WOLF CREEK
NUCLEAR OPERATING CORPORATION

October 27, 2008

Terry J. Garrett
Vice President, Engineering

ET 08-0048

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Reference: 1) Letter WO 08-0001, dated January 15, 2008, from M. W. Sunseri, WCNOC, to USNRC

2) Letter dated September 29, 2008, from B. K. Singal, USNRC, to R. A. Muench, WCNOC

Subject: Docket No. 50-482: Response to Request for Additional Information Related to Revision to Technical Specifications Regarding Control Room Envelope Habitability in Accordance with Technical Specification Task Force (TSTF) 448, Revision 3

Gentlemen:

Reference 1 provided a license amendment request that proposed revisions to the Wolf Creek Generating Station (WCGS) Technical Specification (TS) 3.7.10, "Control Room Emergency Ventilation System (CREVS)," and the addition of new specification 5.5.18, "Control Room Habitability Program." The proposed revisions were based on TSTF-448, Revision 3, "Control Room Habitability." Reference 2 provided a request for additional information related to the proposed changes. Attachment I provides a response to the request for additional information.

Attachment II provides revised marked up TS pages that supersede specific pages provided in Reference 1. Page 2 of 4 of Attachment II of this submittal replaces Page 6 of 9 of Attachment II of Reference 1. Page 3 of 4 and Page 4 of 4 of Attachment II of this submittal replace Page 8 of 9 and Page 9 of 9 of Attachment II of Reference 1, respectively.

Attachment III provides revised marked up TS Bases pages that supersede specified pages provided in Reference 1. Page 2 of 2 of Attachment II of this submittal replaces Page 4 of 13 of Attachment V of Reference 1.

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Wolf Creek Nuclear Operating Corporation (WCNOC) is proposing one additional change to the proposed TS 5.5.18, based on TSTF-508, Revision 0, "Revise Control Room Habitability Actions to Address Lessons Learned from TSTF-448 Implementation." This change is further discussed in Attachment I.

The additional information provided in the Attachments does not impact the conclusions of the no significant hazards consideration determination published in the Federal Register on January 17, 2007 (72 FR 2022) as part of the consolidated line item improvement process and incorporated into Reference 1. In accordance with 10 CFR 50.91, a copy of this submittal is being provided to the designated Kansas State official.

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4084, or Mr. Richard D. Flannigan at (620) 364-4117.

Sincerely,

Terry J. Garrett

TJG/rlt

Attachment I - Response to NRC Request for Additional Information
II - Revised Marked Up Technical Specification Pages
III - Revised Marked Up Technical Specification Bases Pages

cc: E. E. Collins (NRC), w/a
T. A. Conley (KDHE), w/a
V. G. Gaddy (NRC), w/a
B. K. Singal (NRC), w/a
Senior Resident Inspector (NRC), w/a

STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Terry J. Garrett, of lawful age, being first duly sworn upon oath says that he is Vice President Engineering of Wolf Creek Nuclear Operating Corporation; that he has read the foregoing document and knows the contents thereof; that he has executed the same for and on behalf of said Corporation with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By _____
Terry J. Garrett
Vice President Engineering

SUBSCRIBED and sworn to before me this 27th day of October, 2008.

RHONDA L. TIEMEYER
NOTARY PUBLIC
OFFICIAL SEAL
STATE OF KANSAS
MY COMMISSION EXPIRES
January 11, 2010

Rhonda L. Tiemeyer
Notary Public

Expiration Date January 11, 2010

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION

The Nuclear Regulatory Commission (NRC) provided by letter dated September 29, 2008, a request for additional information related to a license amendment request that proposed revisions to the Wolf Creek Generating Station (WCGS) Technical Specification (TS) 3.7.10, "Control Room Emergency Ventilation System (CREVS)," and the addition of new specification 5.5.18, "Control Room Habitability Program." The proposed revisions were based on Technical Specification Task Force (TSTF) 448, Revision 3, "Control Room Habitability." Provided below are responses to the questions in the request for additional information.

1. *WCNOC letter dated January 15, 2008, Page 3 of 5 of Attachment I (the last paragraph of Section 2.2.1), states, in part, that "in TS 3.7.10, TS 5.5.18 and TS Bases 3.7.10 the phrase 'control room envelope (CRE)' is replaced with 'CRE and control building envelope (CBE) boundary' and CRE is replaced with CRE and CBE in several places." However, in insert 5.0-21 (Page 8 of 9 of Attachment 11), Sections 5.5.18.d and 5.5.18.f, "control room" is used instead of "control room envelope" or "CRE and CBE boundary". The use of phrase "control room" is not consistent with the explanation on page 3 of 5 in Section 2.2.1 of Attachment I.*

   In addition, this appears inconsistent with the intent of TSTF-448, Revision 3, as indicated in the technical analysis Section on Page 9 of TSTF-448, where Bases Changes are discussed. On page 9, it is stated that "the Bases are revised to use the terms 'control room envelope (CRE)' and 'CRE boundary' instead of the ambiguous term 'control room.' The definition of 'control room' and 'control room envelope boundary' are added to the background section of the Bases."

   Please clarify your intent with the use of "control room" in insert 5.0-21 on Page 8 of 9, Sections 5.5.18.d and 5.5.18.f of your submittal.

Response: The use of the term "control room" in the proposed Sections 5.5.18.d, 5.5.18.e, and 5.5.18.f. is based on the unique design of the WCGS control room envelope (CRE) and the current TS testing protocol. The current Surveillance Requirement (SR) 3.7.10.4 is the performance of a postive pressure test, with respect to the outside atmosphere, to verify proper functioning of the Control Room Emergency Ventilation System (CREVS). This test measures for positive pressure on the control room and not the CRE. The CRE encompasses the control room and Class 1E air-conditioning equipment rooms. TSTF-448, Revision 3, page 8, indicates that the Control Room Envelope Habitability Program requries measuring differential pressure every [18] months on a STAGGERED TEST BASIS in a manner similar to the current requirements in the TSs.

For consistency with the intent of TSTF-448, WCNOC is revising the term "control room" to "CRE" in proposed TS Sections 5.5.18.d, 5.5.18.e, and 5.5.18.f. TS 5.5.18.d would be considered to be met with the current testing protocol based on the wording that states: "Measurement, at designated locations, of the .... ."

Revised marked up TS pages are provided in Attachment II.

2. *In accordance with TSTF-448, the title of the program represented by Section 5.5.18 should be "Control Room Envelope Habitability Program," instead of "Control Room Habitability Program," as stated by Insert for Page 5.0-21. The difference is minor, however, the title in the TSTF places a more appropriate emphasis on the control room envelope. Please consider revising the title of the program to be consistent with the TSTF.*

Response: Consistent with the response to question 1 above, WCNOC is revising "Control Room Habitability Program" to "Control Room Envelope Habitability Program." This will also require revising the proposed changes to SR 3.7.10.4 and associated TS Bases.

Revised marked up TS pages are provided in Attachment II. Revised marked up TS Bases pages are provided in Attachment III.

3. *Section 5.5.17.e of your submittal is also inconsistent with TSTF-448, Revision 3, in that there is no discussion of CRE occupants' exposure to hazardous chemicals such as is reflected in the REQUIRED ACTION of TS 3.7.10.B.2, where there is assurance that the CRE occupants are protected from hazardous chemicals regardless of quantities stored on site-now or in the future. The NRC staff is aware of the discussion provided in section 2.2.3 of Attachment I of the WCNOC submittal and believes that the discussion does not adequately address the intent of TSTF-448. Therefore, please consider updating Section 5.5.17.e of your submittal to address CRE occupants' exposure to hazardous chemicals consistent with the intent of TSTF-448, Revision 3, Section 5.5.18.e.*

Response: WCNOC proposed to eliminate the TSTF-448, Revision 3, phrase from TS Section 5.5.15.e regarding unfiltered air inleakage limits for hazardous chemicals and CRE occupants' exposure to hazardous chemicals based on the licensing basis not requiring quantative limits for hazardous chemicals.

WCNOC agrees to incorporate the TSTF-448, Revision 3 wording: "Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis." While we are agreeing to incorporate this wording, it is recognized that this program requirement is satisfied in that hazardous chemicals are not stored or used onsite in quantities sufficient to necessitate CRE protection as required by Regulatory Guide 1.78, Rev. 0. The proposed wording to the TS 3.7.10 Bases (in letter WO 08-0001) provides clarifying information regarding this program requirement.

Revised marked TS pages are provided in Attachment II.

Additional Proposed TS Change

The TSTF submitted TSTF-508, Revision 0, "Revise Control Room Habitability Actions to Address Lessons Learned from TSTF-448 Implementation," by letter dated July 3, 2008 (Accession Number ML081850420). TSTF-508 included a proposed change to NUREG-1431, "Standard Technical Specifications Westinghouse Plants," Specification 5.5.18, paragraph d, last sentence is changed from, "The results shall be trended and used as part of the [18] month assessment of the CRE boundary." to "The results shall be trended and used as part of the periodic assessment of the CRE boundary."

The Technical Analysis in TSTF-508 supporting this change, states:

> In order to be consistent with paragraph c of the Control Room Envelope Habitability Program, the last sentence of paragraph d is revised to use the term "periodic" in lieu of the bracketed phrase "18 month." The model TS indicates that periodic CRE relative pressure measurements shall "be trended and used as part of the [18 month] assessment of the CRE boundary." However, the only periodic assessment required by the TSTF-448 model TS occurs at intervals specified in Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Section C.I, as specified by paragraph c. This assessment is normally performed every 36 months, but the 36 month frequency appears only in the Regulatory Guide and does not appear in the TS. In discussions between the NRC and the TSTF, it was determined that the inclusion of the phrase "18 months" in this sentence was an error. Therefore, to be consistent with the remainder of the program, the bracketed phrase "[18 months]" is replaced with the word "periodic." This substitution resolves the inconsistency between these two requirements in a manner consistent with the published regulatory guidance.

WCNOC is revising the proposed change to TS 5.5.18.d to state: "The results shall be trended and used as part of the periodic assessment of the CRE boundary." This change is being proposed consistent with TSTF-508 to prevent unnecessary additional assessments of the CRE boundary and for consistency with regulatory guidance. Other changes proposed in TSTF-508 may be pursued subsequent to NRC staff approval of TSTF-508.

Revised Marked Up Technical Specification Pages

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Operate each CREVS train pressurization filter unit for ≥ 10 continuous hours with the heaters operating and each CREVS train filtration filter unit for ≥ 15 minutes.	31 days
SR 3.7.10.2	Perform required CREVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.10.3	Verify each CREVS train actuates on an actual or simulated actuation signal.	18 months
SR 3.7.10.4	Verify one CREVS train can maintain a positive pressure of ≥ 0.25 inches water gauge, relative to the outside atmosphere during the CRVIS mode of operation.	18 months on a STAGGERED TEST BASIS

Perform required unfiltered air inleakage testing of the CRE and CBE boundaries in accordance with the Control Room Envelope Habitability Program.

In accordance with the Control Room Envelope Habitability Program

INSERT 5.0-21

5.5.18 Control Room Envelope Habitability Program

A Control Room Envelope (CRE) Habitability Program shall be established and implemented to ensure that CRE habitability is maintained such that, with an OPERABLE Control Room Emergency Ventilation System (CREVS), CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under design basis accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem whole body or its equivalent to any part of the body for the duration of the accident. The program shall include the following elements:

a. The definition of the CRE, CRE boundary, control building envelope (CBE), and CBE boundary.

b. Requirements for maintaining the CRE and CBE boundary in their design condition including configuration control and preventive maintenance.

c. Requirements for (i) determining the unfiltered air inleakage past the CRE and CBE boundaries in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.

The following are exceptions to Section C.1 and C.2 of Regulatory Guide 1.197, Revision 0:

1. The Tracer Gas Test based on the Brookhaven National Laboratory Atmospheric Tracer Depletion (ATD) Method is used to determine the unfiltered air inleakage past the CRE and CBE boundaries. The ATD Method is described in WCNOC letters dated February 21, 2005 (WO 05-0003), June 29, 2007 (WM 07-0057), and September 28, 2007 (ET 07-0045).

d. Measurement, at designated locations, of the CRE pressure relative to the outside atmosphere during the pressurization mode of operation by one train of the CREVS, operating at the flow rate required by the VFTP, at a Frequency of 18 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the periodic assessment of the CRE boundary.

INSERT 5.0-21 (continued)

e. The quantitative limits on unfiltered air inleakage into the CRE and CBE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

f. The provisions of SR 3.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE and CBE unfiltered inleakage, and measuring CRE pressure and assessing the CRE and CBE as required by paragraphs c and d, respectively.

Revised Marked Up Technical Specification Bases Pages

INSERT B 3.7.10-2A

By operation of the control room pressurization trains and the control room filtration units, the CREVS pressurizes, recirculates and filters air within the CRE as well as the CBE that generally surrounds the CRE. The boundaries of these two distinct but related volumes are credited in the analysis of record for limiting the inleakage of unfiltered outside air.

The station CRE design is unique. The Control Building by and large surrounds the CRE. The Control Building is also designed to be at a positive pressure with respect to its surrounding environment although not positive with respect to the CRE. In the emergency pressurization and filtration mode, the control room air volume receives air through a filtration system that takes a suction on the Control Building. The Control Building in turn receives filtered air from the outside environment.

The CRE is the area within the confines of the CRE boundary that contains the spaces that CRE occupants inhabit to control the unit during normal and accident conditions. This area encompasses the control room, and may encompass other non-critical areas to which frequent personnel access or continuous occupancy is not necessary in the event of an accident. The CRE is protected during normal operation, natural events, and accident conditions. The CRE boundary is the combination of walls, floor, roof, ducting, doors, penetrations and equipment that physically form the CRE. The CRE boundary must be maintained to ensure that the inleakage of unfiltered air into the CRE will not exceed the inleakage assumed in the licensing basis analysis of design basis accident (DBA) consequences to CRE occupants. The CRE and its boundary are defined in the Control Room Envelope Habitability Program.

The CBE is an area that largely surrounds the CRE. Occupancy of the CBE is not required to control the unit during normal and accident conditions. The CBE boundary is the combination of walls, floor, roof, ducting, doors, penetrations and equipment that physically form the CBE. The CBE boundary must be maintained to ensure that the inleakage of unfiltered air into the CBE will not exceed the inleakage assumed in the licensing basis analysis of DBA consequences to CRE occupants. The CBE and its boundary are defined in the Control Room Envelope Habitability Program.

INSERT B 3.7.10-2B

The CREVS provides protection from smoke and hazardous chemicals to the CRE occupants. The analysis of hazardous chemical releases (Ref. 7) determined that hazardous chemicals are not stored or used onsite in quantities sufficient to necessitate CRE protection as required by Regulatory Guide 1.78 (Ref. 8). The evaluation of a smoke challenge demonstrates that it will not result in the inability of the CRE occupants to control the reactor either from the control room or from the remote shutdown panels (Ref. 1). The analysis for smoke and hazardous chemicals has determined no CREVS actuation for such events.