. In the case of plant-specific differences, the licensee's justification for the differences is addressed.

- (a) The proposed changes include adding notes to TS 3.3.1, "RTS [Reactor Trip System] Instrumentation," Required Actions G.1 and I.1.

The current Required Actions G.1 and I.1 both state the following: "Suspend operations involving positive reactivity additions." The note that would be added to these two required actions, in accordance with TSTF-286 to allow limited insertions of positive reactivity associated with routine plant operations, states that: "Limited plant cooldown or boron dilution is allowed provided the change is accounted for in the calculated SDM." The licensee, however, proposed that the notes added to the Actions would state: "Limited boron concentration changes associated with RCS inventory control or limited plant temperature changes are allowed."

The licensee stated that its proposed change clarifies the Required Actions for inoperable intermediate range and source range RTS instrumentation channels in Modes 1 and 2, while maintaining the intent of TSTF-286 to allow limited insertions of positive reactivity that are associated with routine plant operations while ensuring that there are no reductions in the margin to core criticality. All reactivity manipulations at WCGS are governed by plant procedures that assure the overall effect on core reactivity is properly monitored and the TS-required reactivity limits -- the minimum SDM requirement of LCO 3.1.1 and minimum boron concentration requirement of LCO 3.9.1 -- are maintained. The application provides the staff the assurance that the initial assumptions of the most limiting accident safety analyses are still maintained. Routine operating evolutions, controlled under plant procedures, may require makeup to the RCS with inventory that is of a different temperature or boron concentration. The licensee has stated that these routine operating evolutions are controlled under plant procedures, and thus allows the proposed TS change "limited boron concentration changes ... or limited plant temperature changes" to meet the intent of TSTF-286. The proposed change is acceptable because the overall effect on core reactivity is being monitored to meet the SDM requirements of LCOs 3.3.1, and the control rod requirements in LCOs 3.1.5 and 3.1.6, which are discussed below.

Furthermore, the staff finds the wording "temperature changes" refers to the fact that the moderator temperature coefficient must be considered both during cooldown and heatup operations. Similarly, the staff finds the wording "limited boron concentration changes associated with RCS inventory control" is more descriptive of operations at WCGS than "boron dilution." These wording changes are both more accurate with regard to WCGS's existing design of employing two independent reactivity control systems: one uses the movable control and shutdown RCCAs, and the other uses the CVCS TS, and this additional clarification allows the adoption of TSTF-286, Revision 2.

The TSTF includes a statement in the note for Required Actions G.1 and I.1 that the "change is accounted for in the calculated SDM," which has not been adopted by the licensee. The required Actions G.1 and I.1 are applicable for Modes 1 and 2. The licensee stated that, in Modes 1 and 2 with $k_{\text{eff}} \geq 1.0$, the SDM is not a "calculated" value. Rather, the SDM is assured by operation within the rod insertion limits of LCO 3.1.5, "Shutdown Bank Insertion Limits" and LCO 3.1.6, "Control Bank Insertion Limits" and by operating the plant in accordance with the requirements of LCO 3.4.2, "RCS Minimum Temperature for Criticality." These three LCOs are applicable for the same modes that the two Required Actions are applicable. As stated in the Bases of LCOs 3.1.5 and 3.1.6, the shutdown and control bank insertion limits ensure that the SDM is maintained. This clarification is given in the licensee's proposed Bases discussion of the new Note in which the licensee states that the normal plant operations are not precluded provided the SDM limits of LCOs 3.1.1, 3.1.5, and 3.1.6 are met.

Because the TSTF-286 changes are for NUREG-1431, the justification for the TSTF changes is applicable to WCGS. Because the licensee's proposed changes are consistent with the TSTF, but clarified by additional activities during operation to more accurately define their plant-specific application of the TSTF at WCGS, and the plant must still meet LCOs 3.1.1, 3.1.5, and 3.1.6 on the SDM even though the phrase

"change is accounted for in the ... SDM" is not included in the proposed notes, the staff finds that the proposed changes, with the plant-specific differences, are acceptable.

(b) The proposed changes include changes to Required Actions for the following TS:

- TS 3.4.5, "RCS Loops - MODE 3," Required Action D.2
- TS 3.4.6, "RCS Loops - MODE 4," Required Action B.1
- TS 3.4.7, "RCS Loops - MODE 5, Loops Filled," Required Action B.1
- TS 3.4.8, "RCS Loops - MODE 5, Loops Not Filled," Required Action B.1

The proposed changes would revise the Required Actions to state the following: "Suspend operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet SDM of LCO 3.1.1." The current Required Actions state: "Suspend all operations involving a reduction of RCS boron concentration." These Required Actions are intended to preclude dilution of the RCS when no forced mixing is taking place. The proposed changes allow dilution of the RCS, but the source of boric acid is required to contain a soluble boron concentration greater than that required to meet the SDM requirement of LCO 3.1.1. These proposed changes are identical to the changes in TSTF-286 for the same Required Actions.

The licensee provided the same justification for WCGS for these changes as that provided by the staff for the TSTF. These changes are identical with TSTF-286 and are applicable to WCGS; therefore, the staff finds that the proposed changes are acceptable.

(c) The proposed changes include changes to Notes for the following LCOs:

- LCO 3.4.5, "RCS Loops - MODE 3," Note 1.a
- LCO 3.4.6, "RCS Loops - MODE 4," Note 1.a
- LCO 3.4.7, "RCS Loops - MODE 5, Loops Filled," Note 1.a
- LCO 3.4.8, "RCS Loops - MODE 5, Loops Not Filled," Note 1.b

The LCO Notes would be changed to state that "No operations are permitted that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1." These Notes currently state: "No operations are permitted that would cause reduction of the RCS boron concentration." These Notes are intended to preclude dilution of the RCS when no forced mixing (i.e., coolant circulation by residual heat removal (RHR) pumps or reactor coolant pumps) is taking place. The proposed changes allow dilution of the RCS, but the source of boric acid is required to contain a soluble boron concentration greater than that required to meet the SDM requirement of LCO 3.1.1. These proposed changes are identical to the changes in TSTF-286 for the same LCO notes.

The licensee provided the same justification for WCGS for these changes as that provided by the staff for the TSTF. These changes are identical with TSTF-286 and are applicable to WCGS; therefore, the staff finds that the proposed changes are acceptable.

(d) The proposed changes include changes to Required Actions for the following TS:

- TS 3.8.2, "AC Sources - Shutdown," Required Actions A.2.3 and B.3
- TS 3.8.5, "DC Sources - Shutdown," Required Action A.2.3
- TS 3.8.8, "AC Instrument Buses - Shutdown," Required Action A.2.3
- TS 3.8.10, "Distribution Systems - Shutdown," Required Action A.2.3

The proposed Required Actions would state the following: "Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration." These Required Actions currently state: "Initiate action to suspend operations involving positive reactivity additions." These Required Actions are intended to initiate suspension of operations involving positive reactivity additions based on the loss of required electrical sources and distribution equipment. The proposed changes allow dilution of the RCS, but the source of boric acid is required to contain a soluble boron concentration greater than that required to meet the SDM requirement of LCO 3.1.1 or the refueling boron concentration of LCO 3.9.1. The proposed changes will also allow temperature changes that could increase reactivity provided the reactivity insertions do not result in a loss of required SDM or required refueling boron concentration. These proposed changes are identical to the changes in TSTF-286 for the same Required Actions.

The licensee provided the same justification for WCGS for these changes as that provided by the staff for the TSTF. These changes are identical with TSTF-286 and are applicable to WCGS; therefore, the staff finds that the proposed changes are acceptable.

(e) The proposed Required Action A.2 for TS 3.9.3, "Nuclear Instrumentation," would state the following: "Suspend operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet the boron concentration of LCO 3.9.1." This Required Action currently states: "Suspend positive reactivity additions." This Required Action is intended to initiate suspension of operations during refueling operations involving positive reactivity additions when there is a loss of one required source range neutron flux monitor, thereby rendering inoperable the redundant channel for monitoring core reactivity. The proposed change allows dilution of the RCS, but the source of boric acid is required to contain a soluble boron concentration greater than that required to meet the minimum refueling boron concentration requirement of LCO 3.9.1, which ensures that inadvertent criticality will not occur. This proposed change also removes the implicit limitation on temperature changes that could result in a positive reactivity addition. No limitation on temperature change-induced reactivity insertion is needed, because the appropriate SDM in Mode 6 is maintained by compliance with LCO 3.9.1. This proposed change is identical to the change in TSTF-286 for this Required Action.

The licensee provided the same justification for WCGS for these changes as that provided by the staff for the TSTF. These changes are identical with TSTF-286 and are applicable to WCGS; therefore, the staff finds that the proposed changes are acceptable.

- (f) The proposed Note for LCO 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation - High Water Level," would state the following: "The required RHR loop may be removed from operation for ≤ 1 hour per 8 hour period, provided no operations are permitted that would cause introduction into the Reactor Coolant System, coolant with boron concentration less than that required to meet the minimum required boron concentration of LCO 3.9.1." This LCO Note currently states: "The required RHR loop may be removed from operation for ≤ 1 hour per 8 hour period, provided no operations are permitted that would cause reduction of the Reactor Coolant System boron concentration." The allowance of removing the required RHR loop for ≤ 1 hour per 8-hour period is not being changed by the proposed amendment. This note is intended to preclude dilution of the RCS when no forced mixing is taking place during refueling. The proposed change allows dilution of the RCS, but the source of boric acid is required to contain a soluble boron concentration greater than that required to meet the minimum refueling boron concentration requirement of LCO 3.9.1, which ensures that inadvertent criticality will not occur. This proposed change is identical to the change in TSTF-286 for the same LCO Note.

The licensee provided the same justification for WCGS for these changes as that provided by the staff for the TSTF. These changes are identical with TSTF-286 and are applicable to WCGS; therefore, the staff finds that the proposed changes are acceptable.

- (g) The proposed changes include changes to Required Actions for the following TS:
- TS 3.9.5, "RHR and Coolant Circulation - High Water Level," Required Action A.1
 - TS 3.9.6, "RHR and Coolant Circulation - Low Water Level," Required Action B.1

The proposed Required Actions would state the following: "Suspend operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet the boron concentration of LCO 3.9.1." These Required Actions currently state: "Suspend operations involving a reduction in reactor coolant boron concentration." These Required Actions are intended to preclude dilution of the RCS when no forced mixing is taking place during refueling. The proposed changes allow dilution of the RCS, but the source of the boric acid is required to contain a soluble boron concentration greater than that required to meet the minimum refueling boron concentration requirement of LCO 3.9.1, which ensures that inadvertent criticality will not occur. These proposed changes are identical to the changes in TSTF-286 for the same Required Actions.

The licensee provided the same justification for WCGS for these changes as that provided by the staff for the TSTF. These changes are identical with TSTF-286 and are applicable to WCGS; therefore, the staff finds that the proposed changes are acceptable.

- (h) The remaining changes in TSTF-286 are not applicable to WCGS and were not proposed by the licensee.

3.3 Conclusion

The NRC staff has reviewed the licensee's application with the supporting documentation. Based on its review, the NRC staff concludes that the proposed TS changes to the TSs are acceptable because these changes are consistent with the approved TSTF-286, which is applicable to WCGS and takes into account plant-specific design differences discussed in Section 3.2(a) above, and the justification for the TSTF is applicable to WCGS, and continues to ensure that the required minimum SDM of LCOs 3.1.1, 3.1.5, and 3.1.6, and boron concentration of LCO 3.9.1 to preclude inadvertent criticality are met. Because the licensee's proposed amendment will still require the minimum SDM and boron concentration to be maintained, the NRC staff concludes that the proposed amendment is acceptable.

The licensee provided the associated TS Bases that reflect the proposed TS changes as an attachment to its application. The Bases changes are implemented and controlled by the licensee pursuant to TS Section 5.5.14. Because the TS Bases changes are consistent with the TSTF and the licensee's proposed plant-specific TS changes, the staff has no objections to the Bases changes presented in the licensee's application.

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 (67 FR 18650, published April 16, 2002). 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.

Attachment: Appendix A - A Correlation of Proposed Changes to
Approved TSTF-286, Revision 2

Principal Contributor: Jack Donohew

Date: July 29, 2002

APPENDIX A

A CORRELATION OF PROPOSED CHANGES TO APPROVED TSTF-286, REVISION 2

The following was provided by the licensee in Appendix A to its application dated February 21, 2002, and is reproduced below verbatim from the application. The following acronyms are used: Control Room Isolation Signal (CRIS), Decay Heat Removal (DHR), Limiting Condition for Operation (LCO), Reactor Coolant System (RCS), Residual Heat Removal (RHR), Reactor Trip System (RTS), Shutdown Cooling (SDC), Shutdown Margin (SDM), and Wolf Creek Generating Station (WCGS):

The following TSTF-286 changes are applicable to Wolf Creek Generating Station (WCGS), but required some additional justification before incorporation, as discussed in Section 2.0 of Attachment 1, "Description of Proposed Amendment," [of the licensee's application]. These deviations from TSTF-286, Revision 2, are identical to those previously approved for the H. B. Robinson, Unit 2 [in Amendment No. 190 dated March 14, 2001,] with an additional reference in the Bases changes to the LCO 3.1.1 since that specification identifies SDM limits:

- 3.3.1 Action G.1 RTS Instrumentation
- 3.3.1 Action G.1 Bases RTS Instrumentation
- 3.3.1 Action I.1 RTS Instrumentation
- 3.3.1 Action I.1 Bases RTS Instrumentation

The following TSTF-286 Technical Specification (TS) changes are directly applicable to WCGS and are therefore incorporated as written:

- 3.4.5 LCO Note 1.a RCS Loops – MODE 3
- 3.4.5, Action D.2 RCS Loops – MODE 3
- 3.4.6, LCO Note 1.a RCS Loops – MODE 4
- 3.4.6, Action B.1 RCS Loops – MODE 4
- 3.4.7, LCO Note 1.a RCS Loops – MODE 5, Loops Filled
- 3.4.7, Action B.1 RCS Loops – MODE 5, Loops Filled
- 3.4.8, LCO Note 1.b RCS Loops – MODE 5, Loops Not Filled
- 3.4.8, Action B.1 RCS Loops – MODE 5, Loops Not Filled
- 3.8.2, Action A.2.3 AC Sources – Shutdown
- 3.8.2, Action B.3 AC Sources – Shutdown
- 3.8.5, Action A.2.3 DC Sources – Shutdown
- 3.8.8, Action A.2.3 Inverters – Shutdown
- 3.8.10, Action A.2.3 Distribution Systems – Shutdown
- 3.9.1, Action A.3 Bases Boron Concentration
- 3.9.3, Action A.2 Nuclear Instrumentation
- 3.9.5, LCO Note RHR and Coolant Circulation – High Water Level
- 3.9.5, Action A.1 RHR and Coolant Circulation – High Water Level
- 3.9.6, Action B.1 RHR and Coolant Circulation – Low Water Level

The following TSTF-286 TS changes are applicable to WCGS and are incorporated with minor editorial changes identical to those previously approved for H.B. Robinson, Unit 2. Minor editorial changes to some of the TS Bases were made for consistency with the TS wording.

- 3.4.5, LCO Note 1.a Bases RCS Loops – MODE 3
- 3.4.5, Action D.2 Bases RCS Loops – MODE 3
- 3.4.6, LCO Note 1.a Bases RCS Loops – MODE 4
- 3.4.6, Action B.1 Bases RCS Loops – MODE 4
- 3.4.7, LCO Note 1.a Bases RCS Loops – MODE 5, Loops Filled
- 3.4.7, Action B.1 Bases RCS Loops – MODE 5, Loops Filled
- 3.4.8, LCO Note 1.b Bases RCS Loops – MODE 5, Loops Not Filled
- 3.4.8, Action B.1 Bases RCS Loops – MODE 5, Loops Not Filled
- 3.8.2, Action A.2.3 Bases AC Sources – Shutdown
- 3.8.2, Action B.3 Bases AC Sources – Shutdown
- 3.8.5, Action A.2.3 Bases DC Sources – Shutdown
- 3.8.8, Action A.2.3 Bases Inverters – Shutdown
- 3.8.10, Action A.2.3 Bases Distribution Systems – Shutdown
- 3.9.1, Action A.2 Bases Boron Concentration
- 3.9.3, Action A.2 Bases Nuclear Instrumentation
- 3.9.5, LCO Note Bases RHR and Coolant Circulation – High Water Level
- 3.9.5, Action A.1 Bases RHR and Coolant Circulation – High Water Level
- 3.9.6 Action B.1 Bases RHR and Coolant Circulation – Low Water Level

The following change is in addition to those contained in TSTF-286; however, it is directly related to the TSTF-286 change to the 3.9.3, Action A.2 Bases, as discussed in Section 2.0 of Attachment 1, "Description of Proposed Amendment," [of the licensee's February 21, 2002, application]. This was an oversight in TSTF-286. The list of affected TS in TSTF-286 included "Action 3.9.3.B Bases, Nuclear Instrumentation, NUREG-1431 Only;" however, there were no changes to the Action 3.9.3.B Bases marked on page B 3.9-9 of the traveler.

- 3.9.3, Action B.2 Bases Nuclear Instrumentation

The following TSTF-286 TS changes are not applicable to WCGS and are therefore not incorporated:

- 3.3.1, Action L.1 RTS Instrumentation
- 3.3.1, Action L.1 Bases RTS Instrumentation
- 3.3.9, Action B.1 Boron Dilution Mitigation System
- 3.3.9, Action B.1 Bases Boron Dilution Mitigation System
- 3.4.18, LCO Note a RCS Isolated Loop Startup
- SR 3.4.18.2 RCS Isolated Loop Startup
- 3.4.18, Background Bases RCS Isolated Loop Startup
- SR 3.4.18.2, Bases RCS Isolated Loop Startup

The following changes in the list of affected TS in TSTF-286 are not applicable to

NUREG-1431 (Westinghouse plants) and are therefore not incorporated:

● Action 3.4.5.C	RCS Loops – MODE 3
● Action 3.4.5.C Bases	RCS Loops – MODE 3
● Action 3.9.2.A	Nuclear Instrumentation
● Action 3.9.2.A Bases	Nuclear Instrumentation
● Action 3.9.2.B Bases	Nuclear Instrumentation
● Action 3.3.9.B	Source Range Neutron Flux
● Action 3.3.9.B Bases	Source Range Neutron Flux
● Action 3.3.10.B	Intermediate Range Neutron Flux
● Action 3.3.10.B Bases	Intermediate Range Neutron Flux
● LCO 3.9.4	DHR and Coolant Circulation - High Water Level
● LCO 3.9.4 Bases	DHR and Coolant Circulation - High Water Level
● Action 3.9.4.A	DHR and Coolant Circulation – High Water Level
● Action 3.9.4.A Bases	DHR and Coolant Circulation – High Water Level
● Action 3.9.5.B	DHR and Coolant Circulation – Low Water Level
● Action 3.9.5.B Bases	DHR and Coolant Circulation – Low Water Level
● Action 3.3.8.A Bases	CRIS (Analog)
● Action 3.3.8.C	CRIS (Analog)
● Action 3.3.9.A Bases	CRIS (Digital)
● Action 3.3.9.C	CRIS (Digital)
● Action 3.3.13.A	[Logarithmic] Power Monitoring Channels (Analog)
● Action 3.3.13.A	[Logarithmic] Power Monitoring Channels (Digital)
● Action 3.3.13.A Bases	[Logarithmic] Power Monitoring Channels Analog)
● Action 3.3.13.A Bases	[Logarithmic] Power Monitoring Channels (Digital)
● LCO 3.9.4	SDC and Coolant Circulation – High Water Level
● LCO 3.9.4 Bases	SDC and Coolant Circulation – High Water Level
● Action 3.9.4.A	SDC and Coolant Circulation – High Water Level
● Action 3.9.4.A Bases	SDC and Coolant Circulation – High Water Level
● Action 3.9.5.B	SDC and Coolant Circulation – Low Water Level
● Action 3.9.5.B Bases	SDC and Coolant Circulation – Low Water Level

Wolf Creek Generating Station

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