



AUG 14 2007

SERIAL: BSEP 07-0082

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
Submittal of Technical Specification Bases Revisions

Ladies and Gentlemen:

In accordance with Technical Specification (TS) 5.5.10 for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2, Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., is submitting Revision 51 to the BSEP, Unit 1 TS Bases and Revision 49 to the BSEP, Unit 2 TS Bases.

No regulatory commitments are contained in this letter. Please refer any questions regarding this submittal to Ms. Annette H. Pope, Supervisor - Licensing/Regulatory Programs, at (910) 457-2184.

Sincerely,

A handwritten signature in black ink that reads 'Randy C Ivey'.

Randy C. Ivey
Manager - Support Services
Brunswick Steam Electric Plant

Progress Energy Carolinas, Inc.
Brunswick Nuclear Plant
PO Box 10429
Southport, NC 28461

A001

NRR

WRM/wrm

Enclosures:

1. Summary of Revisions to Technical Specification Bases
2. Page Replacement Instructions
3. Unit 1 Technical Specification Bases Replacement Pages
4. Unit 2 Technical Specification Bases Replacement Pages

cc (with enclosures):

U. S. Nuclear Regulatory Commission, Region II
ATTN: Dr. William D. Travers, Regional Administrator
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303-8931

U. S. Nuclear Regulatory Commission
ATTN: Mr. Joseph D. Austin, NRC Senior Resident Inspector
8470 River Road
Southport, NC 28461-8869

U. S. Nuclear Regulatory Commission **(Electronic Copy Only)**
ATTN: Mr. Stewart N. Bailey (Mail Stop OWFN 8B1)
11555 Rockville Pike
Rockville, MD 20852-2738

Chair - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

Ms. Beverly O. Hall, Section Chief
Radiation Protection Section, Division of Environmental Health
North Carolina Department of Environment and Natural Resources
3825 Barrett Drive
Raleigh, NC 27609-7221

Summary of Revisions to Technical Specification (TS) Bases			
Revision ¹	Affected Unit	Date Implemented	Title/Description
51 49	1 2	July 25, 2007	Title: Correction to the Main Diesel Fuel Oil Storage Tank Volume Equation Description: Revision 51 for Unit 1 and 49 for Unit 2 incorporated a correction to the equation in the bases for Surveillance Requirement (SR) 3.8.3.1 for calculating fuel oil inventory.

¹ Revision 51 for Unit 1 incorporated change package TSB-2007-04.
Revision 49 for Unit 2 incorporated change package TSB-2007-04.

Page Replacement Instructions - Unit 1	
Remove	Insert
Unit 1 - Bases Book 1	
Title Page, Revision 50	Title Page, Revision 51
LOEP-1, Revision 50	LOEP-1, Revision 51
Unit 1 - Bases Book 2	
LOEP-1, Revision 49	LOEP-1, Revision 51
LOEP-4, Revision 31	LOEP-3, Revision 51
B 3.8.3-5, Revision 31	B 3.8.3-5, Revision 51

Page Replacement Instructions - Unit 2	
Remove	Insert
Unit 2 - Bases Book 1	
Title Page, Revision 48	Title Page, Revision 49
LOEP-1, Revision 48	LOEP-1, Revision 49
Unit 2 - Bases Book 2	
LOEP-1, Revision 46	LOEP-1, Revision 49
LOEP-4, Revision 30	LOEP-4, Revision 49
B 3.8.3-5, Revision 30	B 3.8.3-5, Revision 49

**Unit 1 Technical Specification Bases
Replacement Pages**

Unit 1 - Bases Book 1
Replacement Pages

Technical Specification Bases

**Brunswick Steam Electric Plant, Unit No. 1
Renewed Facility Operating License DPR-71**

Revision 51

LIST OF EFFECTIVE PAGES - BASES

<u>Page No.</u>	<u>Revision No.</u>	<u>Page No.</u>	<u>Revision No.</u>
Title Page	51	B 3.1.1-5	31
		B 3.1.1-6	31
List of Effective Pages - Book 1		B 3.1.2-1	31
		B 3.1.2-2	31
LOEP-1	51	B 3.1.2-3	31
LOEP-2	36	B 3.1.2-4	31
LOEP-3	44	B 3.1.2-5	31
LOEP-4	45	B 3.1.3-1	31
		B 3.1.3-2	31
i	50	B 3.1.3-3	31
ii	31	B 3.1.3-4	31
		B 3.1.3-5	31
B 2.1.1-1	31	B 3.1.3-6	31
B 2.1.1-2	31	B 3.1.3-7	31
B 2.1.1-3	31	B 3.1.3-8	31
B 2.1.1-4	31	B 3.1.3-9	31
B 2.1.1-5	31	B 3.1.4-1	31
B 2.1.2-1	31	B 3.1.4-2	31
B 2.1.2-2	31	B 3.1.4-3	31
B 2.1.2-3	31	B 3.1.4-4	31
		B 3.1.4-5	42
B 3.0-1	50	B 3.1.4-6	31
B 3.0-2	31	B 3.1.4-7	31
B 3.0-3	31	B 3.1.5-1	31
B 3.0-4	31	B 3.1.5-2	31
B 3.0-5	41	B 3.1.5-3	31
B 3.0-6	41	B 3.1.5-4	31
B 3.0-7	41	B 3.1.5-5	31
B 3.0-8	41	B 3.1.6-1	31
B 3.0-9	41	B 3.1.6-2	31
B 3.0-10	50	B 3.1.6-3	31
B 3.0-11	50	B 3.1.6-4	31
B 3.0-12	50	B 3.1.6-5	31
B 3.0-13	50	B 3.1.7-1	34
B 3.0-14	50	B 3.1.7-2	31
B 3.0-15	50	B 3.1.7-3	31
B 3.0-16	50	B 3.1.7-4	31
B 3.0-17	50	B 3.1.7-5	31
B 3.0-18	50	B 3.1.7-6	34
		B 3.1.8-1	31
B 3.1.1-1	31	B 3.1.8-2	37
B 3.1.1-2	31	B 3.1.8-3	37
B 3.1.1-3	31	B 3.1.8-4	31
B 3.1.1-4	31	B 3.1.8-5	31

(continued)

Unit 1 - Bases Book 2
Replacement Pages

LIST OF EFFECTIVE PAGES - BASES

<u>Page No.</u>	<u>Revision No.</u>	<u>Page No.</u>	<u>Revision No.</u>
List of Effective Pages - Book 2		B 3.4.7-5	41
LOEP-1	51	B 3.4.8-1	31
LOEP-2	47	B 3.4.8-2	31
LOEP-3	48	B 3.4.8-3	31
LOEP-4	51	B 3.4.8-4	31
LOEP-5	31	B 3.4.8-5	31
		B 3.4.9-1	31
i	31	B 3.4.9-2	38
ii	31	B 3.4.9-3	38
		B 3.4.9-4	31
B 3.4.1-1	31	B 3.4.9-5	38
B 3.4.1-2	31	B 3.4.9-6	38
B 3.4.1-3	31	B 3.4.9-7	31
B 3.4.1-4	31	B 3.4.9-8	31
B 3.4.1-5	31	B 3.4.9-9	38
B 3.4.1-6	31	B 3.4.10-1	31
B 3.4.2-1	31	B 3.4.10-2	31
B 3.4.2-2	31		
B 3.4.2-3	31	B 3.5.1-1	31
B 3.4.2-4	31	B 3.5.1-2	31
B 3.4.3-1	31	B 3.5.1-3	31
B 3.4.3-2	31	B 3.5.1-4	36
B 3.4.3-3	31	B 3.5.1-5	36
B 3.4.3-4	31	B 3.5.1-6	41
B 3.4.4-1	31	B 3.5.1-7	31
B 3.4.4-2	31	B 3.5.1-8	31
B 3.4.4-3	31	B 3.5.1-9	31
B 3.4.4-4	31	B 3.5.1-10	31
B 3.4.4-5	31	B 3.5.1-11	31
B 3.4.5-1	31	B 3.5.1-12	31
B 3.4.5-2	31	B 3.5.1-13	31
B 3.4.5-3	43	B 3.5.1-14	44
B 3.4.5-4	41	B 3.5.1-15	44
B 3.4.6-1	41	B 3.5.1-16	31
B 3.4.6-2	41	B 3.5.1-17	31
B 3.4.6-3	41	B 3.5.2-1	31
B 3.4.7-1	31	B 3.5.2-2	31
B 3.4.7-2	31	B 3.5.2-3	31
B 3.4.7-3	41	B 3.5.2-4	31
B 3.4.7-4	41	B 3.5.2-5	31
		B 3.5.2-6	31
		B 3.5.3-1	31
		B 3.5.3-2	41

(continued)

LIST OF EFFECTIVE PAGES - BASES (continued)

<u>Page No.</u>	<u>Revision No.</u>	<u>Page No.</u>	<u>Revision No.</u>
B 3.8.2-6	31	B 3.8.7-9	31
B 3.8.2-7	31	B 3.8.7-10	31
B 3.8.3-1	31	B 3.8.7-11	31
B 3.8.3-2	31	B 3.8.7-12	31
B 3.8.3-3	31	B 3.8.7-13	31
B 3.8.3-4	31	B 3.8.7-14	31
B 3.8.3-5	51	B 3.8.7-15	31
B 3.8.3-6	31	B 3.8.8-1	31
B 3.8.3-7	31	B 3.8.8-2	31
B 3.8.3-8	31	B 3.8.8-3	31
B 3.8.4-1	31	B 3.8.8-4	31
B 3.8.4-2	31	B 3.8.8-5	31
B 3.8.4-3	31		
B 3.8.4-4	31	B 3.9.1-1	31
B 3.8.4-5	31	B 3.9.1-2	31
B 3.8.4-6	31	B 3.9.1-3	31
B 3.8.4-7	31	B 3.9.1-4	31
B 3.8.4-8	31	B 3.9.2-1	31
B 3.8.4-9	31	B 3.9.2-2	31
B 3.8.4-10	31	B 3.9.2-3	31
B 3.8.4-11	31	B 3.9.2-4	31
B 3.8.5-1	31	B 3.9.3-1	31
B 3.8.5-2	31	B 3.9.3-2	31
B 3.8.5-3	31	B 3.9.3-3	31
B 3.8.5-4	31	B 3.9.4-1	31
B 3.8.5-5	31	B 3.9.4-2	31
B 3.8.6-1	31	B 3.9.4-3	31
B 3.8.6-2	31	B 3.9.4-4	31
B 3.8.6-3	31	B 3.9.5-1	31
B 3.8.6-4	31	B 3.9.5-2	31
B 3.8.6-5	31	B 3.9.5-3	31
B 3.8.6-6	31	B 3.9.6-1	31
B 3.8.6-7	31	B 3.9.6-2	31
B 3.8.7-1	31	B 3.9.6-3	31
B 3.8.7-2	31	B 3.9.7-1	31
B 3.8.7-3	31	B 3.9.7-2	31
B 3.8.7-4	31	B 3.9.7-3	31
B 3.8.7-5	31	B 3.9.7-4	31
B 3.8.7-6	31	B 3.9.8-1	31
B 3.8.7-7	31	B 3.9.8-2	31
B 3.8.7-8	31	B 3.9.8-3	31
		B 3.9.8-4	31

(continued)

BASES

ACTIONS
(continued)

D.1

With a Required Action and associated Completion Time of Condition A, B, or C not met, or the stored diesel fuel oil not within limits for reasons other than addressed by Conditions A, B, or C, the associated DG may be incapable of performing its intended function and must be immediately declared inoperable.

SURVEILLANCE
REQUIREMENTS

SR 3.8.3.1

This SR provides verification that there is an adequate inventory of fuel oil in the storage tanks to support each DG's operation for approximately 7 days at rated load. The approximate 7 day period is sufficient time to place the unit in a safe shutdown condition and to bring in replenishment fuel from an offsite location. For the purposes of this SR, the verification of the main fuel oil storage tank fuel oil volume is performed on a per DG basis. This per DG volume is obtained using the following equation:

$$\left[\frac{M_{VOL} - U_{VOL}}{N_{DG}} \right]$$

; where

M_{VOL} = measured fuel oil volume of the main fuel oil storage tank,

U_{VOL} = unusable fuel oil volume of the main fuel oil storage tank, and

N_{DG} = number of DGs required to be OPERABLE.

The results from this equation must be $\geq 20,850$ gallons in order to satisfy the acceptance criteria of SR 3.8.3.1.b.

The 31 day Frequency is adequate to ensure that a sufficient supply of fuel oil is available, since low level alarms are provided and unit operators would be aware of any large uses of fuel oil during this period.

(continued)

Unit 2 Technical Specification Bases Replacement Pages

Unit 2 - Bases Book 1
Replacement Pages

Technical Specification Bases

**Brunswick Steam Electric Plant, Unit No. 2
Renewed Facility Operating License DPR-62**

Revision 49



LIST OF EFFECTIVE PAGES - BASES

<u>Page No.</u>	<u>Revision No.</u>	<u>Page No.</u>	<u>Revision No.</u>
Title Page	49	B 3.1.1-5	30
		B 3.1.1-6	30
List of Effective Pages - Book 1		B 3.1.2-1	30
		B 3.1.2-2	30
LOEP-1	49	B 3.1.2-3	30
LOEP-2	47	B 3.1.2-4	30
LOEP-3	42	B 3.1.2-5	30
LOEP-4	43	B 3.1.3-1	30
		B 3.1.3-2	30
i	48	B 3.1.3-3	30
ii	30	B 3.1.3-4	30
		B 3.1.3-5	30
B 2.1.1-1	30	B 3.1.3-6	30
B 2.1.1-2	30	B 3.1.3-7	30
B 2.1.1-3	30	B 3.1.3-8	30
B 2.1.1-4	30	B 3.1.3-9	30
B 2.1.1-5	30	B 3.1.4-1	30
B 2.1.2-1	30	B 3.1.4-2	30
B 2.1.2-2	30	B 3.1.4-3	30
B 2.1.2-3	30	B 3.1.4-4	30
		B 3.1.4-5	40
B 3.0-1	48	B 3.1.4-6	30
B 3.0-2	30	B 3.1.4-7	30
B 3.0-3	30	B 3.1.5-1	30
B 3.0-4	30	B 3.1.5-2	30
B 3.0-5	39	B 3.1.5-3	30
B 3.0-6	39	B 3.1.5-4	30
B 3.0-7	39	B 3.1.5-5	30
B 3.0-8	39	B 3.1.6-1	30
B 3.0-9	39	B 3.1.6-2	30
B 3.0-10	48	B 3.1.6-3	30
B 3.0-11	48	B 3.1.6-4	30
B 3.0-12	48	B 3.1.6-5	30
B 3.0-13	48	B 3.1.7-1	30
B 3.0-14	48	B 3.1.7-2	30
B 3.0-15	48	B 3.1.7-3	30
B 3.0-16	48	B 3.1.7-4	30
B 3.0-17	48	B 3.1.7-5	30
B 3.0-18	48	B 3.1.7-6	30
		B 3.1.8-1	30
B 3.1.1-1	30	B 3.1.8-2	34
B 3.1.1-2	30	B 3.1.8-3	34
B 3.1.1-3	30	B 3.1.8-4	30
B 3.1.1-4	30	B 3.1.8-5	30

(continued)

Unit 2 - Bases Book 2
Replacement Pages

LIST OF EFFECTIVE PAGES - BASES

<u>Page No.</u>	<u>Revision No.</u>	<u>Page No.</u>	<u>Revision No.</u>
Title Page	N/A	B 3.4.7-4	39
List of Effective Pages - Book 2		B 3.4.7-5	39
LOEP-1	49	B 3.4.8-1	30
LOEP-2	45	B 3.4.8-2	30
LOEP-3	46	B 3.4.8-3	30
LOEP-4	49	B 3.4.8-4	30
LOEP-5	30	B 3.4.8-5	30
		B 3.4.9-1	30
i	30	B 3.4.9-2	35
ii	30	B 3.4.9-3	35
		B 3.4.9-4	30
B 3.4.1-1	30	B 3.4.9-5	35
B 3.4.1-2	30	B 3.4.9-6	35
B 3.4.1-3	30	B 3.4.9-7	30
B 3.4.1-4	30	B 3.4.9-8	30
B 3.4.1-5	30	B 3.4.9-9	35
B 3.4.1-6	30	B 3.4.10-1	30
B 3.4.2-1	30	B 3.4.10-2	30
B 3.4.2-2	30		
B 3.4.2-3	30	B 3.5.1-1	30
B 3.4.2-4	30	B 3.5.1-2	30
B 3.4.3-1	30	B 3.5.1-3	30
B 3.4.3-2	30	B 3.5.1-4	33
B 3.4.3-3	30	B 3.5.1-5	33
B 3.4.3-4	30	B 3.5.1-6	39
B 3.4.4-1	30	B 3.5.1-7	30
B 3.4.4-2	30	B 3.5.1-8	30
B 3.4.4-3	30	B 3.5.1-9	30
B 3.4.4-4	30	B 3.5.1-10	30
B 3.4.4-5	30	B 3.5.1-11	30
B 3.4.5-1	30	B 3.5.1-12	30
B 3.4.5-2	30	B 3.5.1-13	30
B 3.4.5-3	41	B 3.5.1-14	42
B 3.4.5-4	39	B 3.5.1-15	42
B 3.4.6-1	39	B 3.5.1-16	30
B 3.4.6-2	39	B 3.5.1-17	30
B 3.4.6-3	39	B 3.5.2-1	30
B 3.4.7-1	30	B 3.5.2-2	30
B 3.4.7-2	30	B 3.5.2-3	30
B 3.4.7-3	39	B 3.5.2-4	30
		B 3.5.2-5	30
		B 3.5.2-6	30
		B 3.5.3-1	30
		B 3.5.3-2	39

(continued)

LIST OF EFFECTIVE PAGES - BASES (continued)

<u>Page No.</u>	<u>Revision No.</u>	<u>Page No.</u>	<u>Revision No.</u>
B 3.8.2-6	30	B 3.8.7-9	30
B 3.8.2-7	30	B 3.8.7-10	30
B 3.8.3-1	30	B 3.8.7-11	30
B 3.8.3-2	30	B 3.8.7-12	30
B 3.8.3-3	30	B 3.8.7-13	30
B 3.8.3-4	30	B 3.8.7-14	30
B 3.8.3-5	49	B 3.8.7-15	30
B 3.8.3-6	30	B 3.8.8-1	30
B 3.8.3-7	30	B 3.8.8-2	30
B 3.8.3-8	30	B 3.8.8-3	30
B 3.8.4-1	30	B 3.8.8-4	30
B 3.8.4-2	30	B 3.8.8-5	30
B 3.8.4-3	30		
B 3.8.4-4	30	B 3.9.1-1	30
B 3.8.4-5	30	B 3.9.1-2	30
B 3.8.4-6	30	B 3.9.1-3	30
B 3.8.4-7	30	B 3.9.1-4	30
B 3.8.4-8	30	B 3.9.2-1	30
B 3.8.4-9	30	B 3.9.2-2	30
B 3.8.4-10	30	B 3.9.2-3	30
B 3.8.4-11	30	B 3.9.2-4	30
B 3.8.5-1	30	B 3.9.3-1	30
B 3.8.5-2	30	B 3.9.3-2	30
B 3.8.5-3	30	B 3.9.3-3	30
B 3.8.5-4	30	B 3.9.4-1	30
B 3.8.5-5	30	B 3.9.4-2	30
B 3.8.6-1	30	B 3.9.4-3	30
B 3.8.6-2	30	B 3.9.4-4	30
B 3.8.6-3	30	B 3.9.5-1	30
B 3.8.6-4	30	B 3.9.5-2	30
B 3.8.6-5	30	B 3.9.5-3	30
B 3.8.6-6	30	B 3.9.6-1	30
B 3.8.6-7	30	B 3.9.6-2	30
B 3.8.7-1	30	B 3.9.6-3	30
B 3.8.7-2	30	B 3.9.7-1	30
B 3.8.7-3	30	B 3.9.7-2	30
B 3.8.7-4	30	B 3.9.7-3	30
B 3.8.7-5	30	B 3.9.7-4	30
B 3.8.7-6	30	B 3.9.8-1	30
B 3.8.7-7	30	B 3.9.8-2	30
B 3.8.7-8	30	B 3.9.8-3	30
		B 3.9.8-4	30

(continued)

BASES

ACTIONS (continued)

D.1

With a Required Action and associated Completion Time of Condition A, B, or C not met, or the stored diesel fuel oil not within limits for reasons other than addressed by Conditions A, B, or C, the associated DG may be incapable of performing its intended function and must be immediately declared inoperable.

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1

This SR provides verification that there is an adequate inventory of fuel oil in the storage tanks to support each DG's operation for approximately 7 days at rated load. The approximate 7 day period is sufficient time to place the unit in a safe shutdown condition and to bring in replenishment fuel from an offsite location. For the purposes of this SR, the verification of the main fuel oil storage tank fuel oil volume is performed on a per DG basis. This per DG volume is obtained using the following equation:

$$\left[\frac{M_{VOL} - U_{VOL}}{N_{DG}} \right]$$

; where

M_{VOL} = measured fuel oil volume of the main fuel oil storage tank,

U_{VOL} = unusable fuel oil volume of the main fuel oil storage tank, and

N_{DG} = number of DGs required to be OPERABLE.

The results from this equation must be $\geq 20,850$ gallons in order to satisfy the acceptance criteria of SR 3.8.3.1.b.

The 31 day Frequency is adequate to ensure that a sufficient supply of fuel oil is available, since low level alarms are provided and unit operators would be aware of any large uses of fuel oil during this period.

(continued)