July 18, 1998

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

SUBJECT: WOLF CREEK GENERATING STATION - AMENDMENT NO. 118 TO FACILITY OPERATING LICENSE NO. NPF-42 (TAC NO. MA2295)

Dear Mr. Maynard:

The Commission has issued the enclosed Amendment No. 118 to Facility Operating License No. NPF-42 for the Wolf Creek Generating Station. The amendment consists of changes to the Technical Specifications (TS) in response to your application dated July 17, 1998. This amendment was treated as an emergency in accordance with 10 CFR 50.91(a)(5).

The amendment revises TS 3/4.7.5, Ultimate Heat Sink, by adding a new Action Statement to be used in the event that plant inlet water temperature exceeds 90 degrees F.

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

Sincerely,
Original Signed By

Kristine M. Thomas, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosures: 1. Amendment No. 118 to NPF-42
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

Docket File	OGC(015B18)	PUBLIC	WBateman	PDIV-2 Reading
GHill (2)	EAdensam(EGA1)	WBeckner	WJohnson,RIV	JRoe
KThomas	ACRS	EPeyton	THarris(TLH1)	LHurley,RIV
JKilcrease,RIV	GHubbard,SPLB	WLefave,SPLB		

DOCUMENT NAME: WCA2295.AMD

OFFICE	PDIV-2/PM	PDIII-1/LA	SPLB	OGC Subject to changes noted	PDIV-2/PD
NAME	KMT KThomas	KMT for CJ CJamerson	Hubbard	CMarco	WBateman
DATE	7/18/98	7/18/98	7/18/98	7/18/98	7/18/98

OFFICIAL RECORD COPY

Concurrence via telephone + fax

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

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 118
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 July 17, 1998, 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. 118, 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.

FOR THE NUCLEAR REGULATORY COMMISSION

William H. Bateman

William H. Bateman, Project Director
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: July 18, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 118

FACILITY OPERATING LICENSE NO. NPF-42

DOCKET NO. 50-482

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

REMOVE	INSERT
3/4 7-13	3/4 7-13

PLANT SYSTEMS

3/4.7.5 ULTIMATE HEAT SINK

LIMITING CONDITION FOR OPERATION

3.7.5 The ultimate heat sink (UHS) shall be OPERABLE with:

a. The crest of the UHS dam below the rip rap cover and corresponding water level at or above elevation 1070 Mean Sea Level, USGS datum, and

b. The plant inlet water temperature of less than or equal to 90°F.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With the requirements of the above specification not satisified, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

NOTE: Until September 30, 1998, the following ACTIONS supersede the above ACTION:

a. With the plant inlet water temperature >90°F but <95°F:

1. within one hour verify two trains of residual heat removal, two trains of component cooling water, and two trains of essential service water are OPERABLE,

2. verify at least once per hour that the plant inlet water temperature is <95°F, and

3. within 12 hours restore the plant inlet water temperature to 90°F or less.

4. With any of the above requirements not satisfied, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With the UHS inoperable for any reason other than temperature, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.5 The UHS shall be determined OPERABLE:

a. At least once per 24 hours by verifying the above required water temperature and water level to be within their limits, and

b. At least once per 12 months by verifying that the crest of the UHS dam below the rip rap cover is at or above elevation 1070 Mean Sea Level, USGS datum.

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6 Two independent Control Room Emergency Ventilation Systems shall be OPERABLE.

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3 and 4:

With one Control Room Emergency Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

a. With one Control Room Emergency Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE Control Room Emergency Ventilation System in the recirculation mode. The provisions of Specification 3.0.4 are not applicable.

b. With both Control Room Emergency Ventilation Systems inoperable, or with the OPERABLE Control Room Emergency Ventilation System, required to be in the recirculation mode by ACTION a., not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.6 Each Control Room Emergency Ventilation System shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 84°F;

b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers of both the Filtration and Pressurization Systems and verifying that the Pressurization System operates for at least 10 continuous hours with the heaters operating;

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 118 TO FACILITY OPERATING LICENSE NO. NPF-42

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

DOCKET NO. 50-482

1.0 INTRODUCTION

By letter dated July 17, 1998, Wolf Creek Nuclear Operating Corporation (WCNOC, the licensee) requested changes to the Technical Specifications (TS) (Appendix A to Facility Operating License No. NPF-42) for the Wolf Creek Generating Station (WCGS). The proposed changes would revise TS 3/4.7.5, Ultimate Heat Sink, by adding a new Action Statement to be used in the event that plant inlet water temperature exceeds 90 degrees F. Specifically, the new action statement would allow, until September 30, 1998, continued operation of the plant with plant inlet water temperature between 90 and 95 degrees F for up to 12 hours before requiring shutdown of the plant.

2.0 EVALUATION

The ultimate heat sink (UHS) is the normally submerged Seismic Category I cooling pond. The UHS is formed by providing a volume of cooling water behind a Seismic Category I dam built in one finger of the WCGS cooling lake. The two principal functions of the UHS are the dissipation of residual heat after reactor shutdown, and dissipation of residual heat after an accident. The basic performance requirements for the UHS are that a 30-day supply of water be available, and that the design-basis temperatures of safety-related equipment not be exceeded. The UHS design assures that the design temperature of safety-related equipment are not exceeded. The design temperature of water supplied to the plant is 95 degrees F.

The UHS is the sink for heat removed from the reactor core following all accidents and anticipated operational occurrences in which the unit is cooled down and placed on residual heat removal (RHR) operation. Its maximum post-accident heat load occurs after a design basis loss-of-coolant-accident (LOCA) when the unit switches from injection to recirculation and the containment cooling system and RHR are required to remove the core decay heat. Section 9.2.5 of the Updated Safety Analysis Report (USAR) provides the details of the assumptions used in the heat transfer analysis for the worst-case LOCA, which include worst expected meteorological conditions, conservative uncertainties when calculating decay heat, and worst-case single failure. In addition, it was assumed that all of the water in the UHS was at 90 degrees F at the start of the analysis.

The analysis shows that following the loss of the main dam, the highest plant inlet water temperature occurring during the maximum temperature period is predicted to be 95 degrees F. The predicted plant inlet temperature was usually well below 95 degrees F. The predicted plant

inlet average temperature over the entire period was slightly below 90 degrees F and, 95 percent of the time, below 94 degrees F.

WCNOC evaluated the effect of the proposed change on normal plant operation and normal plant shutdown with the main dam intact, and safe shutdown or post-accident operation without the main dam.

Normal Plant Operation with the Main Dam Intact: Short-term operation with an inlet water temperature of up to 95 degrees F is not expected to negatively affect plant operation, with the possible exception of turbine backpressure. A slight load reduction may be necessary to maintain acceptable turbine backpressure. Existing plant guidance will be employed if any unexpected transients are experienced.

Shutdown with the Main Dam Intact: The effect of increasing the inlet water temperature from 90 degrees F to 95 degrees F causes the calculated single train time required to cool the unit below 200 degrees F to exceed the 36-hour TS limit. To compensate for this concern, the requested action statement requires verification of operability of two RHR trains. This will ensure the cooling capacity is available to meet the shutdown time requirements.

LOCA with the Main Dam Intact: The effect of full power plant operation on plant inlet water temperature during worst case predicted summer environmental conditions is approximately 0.5 degrees F. The peak heat rejection rate by the plant post-LOCA would be approximately 5 percent of the continuous heat rejection rate of the plant during normal operation. Therefore, the effect of post-LOCA heat loads on plant inlet water temperature would be less than 0.1 degrees F. The current UHS analysis assumes that there has been a main dam failure and used synthetic worst case environmental conditions. The results indicate that with an initial UHS temperature of 90 degrees F, plant intake water temperature remains below 95 degrees F. The UHS analysis results also indicate that the environmental conditions have a much greater effect on peak plant intake water temperature than does the heat rejected from the plant. The current UHS analysis is recognized as bounding the LOCA condition without a main dam failure because the volume of the UHS is significantly smaller than the volume of the WCGS cooling lake, approximately 1 percent. The probability that environmental conditions significantly worse than those causing entry into the limiting condition for operation is low. The probability of these conditions occurring simultaneously with a LOCA is even lower.

Safe Shutdown or Post-Accident Operation without the Main Dam: The TS limit of 90 degrees F is not being changed; however, the license amendment provides an allowance for operation above that limit for a 12-hour period. Based on a review of recent WCGS cooling lake data, 12 hours may be necessary to restore the lake below 90 degrees F through diurnal effects. Safe shutdown capability and post-accident operation without the main dam is ensured when the plant is operated within TS limits. The probability of main dam failure is low, comparable to the frequency of a large break LOCA initiating event. The probability of main dam failure during the 12 hours when the inlet water temperature is above 90 degrees F in conjunction with an accident is even lower. A seismic event is a possible initiating event for causing failure of the main dam. The frequency of the seismic initiator on an annual basis is nearly equal to a large break LOCA. It is also noted that WCGS has a dam monitoring program in place to ensure continued integrity of the main dam. Therefore, it is concluded that this proposed change is of low risk significance.

Based on the above, the staff concludes that with the dam intact, adequate heat removal will be available during normal plant operation, shutdown, and LOCA conditions to maintain equipment temperatures at or below their maximum design temperature of 95 degrees F. Further, the staff concludes that the probability of a LOCA concurrent with a dam failure is very low, and therefore, acceptable.

Therefore, the staff finds the proposed change to the WCGS TS to add a new Action Statement to support continued plant operation in the event that plant inlet water temperature exceeds 90 degrees F and remains less than 95 degrees F acceptable.

3.0 DESCRIPTION OF EMERGENCY CIRCUMSTANCES

The Commission's regulations in 10 CFR 50.91 contain provisions for issuance of an amendment where the Commission finds that emergency circumstances exist, in that failure to act in a timely way would result in derating or shutdown of a nuclear power plant. The emergency exists in this case in that the proposed amendment is needed to prevent shutdown of WCGS.

On July 14, 1998, the WCGS cooling lake exceeded 89 degrees F, which is higher than previously experienced. The elevated lake temperature was due to recent harsh meteorological conditions (i.e., extremely high temperatures, high humidity and lack of wind). Due to predictions for continuing harsh meteorological conditions, the concern exists that the plant inlet water temperature may exceed 90 degrees F, forcing a unit shutdown in accordance with TS. This unprecedented condition was not predictable. The licensee submitted the emergency TS amendment request when it determined that meteorological conditions were predicted to remain harsh over the next several weeks. The staff has determined that the licensee used its best efforts to make a timely application.

Accordingly, the Commission has determined that emergency circumstances exist pursuant to 10 CFR 50.91(a)(5) and could not have been avoided, that the submittal was timely, and that the licensee did not create the emergency condition.

4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards considerations if operation of the facility in accordance with the amendment would not:

(1) Involve a significant increase in the probability or consequences of any accident previously evaluated;

(2) Create the possibility of a new or different kind of accident from any previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

This amendment has been evaluated against the standards in 10 CFR 50.92 and the staff's final determination is presented below. It does not involve a significant hazards consideration because the change would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed change does not involve any physical alteration of plant systems, structures, or components. The proposed change provides an allowed time for the plant to continue operation with plant inlet water temperature in excess of the current TS limit of 90 degrees F for plant components. The plant inlet water temperature is not assumed to be an initiating condition of any accident analysis evaluated in the USAR. Therefore, the allowance of a limited time for the water temperature to be in excess of the current limit does not involve an increase in the probability of an accident previously evaluated in the USAR. The UHS supports operability of safety-related systems used to mitigate the consequences of an accident. Plant operation for brief periods with plant inlet water temperature between 90 degrees F and 95 degrees F will not adversely affect the operability of these safety-related systems and will not adversely impact the ability of these systems to perform their safety-related functions. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated in the USAR.

2. Create the possibility of a new or different kind of accident from any previously evaluated.

   The proposed change does not involve any physical alteration of plant systems, structures, or components. The temperature of the plant inlet water being between 90 and 95 degrees F for a short period does not introduce new failure mechanisms for systems, structures, or components not already considered in the USAR. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

3. Involve a significant reduction in a margin of safety.

   The proposed change will allow an increase in plant inlet water temperature above the current TS limit of 90 degrees F for the UHS, and delay the requirement to shut down the plant when the plant inlet water system temperature limit is exceeded by 12 hours. The proposed change does not alter any safety limits, limiting safety system settings, or limiting conditions for operation, and the proposed temperature increase will remain below the design limit cooling water input value for safety-related equipment. Thus, the proposed change does not involve a significant reduction in any margin of safety.

Accordingly, the Commission has determined that the amendment involves no significant hazards consideration.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the staff attempted to consult with Kansas State official for comment on the proposed issuance of the amendment. The State official could not be reached.

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to 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 made a final finding that the amendment involves no significant hazards consideration. 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.

7.0 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: W. LeFave
K. Thomas

Date: July 18, 1998