



**Progress Energy**

**James Scarola**  
Vice President  
Brunswick Nuclear Plant  
Progress Energy Carolinas, Inc.

July 17, 2007

SERIAL: BSEP 07-0058  
TSC-2007-03

10 CFR 50.90

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Subject: Brunswick Steam Electric Plant, Unit Nos. 1 and 2  
Docket Nos. 50-325 and 50-324/License Nos. DPR-71 and DPR-62  
Application to Revise Technical Specifications Regarding Control Room  
Envelope Habitability in Accordance with TSTF-448, Revision 3, Using the  
Consolidated Line Item Improvement Process

References: *Federal Register* Notice of Availability of Technical Specification  
Improvement to Modify Requirements Regarding Control Room Envelope  
Habitability Using the Consolidated Line Item Improvement Process,  
published January 17, 2007 (72 FR 2022)

Ladies and Gentlemen:

In accordance with the provisions of the Code of Federal Regulations, Title 10, Part 50.90, Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., is submitting a request for an amendment to the Technical Specifications (TS) for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2.

The proposed amendments would modify TS requirements related to control room envelope habitability. The changes are in accordance with Nuclear Regulatory Commission approved Technical Specification Task Force (TSTF), Standard Technical Specifications (STS) change TSTF-448, Revision 3, "Control Room Habitability." A notice announcing the availability of this proposed change using the Consolidated Line Item Improvement Process (CLIIP) was published in the *Federal Register* on January 17, 2007 (72 FR 2022). In a letter dated December 9, 2003, "180-Day Response to Generic Letter 2003-01, Control Room Habitability," CP&L committed to submit a proposed control room habitability amendment request for BSEP, Unit Nos. 1 and 2, within six months of the CLIIP notice. This submittal fulfills that commitment.

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CP&L has evaluated the proposed change in accordance with 10 CFR 50.91(a)(1), using the criteria in 10 CFR 50.92(c), and determined that this change involves no significant hazards considerations.

CP&L requests approval of the proposed License Amendment by July 31, 2008. Once approved, the amendment shall be implemented within 180 days.

In accordance with 10 CFR 50.91(b), CP&L is providing a copy of this application, with attachments, to the designated representative of the State of North Carolina.

Enclosure 1 provides a description of the proposed changes, the requested confirmation of applicability, and plant-specific verifications. Enclosure 2 provides the existing Unit 1 TS pages marked-up to show the proposed changes. Since TS Section 3.7.3 is identical for Unit 1 and Unit 2, only the mark-up for Unit 1 is provided. Enclosures 3 and 4 provide typed versions of the Unit 1 and Unit 2 revised TS pages, respectively. These typed TS pages are to be used for issuance of the proposed amendments. Enclosure 5 provides existing Unit 1 TS Bases pages marked-up to show the proposed changes. These pages are being submitted for information only and do not require issuance by the NRC.

No regulatory commitments are contained in this submittal. Please refer any questions regarding this submittal to Mr. Randy C. Ivey, Manager - Support Services, at (910) 457-2447.

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on July 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read 'BCW' followed by a stylized flourish and the letters 'for'.

James Scarola

LJG/ljg

Enclosures:

1. Evaluation of Proposed License Amendment Request
2. Marked-up Technical Specification Pages - Unit 1
3. Typed Technical Specification Pages - Unit 1
4. Typed Technical Specification Pages - Unit 2
5. Marked-up Technical Specification Bases Pages - Unit 1 (For Information Only)

cc (with enclosures):

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## **Evaluation of Proposed License Amendment Request**

**Subject:** Request for License Amendment – Application to revise Technical Specifications regarding control room envelope habitability in accordance with TSTF-448, Revision 3, using the Consolidated Line Item Improvement Process

### **1.0 Description**

The proposed license amendments would modify Technical Specifications (TS) requirements regarding control room envelope habitability in TS 3.7.3, "Control Room Emergency Ventilation (CREV) System," and TS Section 5.5, "Programs and Manuals."

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specifications (STS) change TSTF-448, Revision 3. The availability of this TS improvement was published in the *Federal Register* on January 17, 2007 (72 FR 2022) as part of the Consolidated Line Item Improvement Process (CLIIP).

### **2.0 Assessment**

#### **2.1 Applicability of Published Safety Evaluation**

Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., has reviewed the safety evaluation dated January 17, 2007, as part of the CLIIP. This included a review of the NRC's evaluation, as well as the supporting information provided to support TSTF-448. CP&L has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC are applicable to Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2, and justify this amendment for the incorporation of the changes to the BSEP Unit 1 and Unit 2 TS.

#### **2.2 Optional Changes and Variations**

The proposed changes are consistent with the intent of NRC-approved Technical Specifications Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-448, Revision 3, "Control Room Habitability." The changes to TS Section 3.7.3 add additional Conditions/Actions to distinguish between inoperability due to a degraded Control Room Envelope (CRE) boundary and inoperability for other reasons. Changes to the Surveillance Requirements for TS 3.7.3 replace the current surveillance to perform a positive pressure test with a more comprehensive Control Room Envelope Habitability Program. The requirements for this program are incorporated into new TS Section 5.5.13. This program will continue to require a positive pressure test, but augments that test with additional requirements such as a tracer gas

inleakage test and a preventative maintenance program. These additional requirements will provide added confidence in the integrity of the CRE boundary.

Although the basic requirements and structure of TSTF-448 are captured in the proposed changes, there are some differences from the TSTF-448 wording. These differences are listed and justified as follows:

1. In TSTF-448, for the new Control Room Envelope Habitability Program (i.e., Section 5.5.15 in the BWR/4 STS), the lead-in paragraph states that the program "...shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE...." The BSEP proposed TS Section 5.5.13 for Unit Nos. 1 and 2 omits the words "...access and...." The CRE boundary, and programs to maintain it, are only providing the necessary radiological protection for occupancy of the Control Room. The program is independent of any ability to access the Control Room. The regulatory guidance for performing control room dose analyses (e.g., Regulatory Guide 1.183, "Alternative Radioactive Source Term for Evaluating Design Basis Accidents at Nuclear Power Reactors") does not require the assessment of the access dose in assessing the ability of the control room habitability systems to meet the specified dose acceptance criteria. The reduced content of the lead-in paragraph does not impact the listed program requirements.
2. In line item "d" for the new CRE habitability program requirements (Section 5.5.15 in the BWR/4 STS), the words "...all external areas adjacent to the CRE boundary..." are replaced with "...outside atmosphere..." in the proposed BSEP TS Section 5.5.13. The literal interpretation of the word "all" can cause implementation questions and the term adjacent areas is not as easily defined as stating outside atmosphere. This does not reduce the specified requirement in that the trending of the positive pressure test results will be performed for each required assessment.

The above variations also result in corresponding differences in the BSEP TS Bases wording.

### **2.3.1 License Condition Regarding Initial Performance of New Surveillance and Assessment Requirements**

In order to clarify the due date for the initial performance of the new and revised surveillance requirements, CP&L proposes the following as a license condition, for both BSEP Unit Nos. 1 and 2, to support implementation of the proposed TS changes:

Upon implementation of Amendment No. xxx adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.3.3, in accordance with TS 5.5.13.c.(i), the assessment of CRE habitability as required by Specification 5.5.13.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.13.d, shall be considered met. Following implementation:

- (a) The first performance of SR 3.7.3.3, in accordance with Specification 5.5.13.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from June 11, 2004, the date of the most recent successful tracer gas test.
- (b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.13.c.(ii), shall be within the next 9 months.
- (c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.13.d, shall be within 18 months, plus the 180 days allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test.

### **3.0 Regulatory Analysis**

#### **3.1 No Significant Hazards Consideration Determination**

CP&L has reviewed the proposed No Significant Hazards Consideration Determination (NSHCD) published in the *Federal Register* as part of the CLIIP. CP&L has concluded that the proposed NSHCD presented in the *Federal Register* notice is applicable to BSEP, Unit Nos. 1 and 2, and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

#### **3.2 Commitments**

No regulatory commitments are contained in this submittal. Any other actions discussed in this submittal are provided for information purposes and are not considered regulatory commitments.

#### **4.0 Environmental Evaluation**

CP&L has reviewed the environmental evaluation included in the model safety evaluation dated January 17, 2007, as part of the CLIIP. CP&L has concluded that the NRC's findings presented in that evaluation are applicable to BSEP, Unit Nos. 1 and 2, and the evaluation is hereby incorporated by reference for this application.

Brunswick Steam Electric Plant  
Unit Nos. 1 and 2

**Marked-up Technical Specification Pages - Unit 1**

Strikeout/Shadowed Format

~~Strikeout Text~~ Indicates Deleted Text

**Shadowed Text** Indicates Added Text

### 3.7 PLANT SYSTEMS

#### 3.7.3 Control Room Emergency Ventilation (CREV) System

LCO 3.7.3 Two CREV subsystems shall be OPERABLE.

**NOTE**  
The main control room envelope (CRE) boundary may be opened intermittently under administrative control.

**APPLICABILITY:** MODES 1, 2, and 3,  
During movement of irradiated fuel assemblies in the secondary containment,  
During CORE ALTERATIONS,  
During operations with a potential for draining the reactor vessel (OPDRVs).

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREV subsystem inoperable for reasons other than Condition B.	A.1 Restore CREV subsystem to OPERABLE status.	7 days
B. One or more CREV subsystems inoperable due to inoperable CRE Boundary in Mode 1, 2, or 3.	B.1 Initiate action to implement mitigating actions.	Immediately
	AND	
	B.2 Verify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits.	24 hours
	AND	
	B.3 Restore CRE boundary to Operable status.	90 days

(continued)



ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p><b>BC.</b> Required Action and associated Completion Time of Condition A <b>or</b> B not met in MODE 1, 2, or 3.</p> <p><u>OR</u></p> <p>Two CREV subsystems inoperable in MODE 1, 2, or 3 for reasons other than Condition B.</p>	<p><b>BC.1</b> Be in MODE 3.</p> <p><u>AND</u></p> <p><b>BC.2</b> Be in MODE 4.</p>	<p>12 hours</p> <p>36 hours</p>
	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p> <p><b>CD.1</b> Place OPERABLE CREV subsystem in radiation/smoke protection mode.</p> <p><u>OR</u></p> <p><b>CD.2.1</b> Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p><b>CD.2.2</b> Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p><b>CD.2.3</b> Initiate action to suspend OPDRVs.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>DE. Two CREV subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p> <p><u>OR</u></p> <p>One or more CREV subsystems inoperable due to an inoperable CRE boundary during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p> <p>DE.1 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>DE.2 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p> <p>DE.3 Initiate action to suspend OPDRVs.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.3.1 Operate each CREV subsystem for $\geq 15$ continuous minutes.	31 days
SR 3.7.3.2 Perform required CREV filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.3.3	Perform required CRE unfiltered air leakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program
SR 3.7.3.4	Verify each CREV subsystem actuates on an actual or simulated initiation signal.	24 months

## 5.5 Programs and Manuals

### Primary Containment Leakage Rate Testing Program (continued)

- 2) For each air lock door, leakage rate is  $\leq 5$  scfh when the gap between the door seals is pressurized to  $\geq 10$  psig.

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

### 5.5.13 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 (CREV) System, 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 occupancy of the CRE under design basis accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

- a. The definition of the CRE and the CRE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE 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.
- d. Measurement, at designated locations, of the CRE pressure relative to outside atmosphere during the pressurization mode of operation by one subsystem of the CREV System, 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 72 month assessment of the CRE boundary.

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5.5 Programs and Manuals

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**Control Room Envelope Habitability Program (continued)**

- e. The quantitative limits on unfiltered air leakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air leakage measured by the testing described in paragraph c. The unfiltered air leakage limit for radiological challenges is the leakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air leakage 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 unfiltered leakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.
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## 5.0 ADMINISTRATIVE CONTROLS

## 5.6 Reporting Requirements

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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

----- NOTE -----

A single submittal may be made for a multiple unit station. The submittal should combine sections common to all units at the station.

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The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 15 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

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## 5.6 Reporting Requirements

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5.6.2 Annual Radiological Environmental Operating Report (continued)

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 the format of Table 3 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

## ----- NOTE -----

A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station.

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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 the Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

## 5.6.4 Not used

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## 5.6 Reporting Requirements (continued)

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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. The AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) for Specification 3.2.1;
  - 2. The MINIMUM CRITICAL POWER RATIO (MCPR) for Specification 3.2.2;
  - 3. The period based detection algorithm (PBDA) setpoint for Function 2.f, Oscillation Power Range Monitor (OPRM) Upscale, for Specification 3.3.1.1; and
  - 4. The Allowable Values and power range setpoints for Rod Block Monitor Upscale Functions for Specification 3.3.2.1.
- 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. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel" (latest approved version).
  - 2. NEDE-32906P-A, "TRACG Application for Anticipated Operational Occurrences (AOO) Transient Analyses," approved version as specified in the COLR.
- 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.

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## 5.6 Reporting Requirements (continued)

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5.6.6 Post Accident Monitoring (PAM) Instrumentation Report

When a report is required by Condition B or F of LCO 3.3.3.1, "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.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.7 High Radiation Area

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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 sources or from any surface penetrated by the radiation)
- a. Each accessible 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 a 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 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:
    - 1. Possess a radiation monitoring device that continuously displays radiation dose rates in the area ("radiation monitoring and indicating device"); or
    - 2. Possess 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 ("alarming dosimeter"), with an appropriate alarm setpoint; or
    - 3. Possess 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

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5.7 High Radiation Area

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5.7.1 High Radiation Areas with Dose Rates not exceeding 1.0 rem/hour (at 30 centimeters from the radiation sources or from any surface penetrated by the radiation) (continued)

4. Possess a self-reading dosimeter and be under the surveillance, as specified in the RWP or equivalent, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area; or
  5. Be under the surveillance, as specified in the RWP or equivalent, of an individual at the work site, qualified in radiation protection procedures, equipped with a radiation monitoring and indicating device who is responsible for controlling personnel radiation exposure within the area.
- 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 established 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 accessible entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked door, gate, or guard that prevents unauthorized entry, and in addition:
  1. All such door and gate keys shall be maintained under the administrative control of the shift superintendent or the radiation control supervisor or designated representative; and
  2. Doors and gates shall remain locked or guarded except during periods of personnel or equipment entry or exit.

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## 5.7 High Radiation Area

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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)

- 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.
- 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 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:
  - 1. Possess an alarming dosimeter with an appropriate alarm setpoint; or
  - 2. Possess 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. Possess a direct-reading dosimeter and be under the surveillance, as specified in the RWP or equivalent, 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
  - 4. Be under the surveillance, as specified in the RWP or equivalent, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring and indicating device who is responsible for controlling personnel exposure within the area; or

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## 5.7 High Radiation Area

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### 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)

- 5. Possess a radiation monitoring and indicating device in those cases where the options of Specifications 5.7.2.d.2, 5.7.2.d.3, and 5.7.2.d.4. above, are impractical or determined to be inconsistent with the "As Low As is Reasonably Achievable" principle.
  - 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 established and entry personnel are knowledgeable of them.
  - f. Such individual areas that are within a larger area that is controlled as a high radiation area, where no enclosure exists for 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, but shall be barricaded and conspicuously posted as a high radiation area, and a conspicuous, clearly visible flashing light shall be activated at the area as a warning device.
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BSEP 07-0058  
Enclosure 3

**Brunswick Steam Electric Plant  
Unit Nos. 1 and 2**

**Typed Technical Specification Pages - Unit 1**

### 3.7 PLANT SYSTEMS

#### 3.7.3 Control Room Emergency Ventilation (CREV) System

LCO 3.7.3 Two CREV subsystems shall be OPERABLE.

-----NOTE-----  
The main control room envelope (CRE) boundary may be opened intermittently under administrative control.  
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APPLICABILITY: MODES 1, 2, and 3,  
During movement of irradiated fuel assemblies in the secondary containment,  
During CORE ALTERATIONS,  
During operations with a potential for draining the reactor vessel (OPDRVs).

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREV subsystem inoperable for reasons other than Condition B.	A.1 Restore CREV subsystem to OPERABLE status.	7 days
B. One or more CREV subsystems inoperable due to inoperable CRE Boundary in Mode 1, 2, or 3.	B.1 Initiate action to implement mitigating actions.	Immediately
	<u>AND</u>	
	B.2 Verify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits.	24 hours
	<u>AND</u>	
	B.3 Restore CRE boundary to Operable status.	90 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.</p> <p><u>OR</u></p> <p>Two CREV subsystems inoperable in MODE 1, 2, or 3 for reasons other than Condition B.</p>	<p>C.1 Be in MODE 3.</p> <p><u>AND</u></p>	12 hours
	<p>C.2 Be in MODE 4.</p>	36 hours
<p>D. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p>	
	<p>D.1 Place OPERABLE CREV subsystem in radiation/smoke protection mode.</p> <p><u>OR</u></p>	Immediately
	<p>D.2.1 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p>	Immediately
	<p>D.2.2 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p>	Immediately
	<p>D.2.3 Initiate action to suspend OPDRVs.</p>	Immediately

(continued)



ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. Two CREV subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p> <p><u>OR</u></p> <p>One or more CREV subsystems inoperable due to an inoperable CRE boundary during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p>	
	<p>E.1 Suspend movement of irradiated fuel assemblies in the secondary containment.</p>	Immediately
	<p><u>AND</u></p> <p>E.2 Suspend CORE ALTERATIONS.</p>	Immediately
	<p><u>AND</u></p> <p>E.3 Initiate action to suspend OPDRVs.</p>	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.3.1 Operate each CREV subsystem for $\geq 15$ continuous minutes.	31 days
SR 3.7.3.2 Perform required CREV filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP

(continued)

**SURVEILLANCE REQUIREMENTS (continued)**

SURVEILLANCE		FREQUENCY
SR 3.7.3.3	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program
SR 3.7.3.4	Verify each CREV subsystem actuates on an actual or simulated initiation signal.	24 months

## 5.5 Programs and Manuals

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### 5.5.12 Primary Containment Leakage Rate Testing Program (continued)

- 2) For each air lock door, leakage rate is  $\leq 5$  scfh when the gap between the door seals is pressurized to  $\geq 10$  psig.

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

### 5.5.13 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 (CREV) System, 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 occupancy of the CRE under design basis accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

- a. The definition of the CRE and the CRE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE 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.
- d. Measurement, at designated locations, of the CRE pressure relative to outside atmosphere during the pressurization mode of operation by one subsystem of the CREV System, 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 72 month assessment of the CRE boundary.

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(continued)

## 5.5 Programs and Manuals

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### Control Room Envelope Habitability Program (continued)

- e. The quantitative limits on unfiltered air inleakage into the CRE. 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 unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.
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## 5.0 ADMINISTRATIVE CONTROLS

## 5.6 Reporting Requirements

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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

----- NOTE -----

A single submittal may be made for a multiple unit station. The submittal should combine sections common to all units at the station.

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The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 15 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

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(continued)

## 5.6 Reporting Requirements

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### 5.6.2 Annual Radiological Environmental Operating Report (continued)

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 the format of Table 3 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

----- NOTE -----  
A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station.  
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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 the Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

### 5.6.4 Not used

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(continued)

## 5.6 Reporting Requirements (continued)

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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. The AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) for Specification 3.2.1;
  - 2. The MINIMUM CRITICAL POWER RATIO (MCPR) for Specification 3.2.2;
  - 3. The period based detection algorithm (PBDA) setpoint for Function 2.f, Oscillation Power Range Monitor (OPRM) Upscale, for Specification 3.3.1.1; and
  - 4. The Allowable Values and power range setpoints for Rod Block Monitor Upscale Functions for Specification 3.3.2.1.
- 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. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel" (latest approved version).
  - 2. NEDE-32906P-A, "TRACG Application for Anticipated Operational Occurrences (AOO) Transient Analyses," approved version as specified in the COLR.
- 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.

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(continued)

## 5.6 Reporting Requirements (continued)

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**5.6.6      Post Accident Monitoring (PAM) Instrumentation Report**

When a report is required by Condition B or F of LCO 3.3.3.1, "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.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.7 High Radiation Area

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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 sources or from any surface penetrated by the radiation)
- a. Each accessible 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 a 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 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:
    - 1. Possess a radiation monitoring device that continuously displays radiation dose rates in the area ("radiation monitoring and indicating device"); or
    - 2. Possess 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 ("alarming dosimeter"), with an appropriate alarm setpoint; or
    - 3. Possess 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

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(continued)

5.7 High Radiation Area

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5.7.1 High Radiation Areas with Dose Rates not exceeding 1.0 rem/hour (at 30 centimeters from the radiation sources or from any surface penetrated by the radiation) (continued)

4. Possess a self-reading dosimeter and be under the surveillance, as specified in the RWP or equivalent, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area; or
  5. Be under the surveillance, as specified in the RWP or equivalent, of an individual at the work site, qualified in radiation protection procedures, equipped with a radiation monitoring and indicating device who is responsible for controlling personnel radiation exposure within the area.
- 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 established 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 accessible entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked door, gate, or guard that prevents unauthorized entry, and in addition:
  1. All such door and gate keys shall be maintained under the administrative control of the shift superintendent or the radiation control supervisor or designated representative; and
  2. Doors and gates shall remain locked or guarded except during periods of personnel or equipment entry or exit.

(continued)

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5.7 High Radiation Area

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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)

- 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.
- 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 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:
  - 1. Possess an alarming dosimeter with an appropriate alarm setpoint; or
  - 2. Possess 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. Possess a direct-reading dosimeter and be under the surveillance, as specified in the RWP or equivalent, 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
  - 4. Be under the surveillance, as specified in the RWP or equivalent, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring and indicating device who is responsible for controlling personnel exposure within the area; or

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5.7 High Radiation Area

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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)

5. Possess a radiation monitoring and indicating device in those cases where the options of Specifications 5.7.2.d.2, 5.7.2.d.3, and 5.7.2.d.4. above, are impractical or determined to be inconsistent with the "As Low As is Reasonably Achievable" principle.
  - 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 established and entry personnel are knowledgeable of them.
  - f. Such individual areas that are within a larger area that is controlled as a high radiation area, where no enclosure exists for 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, but shall be barricaded and conspicuously posted as a high radiation area, and a conspicuous, clearly visible flashing light shall be activated at the area as a warning device.
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BSEP 07-0058  
Enclosure 4

**Brunswick Steam Electric Plant  
Unit Nos. 1 and 2**

**Typed Technical Specification Pages - Unit 2**

### 3.7 PLANT SYSTEMS

#### 3.7.3 Control Room Emergency Ventilation (CREV) System

LCO 3.7.3 Two CREV subsystems shall be OPERABLE.

-----NOTE-----  
The main control room envelope (CRE) boundary may be opened intermittently under administrative control.  
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APPLICABILITY: MODES 1, 2, and 3,  
During movement of irradiated fuel assemblies in the secondary containment,  
During CORE ALTERATIONS,  
During operations with a potential for draining the reactor vessel (OPDRVs).

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREV subsystem inoperable for reasons other than Condition B.	A.1 Restore CREV subsystem to OPERABLE status.	7 days
B. One or more CREV subsystems inoperable due to inoperable CRE Boundary in Mode 1, 2, or 3.	B.1 Initiate action to implement mitigating actions.	Immediately
	<u>AND</u>	
	B.2 Verify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits.	24 hours
	<u>AND</u>	
	B.3 Restore CRE boundary to Operable status.	90 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.</p> <p><u>OR</u></p> <p>Two CREV subsystems inoperable in MODE 1, 2, or 3 for reasons other than Condition B.</p>	<p>C.1 Be in MODE 3.</p> <p><u>AND</u></p>	12 hours
	<p>C.2 Be in MODE 4.</p>	36 hours
<p>D. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p>	
	<p>D.1 Place OPERABLE CREV subsystem in radiation/smoke protection mode.</p> <p><u>OR</u></p>	Immediately
	<p>D.2.1 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p>	Immediately
	<p>D.2.2 Suspend CORE ALTERATIONS.</p> <p><u>AND</u></p>	Immediately
	<p>D.2.3 Initiate action to suspend OPDRVs.</p>	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. Two CREV subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p> <p><u>OR</u></p> <p>One or more CREV subsystems inoperable due to an inoperable CRE boundary during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p>	
	<p>E.1 Suspend movement of irradiated fuel assemblies in the secondary containment.</p>	Immediately
	<p><u>AND</u></p>	
	<p>E.2 Suspend CORE ALTERATIONS.</p>	Immediately
	<p><u>AND</u></p> <p>E.3 Initiate action to suspend OPDRVs.</p>	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Operate each CREV subsystem for $\geq 15$ continuous minutes.	31 days
SR 3.7.3.2	Perform required CREV filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP

(continued)



**SURVEILLANCE REQUIREMENTS (continued)**

SURVEILLANCE		FREQUENCY
SR 3.7.3.3	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program
3.7.3.4	Verify each CREV subsystem actuates on an actual or simulated initiation signal.	24 months

## 5.5 Programs and Manuals

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5.5.12 Primary Containment Leakage Rate Testing Program (continued)

- 2) For each air lock door, leakage rate is  $\leq 5$  scfh when the gap between the door seals is pressurized to  $\geq 10$  psig.

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

5.5.13 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 (CREV) System, 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 occupancy of the CRE under design basis accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

- a. The definition of the CRE and the CRE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE 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.
- d. Measurement, at designated locations, of the CRE pressure relative to outside atmosphere during the pressurization mode of operation by one subsystem of the CREV System, 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 72 month assessment of the CRE boundary.

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(continued)

## 5.5 Programs and Manuals

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### Control Room Envelope Habitability Program (continued)

- e. The quantitative limits on unfiltered air inleakage into the CRE. 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 unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.
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## 5.0 ADMINISTRATIVE CONTROLS

## 5.6 Reporting Requirements

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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

----- NOTE -----

A single submittal may be made for a multiple unit station. The submittal should combine sections common to all units at the station.

-----

The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 15 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

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## 5.6 Reporting Requirements

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### 5.6.2 Annual Radiological Environmental Operating Report (continued)

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 the format of Table 3 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

----- NOTE -----

A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station.

-----

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 the Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

### 5.6.4 Not used

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(continued)

## 5.6 Reporting Requirements (continued)

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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. The AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) for Specification 3.2.1;
  - 2. The MINIMUM CRITICAL POWER RATIO (MCPR) for Specification 3.2.2;
  - 3. The period based detection algorithm (PBDA) setpoint for Function 2.f, Oscillation Power Range Monitor (OPRM) Upscale, for Specification 3.3.1.1; and
  - 4. The Allowable Values and power range setpoints for Rod Block Monitor Upscale Functions for Specification 3.3.2.1.
- 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. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel" (latest approved version).
  - 2. NEDE-32906P-A, "TRACG Application for Anticipated Operational Occurrences (AOO) Transient Analyses," approved version as specified in the COLR.
- 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.

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(continued)

## 5.6 Reporting Requirements (continued)

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5.6.6 Post Accident Monitoring (PAM) Instrumentation Report

When a report is required by Condition B or F of LCO 3.3.3.1, "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.

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## 5.0 ADMINISTRATIVE CONTROLS

### 5.7 High Radiation Area

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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 sources or from any surface penetrated by the radiation)
- a. Each accessible 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 a 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 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:
    - 1. Possess a radiation monitoring device that continuously displays radiation dose rates in the area ("radiation monitoring and indicating device"); or
    - 2. Possess 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 ("alarming dosimeter"), with an appropriate alarm setpoint; or
    - 3. Possess 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

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5.7 High Radiation Area

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5.7.1 High Radiation Areas with Dose Rates not exceeding 1.0 rem/hour (at 30 centimeters from the radiation sources or from any surface penetrated by the radiation) (continued)

4. Possess a self-reading dosimeter and be under the surveillance, as specified in the RWP or equivalent, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area; or
  5. Be under the surveillance, as specified in the RWP or equivalent, of an individual at the work site, qualified in radiation protection procedures, equipped with a radiation monitoring and indicating device who is responsible for controlling personnel radiation exposure within the area.
- 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 established 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 accessible entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked door, gate, or guard that prevents unauthorized entry, and in addition:
  1. All such door and gate keys shall be maintained under the administrative control of the shift superintendent or the radiation control supervisor or designated representative; and
  2. Doors and gates shall remain locked or guarded except during periods of personnel or equipment entry or exit.

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## 5.7 High Radiation Area

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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)

- 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.
- 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 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:
  - 1. Possess an alarming dosimeter with an appropriate alarm setpoint; or
  - 2. Possess 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. Possess a direct-reading dosimeter and be under the surveillance, as specified in the RWP or equivalent, 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
  - 4. Be under the surveillance, as specified in the RWP or equivalent, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring and indicating device who is responsible for controlling personnel exposure within the area; or

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(continued)

## 5.7 High Radiation Area

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### 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)

5. Possess a radiation monitoring and indicating device in those cases where the options of Specifications 5.7.2.d.2, 5.7.2.d.3, and 5.7.2.d.4. above, are impractical or determined to be inconsistent with the "As Low As is Reasonably Achievable" principle.
  - 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 established and entry personnel are knowledgeable of them.
  - f. Such individual areas that are within a larger area that is controlled as a high radiation area, where no enclosure exists for 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, but shall be barricaded and conspicuously posted as a high radiation area, and a conspicuous, clearly visible flashing light shall be activated at the area as a warning device.
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Brunswick Steam Electric Plant  
Unit Nos. 1 and 2

**Marked-up Technical Specification Bases Pages - Unit 1  
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## B 3.7 PLANT SYSTEMS

### B 3.7.3 Control Room Emergency Ventilation (CREV) System

#### BASES

##### BACKGROUND

The CREV System provides a radiologically controlled environment from which the unit can be safely operated following a Design Basis Accident (DBA) protected environment from which occupants can control the unit following an uncontrolled release of radioactivity, hazardous chemicals, or smoke.

The safety related function of the CREV System is the radiation protection portion of the radiation/smoke protection mode and includes two redundant high efficiency air filtration subsystems for emergency treatment of recirculated air or outside supply air and a control room envelope (CRE) boundary that limits the inleakage of unfiltered air. Each CREV subsystem consists of a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber bank, an emergency recirculation fan, and the associated ductwork and valves or dampers, doors, barriers, and instrumentation. HEPA filters remove particulate matter, which may be radioactive. The charcoal adsorber banks provide a holdup period for gaseous iodine, allowing time for decay. One control room supply fan provides the required flow to maintain the pressure of the control room positive with respect to the outside atmosphere.

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 OPERABILITY of 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 CREV System is a standby system that is common to both Unit 1 and Unit 2, parts of which also operate during normal unit operations to maintain the control room CRE environment. The two CREV subsystems must be OPERABLE if conditions requiring CREV System OPERABILITY exist in either Unit 1 or Unit 2. Upon receipt of the initiation signal(s) (indicative of conditions that could result in radiation exposure to control room personnel CRE occupants), the CREV System automatically

(continued)

## BASES

### BACKGROUND (continued)

switches to the radiation/smoke protection mode of operation to prevent ~~minimize~~ infiltration of contaminated air into the control room CRE. A system of dampers isolates the control room CRE, and a part of the recirculated air is routed through either of the two filter subsystems. Outside air is taken in at the normal ventilation intake and is mixed with the recirculated air before being passed through one of the CREV subsystems for removal of airborne radioactive particles.

The CREV System is designed to maintain the control room environment a habitable environment in the CRE for a 30 day continuous occupancy after a DBA without exceeding 5 rem whole body dose or its equivalent to any part of the body total effective dose equivalent (TEDE). A single CREV subsystem operating at a flow rate of  $\leq 2200$  cfm will slightly pressurize the control room to prevent CRE relative to outside atmosphere to minimize infiltration of air from surrounding buildings areas adjacent to the CRE boundary. CREV System operation in maintaining control room CRE habitability is discussed in the UFSAR, Sections 6.4 and 9.4, (Refs. 1 and 2, respectively).

### APPLICABLE SAFETY ANALYSES

The ability of the CREV System to maintain the habitability of the control room CRE is an explicit assumption for the design basis accident presented in the UFSAR (Ref. 3). The radiation/smoke protection mode of the CREV System is assumed (explicitly or implicitly) to operate following a loss of coolant accident, fuel handling accident, main steam line break, and control rod drop accident DBA. The radiological doses to control room personnel the CRE occupants as a result of a DBA are summarized in Reference 3. Postulated single active failures that may cause the loss of outside or recirculated air from the control room CRE are bounded by BNP radiological dose calculations for control room personnel CRE occupants.

The CREV system provides protection from smoke and hazardous chemicals to the CRE occupants. The analysis of hazardous chemical releases demonstrates that the toxicity limits are not exceeded in the CRE following a hazardous chemical release (Ref. 1). 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. 2).

The CREV System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 4).

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LCO

Two redundant subsystems of the CREV System are required to be OPERABLE to ensure that at least one is available, assuming if a single active failure disables the other subsystem. Total CREV System failure, such as from a loss of both ventilation subsystems or from an inoperable CRE boundary, could result in exceeding a dose of 5 rem TEDE to the control room operators CRE occupants in the event of a DBA if unfiltered leakage into the control room CRE is > 2,000 cfm.

The Each CREV subsystem is considered OPERABLE when the individual components necessary to support the radiation protection mode limit CRE occupant exposure are OPERABLE. A subsystem is considered OPERABLE when its associated:

- a. Emergency recirculation fan is OPERABLE;
- b. HEPA filter and charcoal adsorber bank are not excessively restricting flow and are capable of performing their filtration and adsorption functions; and

(continued)

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## BASES

### LCO (continued)

- c. Ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

Also, two control room supply fans must be OPERABLE to ensure positive pressure can be maintained in the control room with respect to the outside atmosphere and to meet single failure criteria can be met.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors, such that SR 3.7.3.3 can be met. However, it is acceptable for access doors to be opened for normal control room entry and exit and not consider it to be a failure to meet the LCO.

In order for the CREV subsystems to be considered OPERABLE, the CRE boundary 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 DBAs, and that CRE occupants are protected from hazardous chemicals and smoke.

The LCO is modified by a Note allowing the CRE boundary to be opened intermittently under administrative controls. This Note only applies to openings in the CRE boundary that can be rapidly restored to the design condition, such as doors, hatches, floor plugs, and access panels. 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 should be proceduralized and consist of stationing a dedicated individual at the opening who is in continuous communication with the operators in the CRE. This individual will have a method to rapidly close the opening and to restore the CRE boundary to a condition equivalent to the design condition when a need for CRE isolation is indicated.

### APPLICABILITY

In MODES 1, 2, and 3, the CREV System must be OPERABLE to control operator exposure ensure that the CRE will remain habitable during and following a DBA, since the DBA could lead to a fission product release.

In MODES 4 and 5, the probability and consequences of a DBA are reduced because of the pressure and temperature limitations in these MODES. Therefore, maintaining the CREV System OPERABLE is not required in MODE 4 or 5, except for the following situations under which significant radioactive releases can be postulated:

- During movement of irradiated fuel assemblies in the secondary containment;
- During CORE ALTERATIONS; and
- During operations with a potential for draining the reactor vessel (OPDRVs).



## BASES

### ACTIONS

#### A.1

With one CREV subsystem inoperable, for reasons other than an inoperable CRE boundary, the inoperable CREV subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE CREV subsystem is adequate to perform control room radiation the CRE occupant protection function. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced loss of the CREV System capability function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and that the remaining subsystem can provide the required capabilities.

#### B.1, B.2, and B.3

If the unfiltered leakage of potentially contaminated air past the CRE boundary and into the CRE can result in CRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (regulatory limit of 5 rem TEDE maximum), or inadequate protection of CRE occupants from hazardous chemicals or smoke, the CRE boundary is inoperable. Actions must be taken to restore an OPERABLE CRE boundary within 90 days.

During the period that the CRE boundary is considered to be 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 CRE 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 the 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 problems with the CRE boundary.

(continued)

## BASES

### ACTIONS

#### BC.1 and BC.2

(continued)

In MODE 1, 2, or 3, if any Required Action and associated Completion Time of Condition A or B cannot be met or two CREV subsystems are inoperable for reasons other than Condition B, 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 12 hours and in MODE 4 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.

#### CD.1, CD.2.1, CD.2.2, and CD.2.3

The Required Actions of Condition CD are modified by a Note indicating that LCO 3.0.3 does not apply. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs, if the inoperable CREV subsystem cannot be restored to OPERABLE status within the required Completion Time, the OPERABLE CREV subsystem may be placed in the radiation/smoke protection mode. This action ensures that the remaining subsystem is OPERABLE, that no failures that would prevent automatic actuation will occur, and that any active failure will be readily detected.

An alternative to Required Action CD.1 is to immediately suspend activities that present a potential for releasing radioactivity that might require isolation of the control room CRE. This places the unit in a condition that minimizes the accident risk.

If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in the secondary containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

(continued)

## BASES

### ACTIONS

(continued)

#### DE.1, DE.2, and DE.3

The Required Actions of Condition DE are modified by a Note indicating that LCO 3.0.3 does not apply. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs, with two CREV subsystems inoperable or with one or more CREV subsystems inoperable due to an inoperable CRE boundary, action must be taken immediately to suspend activities that present a potential for releasing radioactivity that might require isolation of the control room CRE. These actions place the unit in a condition that minimizes the accident risk.

If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in the secondary containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

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## BASES

### SURVEILLANCE REQUIREMENTS

#### SR 3.7.3.1

This SR verifies that each CREV subsystem in a standby mode starts ~~from the control room~~ on demand and continues to operate. This SR includes initiating flow through the associated HEPA filter and charcoal adsorber bank. Standby systems should be checked periodically to ensure that they start and function properly. As the environmental and normal operating conditions of this system are not severe, testing each subsystem once every 31 days provides an adequate check on this system. Since the CREV subsystems do not have installed heaters, each subsystem need only be operated for  $\geq 15$  minutes to demonstrate the function of the subsystem. The 31 day Frequency is based on the known reliability of the equipment and the two subsystem redundancy available.

#### SR 3.7.3.2

This SR verifies that the required CREV testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). It is noted that, per the basis provided by ESR 99-00055 (Ref. 5), system flow rate is determined using installed calibrated flow orifice plates. Specific test Frequencies and additional information are discussed in Specification 5.5.7, "Ventilation Filter Testing Program (VFTP)."

#### SR 3.7.3.3

This SR verifies the OPERABILITY of the CRE boundary by testing for unfiltered air leakage past the CRE boundary and into the CRE. The details of the testing are specified in the Control Room Envelope 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 TDE and the CRE occupants are protected from hazardous chemicals and smoke. This SR verifies that the unfiltered air leakage into the CRE is no greater than the flow rate assumed in the licensing basis analyses of DBA consequences. When unfiltered air leakage is greater than the assumed flow rate, Condition B must be entered. Required action B.3 allows time to restore the CRE 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

(continued)

## BASES

### SURVEILLANCE REQUIREMENTS

#### SR 3.7.3.3 (continued)

in Regulatory Guide 1.196, Section C.2.7.3, (Ref.6) which endorses, with exceptions, NEI 99-03, Section 8.4 and Appendix F (Ref 7). 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. 8). Options for restoring the CRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the CRE 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 CRE boundary has been restored to OPERABLE status.

#### SR 3.7.3.4

This SR verifies that on an actual or simulated initiation signal, each CREV subsystem starts and operates. This SR includes ensuring outside air flow is diverted to the HEPA filter and charcoal adsorber bank of each CREV subsystem. The LOGIC SYSTEM FUNCTIONAL TEST in LCO 3.3.7.1 overlaps this SR to provide complete testing of the safety function. Operating experience has demonstrated that the components will usually pass the SR when performed at the 24 month Frequency. Therefore, the Frequency was found to be acceptable from a reliability standpoint.

### REFERENCES

1. UFSAR, Section 6.4.
2. UFSAR, Section 9.4.
3. UFSAR, Section 6.4.4.1.
4. 10 CFR 50.36(c)(2)(ii).
5. ESR 99-00055, SBGT and CBEAF Technical Specification Surveillance Flow Measurement.
6. Regulatory Guide 1.196
7. NEI 99-03, "Control Room Habitability Assessment," June 2001.
8. 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).