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

May 15, 2009

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: REVISE TECHNICAL SPECIFICATION 3.5.2, "ECCS – OPERATING," IN ACCORDANCE WITH TSTF-325-A (TAC NO. MD9491)

Dear Mr. Muench:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 182 to Renewed 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 August 18, 2008.

The amendment revises TS 3.5.2, "ECCS [Emergency Core Cooling System] – Operating," in accordance with Technical Specification Task Force (TSTF) Traveler TSTF-325-A, Revision 0, "ECCS Conditions and Required Actions with <100% Equivalent ECCS Flow."

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,

Balwant K. Singal

Balwant K. Singal, 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. 182 to NPF-42
2. Safety Evaluation

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WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 182
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) Renewed Facility Operating License No. NPF-42 filed by the Wolf Creek Nuclear Operating Corporation (the Corporation), dated August 18, 2008, 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 Renewed Facility Operating License No. NPF-42 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 182, 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 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License and
Technical Specifications

Date of Issuance: May 15, 2009

ATTACHMENT TO LICENSE AMENDMENT NO. 182

RENEWED FACILITY OPERATING LICENSE NO. NPF-42

DOCKET NO. 50-482

Replace the following pages of the Renewed 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 provided to maintain document completeness.

Renewed Facility Operating License

REMOVE	INSERT
4	4

Technical Specifications

REMOVE	INSERT
3.5-3	3.5-3

(5) The Operating Corporation, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(6) The Operating Corporation, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission, now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The Operating Corporation is authorized to operate the facility at reactor core power levels not in excess of 3565 megawatts thermal (100% power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 182, 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) Antitrust Conditions

Kansas Gas & Electric Company and Kansas City Power & Light Company shall comply with the antitrust conditions delineated in Appendix C to this license.

(4) Environmental Qualification (Section 3.11, SSER #4, Section 3.11, SSER #5)*

Deleted per Amendment No. 141.

*The parenthetical notation following the title of many license conditions denotes the section of the supporting Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.2 ECCS - Operating

LCO 3.5.2 Two ECCS trains shall be OPERABLE.

---NOTES---

1. In MODE 3, both safety injection (SI) pump flow paths may be isolated by closing the isolation valves for up to 2 hours to perform pressure isolation valve testing per SR 3.4.14.1.

2. Operation in MODE 3 with ECCS pumps made incapable of injecting pursuant to LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) System," is allowed for up to 4 hours or until the temperature of all RCS cold legs exceeds 375°F, whichever comes first.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more trains inoperable.	A.1	Restore train(s) to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	6 hours
	AND		
	B.2	Be in MODE 4.	12 hours
C. Less than 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available.	C.1	Enter LCO 3.0.3.	Immediately

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 182 TO

RENEWED 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 August 18, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082390819), Wolf Creek Nuclear Operating Corporation (the licensee), requested changes to the Technical Specifications (TSs) for the Wolf Creek Generating Station (WCGS). The proposed amendment would modify TS 3.5.2, "ECCS [Emergency Core Cooling System] - Operating," requirements in accordance with Technical Specification Task Force (TSTF) Traveler TSTF-325-A, Revision 0, "ECCS Conditions and Required Actions with <100% Equivalent ECCS Flow." This TS improvement was approved on June 29, 1999 in a letter from Mr. William D. Beckner, Chief, Technical Specifications Branch, Nuclear Regulatory Commission (NRC), to James Davis, Director, Operations Department, Nuclear Energy Institute (ADAMS Legacy Library Accession No. 9907060395).

2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act (Act) requires applicants for nuclear power plant operating licenses to include TS as part of the license. These TSs are derived from the plant safety analyses.

In Section 50.36, "Technical specifications," of Title 10 of the *Code of Federal Regulations* (10 CFR), the Commission established its regulatory requirements related to the content of TS. 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; (4) design features; and (5) administrative controls. The rule does not specify the particular requirements to be included in a plant's TS.

Paragraph 50.36(c)(2)(ii) of 10 CFR lists the criteria used to determine whether or not LCOs must be established in TS for items related to plant operation. The ECCS system meets Criterion 3, that is, "[a] structure, system, or component 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." As a result, an LCO was established for the ECCS system to ensure the lowest functional capability or performance level of equipment required for safe operation of the facility will be met.

NUREG-1431, Revision 3, "Standard Technical Specifications Westinghouse Plants," is a guide to what a plant's TS should contain with regard to format and content. The Standard Technical Specifications (STSs) are not requirements in a regulatory sense, but licensees adopting portions of the improved STSs to existing TSs should adopt all related requirements, as applicable, to achieve a high degree of standardization and consistency.

The NRC staff reviewed the proposed changes for compliance with 10 CFR 50.36 and agreement with the precedent as established in NUREG-1431. In general, licensees cannot justify TS changes solely on the basis of adopting the model STS. To ensure this, the NRC staff makes a determination that proposed changes maintain adequate safety. Changes that result in relaxation (less restrictive condition) of current TS requirements require detailed justification.

Licensees may revise their TS to adopt improved STS format and content. This is provided so that plant-specific review supports a finding of continued adequate safety based on the following:

(1) the change is editorial, administrative or provides clarification (i.e., no requirements are materially altered),

(2) the change is more restrictive than the licensee's current requirement, or

(3) the change is less restrictive than the licensee's current requirement, but nonetheless still affords adequate assurance of safety when judged against current regulatory standards.

The detailed application of this general framework, and additional specialized guidance, are discussed in Section 3.0 of this safety evaluation in the context of specific proposed changes.

In addition, the NRC staff reviewed the proposed changes for compliance with 10 CFR 50, Appendix A, General Design Criterion 35, "Emergency core cooling," which requires that

> A system to provide abundant emergency core cooling shall be provided. The system safety function shall be to transfer heat from the reactor core following any loss of reactor coolant at a rate such that (1) fuel and clad damage that could interfere with continued effective core cooling is prevented and (2) clad metal-water reaction is limited to negligible amounts.
>
> Suitable redundancy in components and features, and suitable interconnections, leak detection, isolation, and containment capabilities shall be provided to assure that for onsite electric power system operation (assuming offsite power is not available) and for offsite electric power system operation (assuming onsite power is not available) the system safety function can be accomplished, assuming a single failure.

3.0 TECHNICAL EVALUATION

In its letter dated August 18, 2008, the licensee stated that,

> The primary function of the ECCS is to provide emergency core cooling in the event of a loss of coolant accident (LOCA) resulting from a break in the primary reactor coolant system (RCS) or to provide emergency boration in the event of a steam and/or feedwater break accident. The ECCS components are designed so that a minimum of three accumulators, one centrifugal charging pump, one safety injection pump, and one residual heat removal (RHR) pump, together with their associated valves and piping, ensure adequate core cooling and provide emergency boration. The onsite emergency diesels assure adequate emergency power to at least one train of electrically operated components in the event that a loss of offsite power occurs simultaneously with a LOCA.

When WCGS converted its TS to the Improved Technical Specifications, it adopted action requirements for the ECCS based on TS 3.5.2, "ECCS - Operating," of NUREG-1431, Revision 1 (STS). The action requirements of this STS would permit continued operation for the specified completion time (usually 72 hours) in the event components from both "trains" of the specified system were inoperable provided at least one train's capability remained operable using the remaining operable components. Condition A in current TS LCO 3.5.2 states:

> One or more trains inoperable.
>
> AND
>
> At least 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available.

TSTF-325-A indicates that this Condition could lead to problems in actual use due to the strict logic rules of STSs. Stating the condition in this way could allow inoperabilities to be present in both trains, as long as 100 percent equivalent ECCS flow is available. In its letter dated August 18, 2008, the licensee stated,

> If a situation were to occur, which resulted in less than 100 percent equivalent ECCS flow, LCO 3.0.3 would be entered. However, the stated conditions for Condition A would no longer be applicable, as there was less than 100 percent equivalent flow. It could be interpreted from the "AND" that Condition A is exited when LCO 3.0.3 is entered.

Subsequently, if the flow is restored to 100 percent of the equivalent flow, it would cause reentry into LCO 3.5.2, Condition A and incorrectly result in an additional 72-hour completion time, without having returned a train to operable status. This is contrary to the intent of TS Section 1.3, "Completion Times." According to TS Section 1.3, the TS should not allow exiting the Condition A and required actions and resetting the 72-hour completion time clock upon entering LCO 3.0.3. Condition A and required actions should remain applicable, until both trains of ECCS are restored to operable status or the unit is placed outside the ECCS specification's mode of applicability.

In response to this logic problem, the industry proposed a generic change to revise the ECCS specification's action requirements to conform to the intent of STS Section 1.3 via TSTF-325. This was accomplished by splitting the STS condition in two, so that the required action for an inoperable train remains applicable regardless of overall remaining ECCS flow availability so that the completion time clock is not reset in the event flow is restored. Specifically, this condition was split into two separate conditions: "One or more trains inoperable" and "Less than 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available."

Stating the original condition as two separate conditions ensures the intent of STS Section 1.3 is met. Should the plant enter the new condition addressing low flow, entry into LCO 3.0.3 would be required. However, by TS Section 1.3, the plant would also remain in the inoperable train condition, enabling a smooth transition were flow capability restored, so that the low flow condition would no longer apply and could thus be exited. Since this clarification of the action requirements does not change the technical basis of the specification, the staff approved TSTF-325, which was incorporated into STS Revision 2 and the current Revision 3 to the STS.

The licensee has proposed TS changes consistent with Revision 0 of TSTF-325-A as follows:

1. Delete from Condition A: "AND [a]t least 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available."

2. Add new TS 3.5.2 Condition C, which states: "Less than 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available." This condition shall have the associated Required Action C.1, "Enter LCO 3.0.3" with a Completion Time of "Immediately."

This splits Condition A of TS 3.5.2 into two conditions, ensuring the intent of TS Section 1.3, "Completion Times" is met, and clarifies the logic controlling entry/exit conditions for the LCO. Thus, the proposed revision to the format of the existing action requirements does not alter the existing restrictions on plant operation, but only clarifies the intent of the existing action requirements, making them consistent with the completion time rules of TS 1.3, "Completion Time." In addition, the licensee has provided conforming changes to the TS Bases.

Based on the discussion above and review of this change against the applicable regulations, the STS as described in Section 2.0 of this evaluation, and because these changes are administrative, improve clarity, and do not change the technical basis of these specifications, NRC staff concludes that the proposed changes are 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 published in the *Federal Register* on October 7, 2008 (73 FR 58680). 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: V. Cusumano
M. Hamm

Date: May 15, 2009

May 15, 2009

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

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Sincerely,
/RA/

Balwant K. Singal, Senior Project Manager
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ADAMS Accession No. ML090960734 *SE memo dated **See previous concurrence

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