WOLF CREEK
NUCLEAR OPERATING CORPORATION

Matthew W. Sunseri
Vice President Operations and Plant Manager

January 15, 2008
WO 08-0001

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

Subject: Docket No. 50-482: Application To Revise Technical Specifications Regarding Control Room Envelope Habitability In Accordance With TSTF-448, Revision 3, Using The Consolidated Line Item Improvement Process

Gentlemen:

Pursuant to 10 CFR 50.90, Wolf Creek Nuclear Operating Corporation (WCNOC) hereby requests an amendment to Facility Operating License No. NPF-42 for the Wolf Creek Generating Station (WCGS).

The proposed amendment would modify technical specification (TS) requirements related to control room envelope habitability in accordance with Technical Specification Task Force (TSTF) TSTF–448, Revision 3, "Control Room Habitability." The availability of this TS improvement was announced in the Federal Register on January 17, 2007 (72 FR 2022) as part of the consolidated line item improvement process.

Attachment I provides a description of the proposed change, the requested confirmation of applicability, and plant specific verifications. Attachment II provides the existing TS pages marked up to show the proposed changes. Attachment III provides revised (clean) TS pages. Attachment IV provides a summary of the regulatory commitments made in this submittal. Attachment V provides the existing TS Bases pages marked up to show proposed changes and is for information only.

It has been determined that this amendment application does not involve a significant hazard consideration as determined per 10 CFR 50.92. Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of this amendment.

This amendment application was reviewed by the Plant Safety Review Committee. In accordance with 10 CFR 50.91, a copy of this amendment application, with attachments, is being provided to the designated Kansas State official.

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WCNOC requests approval of the proposed amendment by February 27, 2009. The changes proposed are not required to address an immediate safety concern. It is anticipated that the license amendment, as approved, will be effective upon issuance and will be implemented within 90 days from the date of issuance. Please contact me at (620) 364-4008 or Mr. Richard Flannigan at (620) 364-4117 for any questions you may have regarding this application.

Sincerely,

M W Sunseri

Matthew W. Sunseri

MWS/rlt

Attachments:
- I Description and Assessment
- II Proposed Technical Specification Changes (Mark-up)
- III Revised Technical Specification Pages
- IV Regulatory Commitments
- V Proposed Technical Specification Bases Changes (Mark-up)

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)

Matthew W. Sunseri, of lawful age, being first duly sworn upon oath says that he is Vice President Operations and Plant Manager 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 M W Sunseri
Matthew W. Sunseri
Vice President Operations and Plant Manager

SUBSCRIBED and sworn to before me this 15th day of January, 2008.

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

Rhonda L. Tiemeyer
Notary Public

Expiration Date January 11, 2010

ATTACHMENT I

DESCRIPTION AND ASSESSMENT

1.0 DESCRIPTION

The proposed amendment would modify technical specification (TS) requirements related to control room envelope habitability in TS 3.7.10, "Control Room Emergency Ventilation System (CREVS)" and TS Section 5.5, "Administrative Controls - Programs and Manuals."

The changes are consistent with Nuclear Regulatory Commission (NRC) noticed Industry Technical Specification Task Force (TSTF) Standard Technical Specification change TSTF–448 Revision 3, "Control Room Habitability." This TS improvement was published in the Federal Register on January 17, 2007 as part of the consolidated line item improvement process (CLIIP).

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

Wolf Creek Nuclear Operating Corporation (WCNOC) has reviewed the safety evaluation dated January 17, 2007, as part of the CLIIP. This review included a review of the NRC staff's evaluation, as well as the supporting information provided to support TSTF–448. WCNOC has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC staff are applicable to Wolf Creek Generating Station (WCGS) and justify this amendment for the incorporation of the changes to the WCGS TS.

2.2 Optional Changes and Variations

WCNOC is not proposing any variations or deviations from the TS changes described in the TSTF–448, Revision 3, or the applicable parts of the NRC staff's model safety evaluation dated January 17, 2007, except as noted below.

1. In Section 3.3 of the model safety evaluation (SE) Evaluations 1, 4, 6, and the last paragraph of Section 3.3 are applicable to WCGS with the exception that the ASTM E741 tracer gas test cannot be performed due to WCGS's design.

   The WCGS/SNUPPS (Wolf Creek Generating Station/Standardized Nuclear Unit Power Plant System) control room envelope (CRE) design is unique. The Control Building by and large surrounds the CRE. The CRE is required by Technical Specifications to be at a positive pressure with respect to its surrounding environment. 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 Generic Letter 2003-01 proposed ASTM E741 test methodology is designed for testing a single zone and basically, implicitly assumes that all air can be categorized as either unfiltered outside air or filtered inside air. As described above, the SNUPPS plant design has two separate control zones, the Control Building and the CRE. It is invalid to treat them as merely different volumes within a common zone. Based on the SNUPPS plant design the CRE dose model has three categories of air: unfiltered outside air, single filtered control building air, and double filtered Control Room air.

The Control Building has multiple common boundaries with the CRE. With the CRE pressurized, a substantial fraction of the out-leakage from the CRE will go into the Control Building. This air could then be drawn back into the filtered pressurization system and put back into the Control Room. The current ASTM E741 tracer gas test does not account for re- introduction of tracer gas back into the test volume, potentially leading to erroneous and non-conservative inleakage test results. In order to provide valid test results for this configuration WCNOC chose to perform an alternate tracer gas test using the Atmospheric Tracer Depletion (ATD) Method. 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). The NRC staff concluded by letter dated November 30, 2007, that the ATD method is acceptable for WCGS.

Consistent with the above, TS 5.5.18.c identifies the following exception to Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.

> 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).

Consistent with the above, 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.

2. The new Required Action B.2 in TS 3.7.10 in TSTF-448 says to "[v]erify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits," but, as described in Regulatory Guide 1.196, there are no "limits" for chemical and smoke hazards. WCNOC is changing Required Action B.2 in TS 3.7.10 to eliminate any confusion or misunderstanding about the mitigation of chemical and smoke hazards. Required Action B.2 in TS 3.7.10 now reads "Verify mitigating actions ensure CRE occupant radiological exposures will not exceed limits and CRE occupants are protected from chemical and smoke hazards."

3. The last sentence regarding unfiltered air inleakage limits for hazardous chemicals meeting the assumptions of the licensing basis has not been included in TS 5.5.18.e. There are no quantitative limits for hazardous chemicals. Additionally, per the WCGS licensing basis, hazardous chemicals are not stored or used onsite in quantities sufficient to necessitate CRE protection, as required by Regulatory Guide 1.78. Nearby industrial, military, and transportation facilities present no hazard to the operation of WCGS, and there are no site-related design basis events due to accidents at these facilities.

4. In the Applicable Safety Analyses of TS Bases 3.7.10, the discussion of hazardous chemical releases and smoke challenges is clarified by indicating that hazardous chemicals are not stored or used onsite in quantities sufficient to necessitate CRE protection, as required by Regulatory Guide 1.78 and inserting the following, "The analysis for smoke and hazardous chemicals has determined no CREVS actuation for such events." This clarification represents the current plant specific design. In the future, if the WCGS design or environment change, new Required Action B.2 of TS 3.7.10 addresses hazardous chemicals and smoke to assure that appropriate

mitigating actions and/or design feature(s) are considered.

5. In Surveillance Requirement (SR) 3.7.10.3, of TS Bases 3.7.10, WCNOC is maintaining the current discussion regarding the basis for the 18 month Frequency that was incorporated during the conversion to the improved Standard Technical Specifications. The differences are administrative in nature and do not have any safety significance.

6. In Surveillance Requirement (SR) 3.7.10.4, of TS Bases 3.7.10, the discussion of hazardous chemical releases and smoke challenges is clarified by inserting the following, "For WCGS, there is no CREVS actuation for hazardous chemical releases or smoke and there are no Surveillance Requirements that verify OPERABILITY for hazardous chemicals or smoke." This clarification represents the current plant-specific design. In the future, if the WCGS design or environment change, new Required Action B.2 of TS 3.7.10 addresses hazardous chemicals and smoke to assure that appropriate mitigating actions and/or design feature(s) are considered.

7. The addition of the Control Room Habitability Program results in changes to the Table of Contents, page iv, due to page number changes for Sections 5.6 and 5.7. In addition, there were minor differences in TS numbering and in the TS Bases references. These differences are administrative in nature and do not have any safety significance.

2.3 License Condition Regarding Initial Performance of New Surveillance and Assessment Requirements

WCNOC proposes the following as a license condition to support implementation of the proposed TS changes:

> Upon implementation of License Amendment No. ____ adopting TSTF–448, Revision 3, the determination of control room envelope (CRE) and control building envelope (CBE) boundary unfiltered air inleakage as required by SR 3.7.10.4, in accordance with TS 5.5.18.c.(i), the assessment of CRE habitability as required by Specification 5.5.18.c.(ii), and the measurement of control room pressure as required by Specification 5.5.18.d, shall be considered met. Following implementation:
>
> (a) The first performance of SR 3.7.10.4, in accordance with Specification 5.5.18.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from August 16, 2004, the date of the most recent successful tracer gas test, as stated in the November 16, 2004, letter response to Generic Letter 2003–01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
>
> (b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.18.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from August 16, 2004, the date of the most recent successful tracer gas test, as stated in the November 16, 2004, letter response to Generic Letter 2003–01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.

(c) The first performance of the periodic measurement of control room pressure, Specification 5.5.18.d, shall be within 18 months, plus the 138 days allowed by SR 3.0.2, as measured from February 2, 2007, the date of the most recent successful pressure measurement test.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

WCNOC has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the Federal Register as part of the CLIIP.

WCNOC has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to WCGS and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

3.2 Commitments

The proposed changes to the WCGS Technical Specifications will be implemented within 90 days of NRC approval.

4.0 ENVIRONMENTAL EVALUATION

WCNOC has reviewed the environmental evaluation included in the model safety evaluation dated January 17, 2007, as part of the CLIIP. WCNOC has concluded that the staff's findings presented in that evaluation are applicable to WCGS and the evaluation is hereby incorporated by reference for this application.

ATTACHMENT II

PROPOSED TECHNICAL SPECIFICATION CHANGES (MARK-UP)

TABLE OF CONTENTS

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Ventilation System (CREVS)

LCO 3.7.10 Two CREVS trains shall be OPERABLE.

envelope (CRE) and control building envelope (CBE) boundaries

---NOTE---

The control room boundary may be opened intermittently under administrative controls.

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6,
During movement of irradiated fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One CREVS train inoperable. (for reasons other than Condition B)	A.1	Restore CREVS train to OPERABLE status.	7 days
B. Two CREVS trains inoperable due to inoperable control room boundary in MODES 1, 2, 3, and 4.	B.1	Restore control room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1	Be in MODE 3.	6 hours
	AND		
	C.2	Be in MODE 5.	36 hours

INSERT 3.7-24

(continued)

INSERT 3.7-24

B. One or more CREVS trains inoperable due to an inoperable CRE boundary or an inoperable CBE boundary in MODES 1, 2, 3, and 4.	B.1	Initiate action to implement mitigating actions.	Immediately
	AND		
	B.2	Verify mitigating actions to ensure CRE occupant radiological exposures will not exceed limits and CRE occupants are protected from chemical and smoke hazards.	24 hours
	AND		
	B.3	Restore CRE boundary and CBE boundary to OPERABLE status.	90 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A not met in MODE 5 or 6, or during movement of irradiated fuel assemblies.	D.1.1 Place OPERABLE CREVS train in CRVIS mode. AND D.1.2 Verify OPERABLE CREVS train is capable of being powered by an emergency power source. OR D.2.1 Suspend CORE ALTERATIONS. AND D.2.2 Suspend movement of irradiated fuel assemblies.	Immediately Immediately Immediately Immediately
E. Two CREVS trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies.	E.1 Suspend CORE ALTERATIONS. AND E.2 Suspend movement of irradiated fuel assemblies.	Immediately Immediately
F. Two CREVS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	F.1 Enter LCO 3.0.3.	Immediately

OR
One or more CREVS trains inoperable due to an inoperable CRE boundary or an inoperable CBE boundary in MODE 5 or 6, or during movement of irradiated fuel assemblies.

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

5.5 Programs and Manuals

5.5.16 Containment Leakage Rate Testing Program (continued)

2. Air lock testing acceptance criteria are:

a) Overall air lock leakage rate is ≤ 0.05 L_a when tested at ≥ P_a.

b) For each door, leakage rate is ≤ 0.005 L_a when pressurized to ≥ 10 psig.

e. The provisions of SR 3.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

f. The provisions of SR 3.0.3 are applicable to the Containment Leakage Rate Testing Program.

5.5.17 Reactor Vessel Head Closure Bolt Integrity

This program provides the requirements to support normal plant operation with one reactor vessel head closure bolt less than fully tensioned for one operating cycle. The provisions of this program shall be implemented when a head closure bolt becomes stuck in a partially inserted position such that the amount of thread engagement is not sufficient to take the tensioning loads without damage to the vessel threads or a bolt is not capable of being inserted into the bolt hole.

Prior to operation with one reactor vessel head closure bolt less than fully tensioned, the following conditions shall apply:

a. The circumstances associated with the less than fully tensioned closure bolt will be verified to be bounded by the analysis that was referenced in the letter dated September 15, 2000 (WO 00-0036).

b. A review of the results of the visual examinations performed on the closure bolts shall be performed to ensure that there is no indication of sufficient degradation of closure bolts that could affect the conclusions of Specification 5.5.17a. above.

Within 30 days following startup of the plant, a report shall be submitted to the Commission identifying the circumstances for operation with one reactor vessel head closure bolt less than fully tensioned.

Operation with the same reactor vessel head closure bolt less than fully tensioned shall be limited to one operating cycle (i.e., until the next refueling outage).

INSERT 5.0-21

INSERT 5.0-21

5.5.18 Control Room Habitability Program

A Control Room Habitability Program shall be established and implemented to ensure that control room envelope (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 control room 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 18 month assessment of the control room.

INSERT 5.0-21 (continued)

e. The quantitative limits on unfiltered air inleakage into the control room 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.

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

ATTACHMENT III
REVISED TECHNICAL SPECIFICATION PAGES

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two CREVS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	F.1 Enter LCO 3.0.3.	Immediately

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	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 Habitability Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours
D. Required Action and associated Completion Time of Condition A not met in MODE 5 or 6, or during movement of irradiated fuel assemblies.	D.1.1 Place OPERABLE CREVS train in CRVIS mode. AND D.1.2 Verify OPERABLE CREVS train is capable of being powered by an emergency power source. OR D.2.1 Suspend CORE ALTERATIONS. AND D.2.2 Suspend movement of irradiated fuel assemblies.	Immediately Immediately Immediately Immediately
E. Two CREVS trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies. OR One or more CREVS trains inoperable due to an inoperable CRE boundary or an inoperable CBE boundary in MODE 5 or 6, or during movement of irradiated fuel assemblies.	E.1 Suspend CORE ALTERATIONS. AND E.2 Suspend movement of irradiated fuel assemblies.	Immediately Immediately

(continued)

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Ventilation System (CREVS)

LCO 3.7.10 Two CREVS trains shall be OPERABLE.

---NOTE---
The control room envelope (CRE) and control building envelope (CBE) boundaries may be opened intermittently under administrative controls.

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6,
During movement of irradiated fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One CREVS train inoperable for reasons other than Condition B.	A.1	Restore CREVS train to OPERABLE status.	7 days
B. One or more CREVS trains inoperable due to inoperable CRE boundary or an inoperable CBE boundary in MODES 1, 2, 3, and 4.	B.1	Initiate action to implement mitigating actions.	Immediately
	AND		
	B.2	Verify mitigating actions to ensure CRE occupant radiological exposures will not exceed limits and CRE occupants are protected from chemical and smoke hazards.	24 hours
	AND		
	B.3	Restore CRE boundary and CBE boundary to OPERABLE status.	90 days

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Verify water level of UHS is ≥ 1070 ft mean sea level.	24 hours
SR 3.7.9.2	Verify plant inlet water temperature of UHS is ≤ 90°F.	24 hours

5.5 Programs and Manuals

5.5.16 Containment Leakage Rate Testing Program (continued)

2. Air lock testing acceptance criteria are:

a) Overall air lock leakage rate is ≤ 0.05 L_a when tested at ≥ P_a.

b) For each door, leakage rate is ≤ 0.005 L_a when pressurized to ≥ 10 psig.

e. The provisions of SR 3.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

f. The provisions of SR 3.0.3 are applicable to the Containment Leakage Rate Testing Program.

5.5.17 Reactor Vessel Head Closure Bolt Integrity

This program provides the requirements to support normal plant operation with one reactor vessel head closure bolt less than fully tensioned for one operating cycle. The provisions of this program shall be implemented when a head closure bolt becomes stuck in a partially inserted position such that the amount of thread engagement is not sufficient to take the tensioning loads without damage to the vessel threads or a bolt is not capable of being inserted into the bolt hole.

Prior to operation with one reactor vessel head closure bolt less than fully tensioned, the following conditions shall apply:

a. The circumstances associated with the less than fully tensioned closure bolt will be verified to be bounded by the analysis that was referenced in the letter dated September 15, 2000 (WO 00-0036).

b. A review of the results of the visual examinations performed on the closure bolts shall be performed to ensure that there is no indication of sufficient degradation of closure bolts that could affect the conclusions of Specification 5.5.17a. above.

Within 30 days following startup of the plant, a report shall be submitted to the Commission identifying the circumstances for operation with one reactor vessel head closure bolt less than fully tensioned.

Operation with the same reactor vessel head closure bolt less than fully tensioned shall be limited to one operating cycle (i.e., until the next refueling outage).

(continued)

5.5 Programs and Manuals

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 its 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 control room 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 18 month assessment of the control room.

(continued)

5.5 Programs and Manuals

5.5.18 Control Room Envelope Habitability Program (continued)

e. The quantitative limits on unfiltered air inleakage into the control room 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.

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

5.0 ADMINISTRATIVE CONTROLS

5.6 Reporting Requirements

The following reports shall be submitted in accordance with 10 CFR 50.4.

5.6.1 Not Used.

5.6.2 Annual Radiological Environmental Operating Report

The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 1 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the radiological environmental monitoring program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in a format similar to the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

5.6.3 Radioactive Effluent Release Report

The Radioactive Effluent Release Report covering the operation of the unit during the previous year shall be submitted prior to May 1 of each year in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

5.6.4 Not Used.

(continued)

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

1. Specification 3.1.3: Moderator Temperature Coefficient (MTC),

2. Specification 3.1.5: Shutdown Bank Insertion Limits,

3. Specification 3.1.6: Control Bank Insertion Limits,

4. Specification 3.2.3: Axial Flux Difference,

5. Specification 3.2.1: Heat Flux Hot Channel Factor, $F_Q(Z)$,

6. Specification 3.2.2: Nuclear Enthalpy Rise Hot Channel Factor ($F^N_{\Delta H}$),

7. Specification 3.9.1: Boron Concentration,

8. SHUTDOWN MARGIN for Specification 3.1.1 and 3.1.4, 3.1.5, 3.1.6, and 3.1.8,

9. Specification 3.3.1: Overtemperature ΔT and Overpower ΔT Trip Setpoints,

10. Specification 3.4.1: Reactor Coolant System pressure, temperature, and flow DNB limits, and

11. Specification 2.1.1: Reactor Core Safety Limits.

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

1. WCNOC Topical Report TR 90-0025 W01, "Core Thermal Hydraulic Analysis Methodology for the Wolf Creek Generating Station."

2. WCAP-11397-P-A, "Revised Thermal Design Procedure."

3. WCNOC Topical Report NSAG-006, "Transient Analysis Methodology for the Wolf Creek Generating Station."

(continued)

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

4. WCAP-10216-P-A, "Relaxation of Constant Axial Offset Control - F_Q Surveillance Technical Specification."

5. WCNOC Topical Report NSAG-007, "Reload Safety Evaluation Methodology for the Wolf Creek Generating Station."

6. NRC Safety Evaluation Report dated March 30, 1993, for the "Revision to Technical Specification for Cycle 7."

7. WCAP-10266-P-A, "The 1981 Version of the Westinghouse ECCS Evaluation Model Using the BASH Code."

8. WCAP-11596-P-A, "Qualification of the Phoenix-P/ANC Nuclear Design System for Pressurized Water Reactor Cores."

9. WCAP 10965-P-A, "ANC: A Westinghouse Advanced Nodal Computer Code."

10. WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Reference Core Report."

11. WCAP-8745-P-A, "Design Bases for the Thermal Power ΔT and Thermal Overtemperature ΔT Trip Functions."

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

(continued)

5.6 Reporting Requirements

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

a. RCS pressure and temperature limits for heat up, cooldown, low temperature operation, criticality, hydrostatic testing, and PORV lift settings as well as heatup and cooldown rates shall be established and documented in the PTLR for the following:

1. Specification 3.4.3, "RCS Pressure and Temperature (P/T) Limits," and

2. Specification 3.4.12, "Low Temperature Overpressure Protection System."

b. The analytical methods used to determine the RCS pressure and temperature and Cold Overpressure Mitigation System limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

1. NRC letter dated December 2, 1999, "Wolf Creek Generating Station, Acceptance for Referencing of Pressure Temperature Limits Report (TAC No. MA4572)," and

2. WCAP-14040-NP-A, "Methodology Used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curves," January, 1996.

c. The PTLR shall be provided to the NRC upon issuance for each reactor vessel fluence period and for any revision or supplement thereto.

5.6.7 Not Used.

5.6.8 PAM Report

When a report is required by Condition B or F of LCO 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

5.6.9 Not Used.

(continued)

5.6 Reporting Requirements

5.6.10 Steam Generator Tube Inspection Report

A report shall be submitted within 180 days after the initial entry into MODE 4 following completion of an inspection performed in accordance with the Specification 5.5.9, Steam Generator (SG) Program. The report shall include:

a. The scope of inspections performed on each SG;

b. Active degradation mechanisms found;

c. Nondestructive examination techniques utilized for each degradation mechanism;

d. Location, orientation (if linear), and measured sizes (if available) of service induced indications;

e. Number of tubes plugged during the inspection outage for each active degradation mechanism;

f. Total number and percentage of tubes plugged to date; and

g. The results of condition monitoring, including the results of tube pulls and in-situ testing.

5.0 ADMINISTRATIVE CONTROLS

5.7 High Radiation Area

As provided in paragraph 20.1601(c) of 10 CFR Part 20, the following controls shall be applied to high radiation areas in place of the controls required by paragraph 20.1601(a) and (b) of 10 CFR Part 20:

5.7.1 High Radiation Areas with Dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation:

a. Each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Such barricades may be opened as necessary to permit entry or exit of personnel or equipment.

b. Access to, and activities in, each such area shall be controlled by means of Radiation Work Permit (RWP) or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.

c. Individuals qualified in radiation protection procedures and personnel continuously escorted by such individuals may be exempted from the requirement for an RWP or equivalent while performing their assigned duties provided that they are otherwise following plant radiation protection procedures for entry to, exit from, and work in such areas.

d. Each individual or group entering such an area shall possess:

1. A radiation monitoring device that continuously displays radiation dose rates in the area; or

2. A radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or

3. A radiation monitoring device that continuously transmits dose rate and cumulative dose information to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area, or

4. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter) and,

(continued)

5.7 High Radiation Area

5.7.1 High Radiation Areas with Dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation: (continued)

(i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area; who is responsible for controlling personnel exposure within the area, or

(ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, or personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with individuals in the area who are covered by such surveillance.

e. Except for individuals qualified in radiation protection procedures, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them.

5.7.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation:

a. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked or continuously guarded door or gate that prevents unauthorized entry, and, in addition:

1. All such door and gate keys shall be maintained under the administrative control of the Shift Manager/Control Room Supervisor or health physics supervision, or his or her designee.

2. Doors and gates shall remain locked except during periods of personnel or equipment entry or exit.

b. Access to, and activities in, each such area shall be controlled by means of an RWP or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.

(continued)

5.7 High Radiation Area

5.7.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation: (continued)

c. Individuals qualified in radiation protection procedures may be exempted from the requirement for an RWP or equivalent while performing radiation surveys in such areas provided that they are otherwise following plant radiation protection procedures for entry to, exit from, and work in such areas.

d. Each individual or group entering such an area shall possess:

1. A radiation monitoring device that continuously integrates the radiation rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or

2. A radiation monitoring device that continuously transmits dose rate and cumulative dose information to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area with the means to communicate with and control every individual in the area, or

3. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter) and,

(i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area; who is responsible for controlling personnel exposure within the area, or

(ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with and control every individual in the area, or

3. In those cases where options (2) and (3), above, are impractical or determined to be inconsistent with the "As Low As is Reasonably Achievable" principle, a radiation monitoring device that continuously displays radiation dose rates in the area.

(continued)

5.7 High Radiation Area

5.7.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation: (continued)

e. Except for individuals qualified in radiation protection procedures or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them.

f. Such individual areas that are within a larger area, such as PWR containment, where no enclosure exists for the purpose of locking and where no enclosure can reasonably be constructed around the individual area need not be controlled by a locked door or gate nor continuously guarded, but shall be barricaded, conspicuously posted, and a clearly visible flashing light shall be activated at the area as a warning device.

ATTACHMENT IV

REGULATORY COMMITMENTS

The following table identifies those actions committed to by WCNOC in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to Mr. Richard Flannigan at (620) 364-4500.

Regulatory Commitments	Due Date / Event
The proposed changes to the WCGS Technical Specifications will be implemented within 90 days of NRC approval.	Within 90 days of NRC Approval.

ATTACHMENT V

PROPOSED TECHNICAL SPECIFICATION BASES CHANGES
(For Information Only)

B 3.7 PLANT SYSTEMS

B 3.7.10 Control Room Emergency Ventilation System (CREVS)

BASES

BACKGROUND The CREVS provides a protected, controlled temperature environment from which operators can control the unit following an uncontrolled release of radioactivity.

The CREVS consists of two independent, redundant trains that recirculate, cool, pressurize, and filter the control room air. Each CREVS train consists of a recirculation system train and a pressurization system train. The air conditioning portion of each train consists of a fan, a self-contained refrigeration system, and a prefilter. The filtration portion of each system consists of a high efficiency particulate air (HEPA) filter, an activated charcoal absorber section for removal of gaseous activity (principally iodines), and a second HEPA follows the absorber section to collect carbon fines. Each pressurization system train consists of ductwork to bring air from outside the building, a moisture separator, an electric heater, a HEPA, an activated charcoal adsorber, and a second HEPA. Ductwork, valves or dampers, and instrumentation also form part of the system.

The CREVS is an emergency system which may also operate during normal unit operations. Upon receipt of the actuating signal, normal air supply and exhaust to the control room is isolated, and a portion of the ventilation air is recirculated through the filtration system train(s), and the pressurization system is started. The filtration system prefilters remove any large particles in the air, and the pressurization system moisture separator removes any entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers. Continuous operation of each pressurization train for at least 10 hours per month, with the heaters functioning, reduces moisture buildup on the HEPA filters and adsorbers. The heaters are important to the effectiveness of the charcoal adsorbers.

Actuation of the CREVS by a Control Room Ventilation Isolation Signal (CRVIS), places the system in the emergency mode of operation. Actuation of the system to the emergency mode of operation closes the unfiltered outside air intake and unfiltered exhaust dampers, and aligns the system for recirculation. A portion of the recirculation control room air flow through the redundant filtration system trains of HEPA and the charcoal adsorbers. The CRVIS also initiates pressurization and filtered ventilation of the air supply to the control room.

BASES

BACKGROUND (continued)

Outside air is filtered, diluted with air from the electrical equipment and cable spreading rooms, and added to the air being recirculated from the control room. Pressurization of the control room prevents infiltration of unfiltered air from the surrounding areas of the building.

The air entering the control building during normal operation is continuously monitored by radiation and smoke detectors. A high radiation signal initiates the CRVIS; the smoke detectors provide an alarm in the control room. A CRVIS is initiated by the radiation monitors (GKRE0004 and GKRE0005), fuel building ventilation isolation signal, containment isolation phase A, containment atmosphere radiation monitors (GTRE0031 and GTRE0032), containment purge exhaust radiation monitors (GTRE0022 and GTRE0033), or manually.

A single train will pressurize the control room to ≥ 0.25 inches water gauge. The CREVS operation in maintaining the control room habitable is discussed in the USAR, Section 6.4 (Ref. 1).

Either of the pressurization and recirculation trains provide the required filtration and pressurization to the control room. Normally open isolation dampers are arranged in series pairs so that the failure of one damper to shut will not result in a breach of isolation. The CREVS is designed in accordance with Seismic Category I requirements.

The CREVS is designed to maintain the control room environment for 30 days of continuous occupancy after a Design Basis Accident (DBA) without exceeding a 5 rem whole body dose or its equivalent to any part of the body (Ref. 2).

INSERT B 3.7.10-2A

APPLICABLE SAFETY ANALYSES

The CREVS components are arranged in redundant, safety related ventilation trains. The location of components and ducting within the control room envelope ensures an adequate supply of filtered air to all areas requiring access. The CREVS provides airborne radiological protection for the control room operators, as demonstrated by the control room accident dose analyses for the most limiting design basis loss of coolant accident, fission product release presented in the USAR, Chapter 15, Appendix 15A (Ref. 2).

INSERT B 3.7.10-2B

The worst case single active failure of a component of the CREVS, assuming a loss of offsite power, does not impair the ability of the system to perform its design function.

The CREVS satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

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 control room 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 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 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.

, such as from a loss of both ventilation trains or from an inoperable CRE or CBE boundary,

BASES

LCO

Two independent and redundant CREVS trains are required to be OPERABLE to ensure that at least one is available if assuming active a single failure disables the other train. Total system failure could result in exceeding a dose of 5 rem to the control room operator in the event of a large radioactive release.

whole body or its equivalent to any part of the body

CRE occupants

Each CREVS train

CRE occupant

The CREVS is considered OPERABLE when the individual components necessary to limit operator exposure are OPERABLE in both trains. A CREVS train is OPERABLE when the associated:

a. Recirculation and pressurization fans are OPERABLE;

b. HEPA filters and charcoal absorbers are not excessively restricting flow, and are capable of performing their filtration functions;

c. Heater, moisture separator, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained; and

d. Control Room Air Conditioning flow path integrity is maintained.

INSERT B 3.7.10-3A

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

CRE and CBE boundaries

INSERT B 3.7.10-3B

The LCO is modified by a Note allowing the control room boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room isolation is indicated.

should be proceduralized and

operators in the CRE.

CRE

and thereby restore the affected envelope boundary to a condition equivalent to the design condition

Note that the Control Room Air Conditioning System (CRACS) forms a subsystem to the CREVS. The CREVS remains capable of performing its safety function provided the CRACS air flow path is intact and air circulation can be maintained. Isolation or breach of the CRACS air flow path can also render the CREVS flow path inoperable. In these situations LCOs 3.7.10 and 3.7.11 may be applicable.

APPLICABILITY

In MODES 1, 2, 3, 4, 5, and 6, and during movement of irradiated fuel assemblies, CREVS must be OPERABLE to control operator exposure during and following a DBA.

the

ensure that the CRE will remain habitable

INSERT B 3.7.10-3A

In order for the CREVS trains to be considered OPERABLE, the CRE and CBE boundaries must be maintained such that the CRE occupant dose from a large radioactive release does not exceed the calculated dose in the licensing basis consequence analyses for DBA's, and that CRE occupants are protected from hazardous chemicals and smoke.

INSERT B 3.7.10-3B

This Note only applies to openings in the CRE and CBE boundaries that can be rapidly restored to intended design condition, such as doors, hatches, floor plugs, and access panels.

BASES

APPLICABILITY (continued)

In MODE 5 or 6, the CREVS is required to cope with the design basis release from the rupture of a waste gas tank.

During movement of irradiated fuel assemblies, the CREVS must be OPERABLE to cope with the release from a design basis fuel handling accident.

ACTIONS

A.1

for reasons other than an inoperable CRE or CBE boundary

When one CREVS train is inoperable, action must be taken to restore OPERABLE status within 7 days. In this Condition, the remaining OPERABLE CREVS train is adequate to perform the control room protection function. However, the overall reliability is reduced because a single failure in the OPERABLE CREVS train could result in loss of CREVS function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and ability of the remaining train to provide the required capability.

CRE occupant

B.1

, B.2, and B.3

INSERT B 3.7.10-4

If the control room boundary is inoperable in MODES 1, 2, 3, and 4 such that a CREVS train cannot establish or maintain the required pressure, action must be taken to restore an OPERABLE control room boundary within 24 hours. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the availability of the CREVS to provide a filtered environment (albeit with potential control room inleakage).

C.1 and C.2

inoperable CRE or CBE boundary

In MODE 1, 2, 3, or 4, if the inoperable CREVS train or the control room boundary cannot be restored to OPERABLE status within the required Completion Time, the unit must be placed in a MODE that minimizes accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

INSERT B 3.7.10-4

If the unfiltered inleakage of potentially contaminated air past a CRE or CBE boundary credited in the accident analysis and into the CRE can result in CRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem whole body or its equivalent to any part of the body), or inadequate protection of CRE occupants from hazardous chemicals or smoke, the CRE or CBE boundary is inoperable. Actions must be taken to restore the CRE or CBE boundary to OPERABLE status within 90 days.

During the period that the CRE or CBE boundary is considered inoperable, action must be initiated to implement mitigating actions to lessen the effect on CRE occupants from the potential hazards of a radiological or chemical event or a challenge from smoke. Actions must be taken within 24 hours to verify that in the event of a DBA, the mitigating actions will ensure that CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable CBP boundary) should be preplanned for implementation upon entry into the condition, regardless of whether entry is intentional or unintentional.

The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90 day Completion Time is reasonable based on the determination that the mitigating actions will ensure protection of CRE occupants within analyzed limits while limiting the probability that CRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. In addition, the 90 day Completion Time is a reasonable time to diagnose, plan and possibly repair, and test most conditions adversely affecting the CRE or CBE boundary.

BASES

ACTIONS (continued)

D.1.1, D.1.2, D.2.1, and D.2.2

In MODE 5 or 6, or during movement of irradiated fuel assemblies, if the inoperable CREVS train cannot be restored to OPERABLE status within the required Completion Time, action must be taken to immediately place the OPERABLE CREVS train in the CRVIS mode. This action ensures that the remaining train is OPERABLE, that no failures preventing automatic actuation will occur, and that any active failure would be readily detected. Required Action D.1.2 requires the CREVS train placed in operation be capable of being powered by an emergency power source. This action assures OPERABILITY of the CREVS train in the unlikely event of a fuel handling accident or decay tank rupture while shutdown concurrent with a loss of offsite power.

An alternative to Required Action D.1 is to immediately suspend activities that could result in a release of radioactivity that might require isolation of the ~~control room~~ CRE. This places the unit in a condition that minimizes risk. This does not preclude the movement of fuel to a safe position. the accident

E.1 and E.2

In MODE 5 or 6, or during movement of irradiated fuel assemblies, with two CREVS trains inoperable, action must be taken immediately to suspend activities that could result in a release of radioactivity that might ~~enter the control room.~~ require isolation of the CRE. This places the unit in a condition that minimizes accident risk. This does not preclude the movement of fuel to a safe position. the

or with one or more CREVS trains inoperable due to an inoperable CRE or CBE boundary

F.1

If both CREVS trains are inoperable in MODE 1, 2, 3, or 4, for reasons other than an inoperable ~~control room~~ CRE and CBE boundary (i.e., Condition B), the CREVS may not be capable of performing the intended function and the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing each train once every month, by initiating from the control room, flow through the HEPA filters and charcoal

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1 (continued)

adsorber of both the filtration and pressurization systems, provides an adequate check of this system. Monthly heater operations dry out any moisture accumulated in the charcoal from humidity in the ambient air. Each pressurization system train must be operated for ≥ 10 continuous hours with the heaters energized. Each filtration system train need only be operated for ≥ 15 minutes to demonstrate the function of the system. The 31 day Frequency is based on the reliability of the equipment and the two train redundancy availability.

SR 3.7.10.2

This SR verifies that the required CREVS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREVS filter tests use the procedure guidance in Regulatory Guide 1.52, Rev. 2 (Ref. 3) in accordance with the VFTP. The VFTP includes testing the performance of the HEPA filter, charcoal absorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.10.3

This SR verifies that each CREVS train starts and operates on an actual or simulated CRVIS. The actuation signal includes Control Room Ventilation or High Gaseous Radioactivity. The CREVS train automatically switches on an actual or simulated CRVIS into a CRVIS mode of operation with flow through the HEPA filters and charcoal adsorber banks. The Frequency of 18 months is consistent with a typical operating cycle. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.

SR 3.7.10.4

INSERT B 3.7.10-6

This SR verifies the integrity of the control room enclosure, and the assumed inleakage rates of the potentially contaminated air. The control room positive pressure, with respect to the outside atmosphere, is periodically tested to verify proper functioning of the CREVS. During the

INSERT B 3.7.10-6

This SR verifies the OPERABILITY of the CRE and CBE boundaries credited in the accident analysis by testing for unfiltered air inleakage past the credited envelope boundaries and into the CRE. The details of the testing are specified in the Control Room Habitability Program.

The CRE is considered habitable when the radiological dose to CRE occupants calculated in the licensing basis analyses of DBA consequences is no more than 5 rem whole body or its equivalent to any part of the body and the CRE occupants are protected from hazardous chemicals and smoke. For WCGS, there is no CREVS actuation for hazardous chemical releases or smoke and there are no Surveillance Requirements that verify OPERABILITY for hazardous chemicals or smoke. This SR verifies that the unfiltered air inleakage into the CRE and CBE boundaries is no greater than the flow rate assumed in the licensing basis analyses of DBA consequences. When unfiltered air inleakage is greater than the assumed flow rate, Condition B must be entered. Required Action B.3 allows time to restore the CRE or CBE boundary to OPERABLE status provided mitigating actions can ensure that the CRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, Section C.2.7.3, (Ref. 4) which endorses, with exceptions, NEI 99-03, Section 8.4 and Appendix F (Ref. 5). These compensatory measures may also be used as mitigating actions as required by Required Action B.2. Temporary analytical methods may also be used as compensatory measures to restore OPERABILITY (Ref. 6). Options for restoring the CRE or CBE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope inleakage test may not be necessary to establish that the envelope boundary has been restored to OPERABLE status.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.10.4 (continued)

CRVIS mode of operation, the CREVS is designed to pressurize the control room ≥ 0.25 inches water gauge positive pressure with respect to the outside atmosphere in order to prevent unfiltered inleakage. The CREVS is designed to maintain this positive pressure with one train.

The Frequency of 18 months on a STAGGERED TEST BASIS is consistent with the guidance provided in NUREG-0800 (Ref. 4).

REFERENCES

1. USAR, Section 6.4 and 9.4
2. USAR, Chapter 15, Appendix 15A.
3. Regulatory Guide 1.52, Rev. 2.
4. NUREG-0800, Section 6.4, Rev. 2, July 1981.

INSERT B 3.7.10-7

INSERT B 3.7.10-7

4. Regulatory Guide 1.196.

5. NEI 99-03, "Control Room Habitability Assessment," June 2001.

6. Letter from Eric J. Leeds (NRC) to James W. Davis (NEI) dated January 30, 2004, "NEI Draft White Paper, Use of Generic Letter 91-18 Process and Alternative Source Terms in the Context of Control Room Habitability." (ADAMS Accession No. ML040300694).

7. USAR Section 2.2.

8. Regulatory Guide 1.78, Rev. 0.