



Progress Energy

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February 27, 2008

SERIAL: BSEP 07-0139

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
Response to Request for Additional Information Regarding Application to
Revise Technical Specifications Regarding Control Room Envelope
Habitability in Accordance with TSTF-448, Revision 3
(NRC TAC Nos. MD6336 and MD6337)

Reference: BSEP 07-0058, Letter from James Scarola (CP&L) to USNRC,
"Application to Revise Technical Specifications Regarding Control Room
Envelope Habitability in Accordance with TSTF-448, Revision 3, Using the
Consolidated Line Item Improvement Process," dated July 17, 2007,
ADAMS Accession Number ML072050385

Ladies and Gentlemen:

On July 17, 2007, Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., submitted an application to revise Technical Specifications (TS) regarding control room envelope habitability in accordance with TSTF-448, Revision 3, using the consolidated line item improvement process. On November 7, 2007, the NRC provided a request for additional information, via electronic mail, regarding CP&L's license amendment request.

The responses providing the requested information include revisions to the proposed TS changes and plant operating license condition as submitted in the July 17, 2007, letter. The revised TS and operating license condition changes enclosed do not effect the bases for concluding that the proposed amendment does not involve a Significant Hazards Consideration. As such, the 10 CFR 50.92 evaluation provided in the July 17, 2007, submittal remains valid.

The requested information for the Brunswick Steam Electric Plant is enclosed. No regulatory commitments are contained in this letter. Please refer any questions regarding this submittal to Mr. Randy C. Ivey, Manager – Support Services, at (910) 457-2447.

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NRR

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on February 27, 2008.

Sincerely, .

A handwritten signature in black ink, appearing to read 'Bry Cj', is written above the printed name.

Benjamin C. Waldrep

LJG/ljg

- Enclosure 1: Response to Request for Additional Information (RAI) Regarding Application to Revise Technical Specifications Regarding Control Room Envelope Habitability in Accordance With TSTF-448, Revision 3
- Enclosure 2: Marked-up Technical Specifications Page - Unit 1
- Enclosure 3: Typed Technical Specifications Page - Unit 1
- Enclosure 4: Typed Technical Specifications Page - Unit 2

cc (with enclosure):

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Response to Request for Additional Information (RAI) Regarding Application to Revise Technical Specifications Regarding Control Room Envelope Habitability in Accordance with TSTF-448, Revision 3

Background

On July 17, 2007, Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., submitted an application to revise Technical Specifications (TS) regarding control room envelope habitability in accordance with TSTF-448, Revision 3, using the consolidated line item improvement process (CLIIP). On November 7, 2007, the NRC provided a request for additional information, via electronic mail, regarding CP&L's license amendment request.

NRC Questions

After reviewing your request for a license amendment to change the Technical Specification regarding Control Room Habitability in accordance with TSTF-448, the staff has determined additional information is needed to complete the review.

NRC Question No. 1

In proposed section 5.5.13, Control Room Habitability Program, subsection d, you propose to measure, "at designated locations, of the CRE [control room envelope] pressure relative to outside atmosphere during pressurization mode of operation" instead of the TSTF-448 wording of "relative to all external areas adjacent to the CRE boundary...". It is the NRC staffs' understanding that the primary purpose of measuring the differential pressure to all external areas to the CRE boundary is to determine the direction of air flow across that boundary. It is not clear how measuring differential pressure relative to outside atmosphere will provide any meaningful information that can be used to determine the air flow across the CRE boundary.

Therefore, the staff is requesting that the licensee measure differential pressure to all external areas adjacent to the CRE boundary, as stated in TSTF-448, or provide a detailed explanation demonstrating how measuring differential pressure relative to outside atmosphere will provide information that can determine the direction of air flow across the CRE boundary.

CP&L Response to Question No. 1

CP&L revises the first sentence of TS 5.5.13.d to read:

"Measurement, at designated locations, of the CRE pressure relative to external areas adjacent to the CRE boundary 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."

This matches the wording in TSTF-448, Revision 3, with the following exception. The wording "relative to all external areas" in TSTF-448 has been changed to "relative to external areas." The literal interpretation of the term "all" can cause implementation problems. For example, an

external wall of the control room may have a number of 4 ft. x 4 ft. enclosures attached to the wall, the internals of which do not readily communicate with the surrounding air and have no penetration into the CRE boundary. The requirement to measure the pressure relative to "all" external areas adjacent to the CRE boundary would result in ambiguous and non-meaningful pressure differential measurements for these enclosures. CP&L will, at a minimum, take measurements at locations consistent with the initial tracer gas test.

Enclosure 2 provides a mark-up of the effected Technical Specifications page. Enclosure 3 and Enclosure 4 provides the typed Technical Specifications page for Unit 1 and Unit 2, respectively, that are effected by this change. These pages replace those previously submitted in Enclosures 2, 3, and 4 of Reference 1.

NRC Question No. 2

In section 2.3.1, License Condition Regarding Initial Performance of New Surveillance and Assessment Requirements the licensee indicates in paragraph (c) "The first performance of the periodic measurement of the CRE pressure, Specification 5.5.13.d, shall be within 18 months plus 180 days allowed by SR 3.0.2." Please show why, using the 1.25 multiplier allowed in SR 3.0.2 and an 18 month test schedule, the 180 day margin is acceptable

CP&L Response to Question No. 2

CP&L revises paragraph (c) of the proposed license condition regarding initial performance of new surveillance and assessment requirements to read:

- (c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.13.d, shall be within 18 months, plus the 138 days allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test.

This change is consistent with TSTF-448, Revision 3, as published in the Federal Register on January 17, 2007, page 2033, as part of the consolidated line item improvement process (CLIIP).

This paragraph replaces the paragraph previously submitted in Enclosure 1, Page 3 of 3, of Reference 1.

NRC Question No. 3

In proposed Technical Specification 5.5.13(c) you commit to assessing the CRE habitability at the Frequencies specified in Section C1 of Regulatory Guide 1.197, Revision 1. In proposed Technical Specification section 5.5.13d a frequency of 72 months is specified for assessments. In accordance with Figure 1 of Regulatory Guide 1.197 assessment periods are specified every 36 months. If it is your intention to comply with assessment periods specified by the guidance of Regulatory Guide 1.197 provide an assessment period in Technical Specification 5.5.13d that is consistent with Figure 1 of Regulatory Guide 1.197.

CP&L Response to Question No. 3

CP&L revises the second sentence of section 5.5.13.d to read:

"The results shall be trended and used as part of the assessment of the CRE boundary."

CP&L will comply with the assessment periods as specified in Regulatory Guide 1.197, consistent with Figure 1. The term "[] month" in the TSTF-448, Revision 3, wording has been deleted as the frequency of the assessment may vary. This does not reduce the specified requirement in that trending of the positive pressure test results will be performed for each required assessment.

Enclosure 2 provides a mark-up of the effected Technical Specifications page. Enclosure 3 and Enclosure 4 provides the typed Technical Specifications page for Unit 1 and Unit 2, respectively, that are effected by this change. These pages replace those previously submitted in Enclosures 2, 3, and 4 of Reference 1.

Brunswick Steam Electric Plant
Unit Nos. 1 and 2

Marked-up Technical Specification Page - Unit 1

Strikeout/Shadowed Format

~~Strikeout Text~~ Indicates Deleted Text

Shadowed Text Indicates Added Text

5.5 Programs and Manuals

Primary Containment Leakage Rate Testing Program (continued)

- 2) For each air lock door, leakage rate is ≤ 5 scfh when the gap between the door seals is pressurized to ≥ 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 external areas adjacent to the CRE boundary 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 assessment of the CRE boundary.

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BSEP 07-0139
Enclosure 3

Brunswick Steam Electric Plant
Unit Nos. 1 and 2

Typed Technical Specification Page - Unit 1

5.5 Programs and Manuals

5.5.12 Primary Containment Leakage Rate Testing Program (continued)

- 2) For each air lock door, leakage rate is ≤ 5 scfh when the gap between the door seals is pressurized to ≥ 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

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BSEP 07-0139
Enclosure 4

Brunswick Steam Electric Plant
Unit Nos. 1 and 2

Typed Technical Specification Page - Unit 2

5.5 Programs and Manuals

5.5.12 Primary Containment Leakage Rate Testing Program (continued)

- 2) For each air lock door, leakage rate is ≤ 5 scfh when the gap between the door seals is pressurized to ≥ 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:

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