



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 <sup>1</sup>	Affected Unit	Date Implemented	Title/Description
51 49	1 2	July 25, 2007	<b>Title:</b> Correction to the Main Diesel Fuel Oil Storage Tank Volume Equation <b>Description:</b> 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.

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<sup>1</sup> Revision 51 for Unit 1 incorporated change package TSB-2007-04.  
Revision 49 for Unit 2 incorporated change package TSB-2007-04.

<b>Page Replacement Instructions - Unit 1</b>	
<b>Remove</b>	<b>Insert</b>
<b>Unit 1 - Bases Book 1</b>	
Title Page, Revision 50	Title Page, Revision 51
LOEP-1, Revision 50	LOEP-1, Revision 51
<b>Unit 1 - Bases Book 2</b>	
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

<b>Page Replacement Instructions - Unit 2</b>	
<b>Remove</b>	<b>Insert</b>
<b>Unit 2 - Bases Book 1</b>	
Title Page, Revision 48	Title Page, Revision 49
LOEP-1, Revision 48	LOEP-1, Revision 49
<b>Unit 2 - Bases Book 2</b>	
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

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		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

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**Unit 1 - Bases Book 2**  
**Replacement Pages**

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LOEP-2	47	B 3.4.8-3	31
LOEP-3	48	B 3.4.8-4	31
LOEP-4	51	B 3.4.8-5	31
LOEP-5	31	B 3.4.9-1	31
		B 3.4.9-2	38
i	31	B 3.4.9-3	38
ii	31	B 3.4.9-4	31
		B 3.4.9-5	38
B 3.4.1-1	31	B 3.4.9-6	38
B 3.4.1-2	31	B 3.4.9-7	31
B 3.4.1-3	31	B 3.4.9-8	31
B 3.4.1-4	31	B 3.4.9-9	38
B 3.4.1-5	31	B 3.4.10-1	31
B 3.4.1-6	31	B 3.4.10-2	31
B 3.4.2-1	31		
B 3.4.2-2	31	B 3.5.1-1	31
B 3.4.2-3	31	B 3.5.1-2	31
B 3.4.2-4	31	B 3.5.1-3	31
B 3.4.3-1	31	B 3.5.1-4	36
B 3.4.3-2	31	B 3.5.1-5	36
B 3.4.3-3	31	B 3.5.1-6	41
B 3.4.3-4	31	B 3.5.1-7	31
B 3.4.4-1	31	B 3.5.1-8	31
B 3.4.4-2	31	B 3.5.1-9	31
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B 3.4.4-4	31	B 3.5.1-11	31
B 3.4.4-5	31	B 3.5.1-12	31
B 3.4.5-1	31	B 3.5.1-13	31
B 3.4.5-2	31	B 3.5.1-14	44
B 3.4.5-3	43	B 3.5.1-15	44
B 3.4.5-4	41	B 3.5.1-16	31
B 3.4.6-1	41	B 3.5.1-17	31
B 3.4.6-2	41	B 3.5.2-1	31
B 3.4.6-3	41	B 3.5.2-2	31
B 3.4.7-1	31	B 3.5.2-3	31
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B 3.4.7-3	41	B 3.5.2-5	31
B 3.4.7-4	41	B 3.5.2-6	31
		B 3.5.3-1	31
		B 3.5.3-2	41

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LIST OF EFFECTIVE PAGES - BASES (continued)

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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
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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

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(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.

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**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

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		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

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**Unit 2 - Bases Book 2**  
**Replacement Pages**

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		B 3.4.7-5	39
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		B 3.4.8-2	30
LOEP-1	49	B 3.4.8-3	30
LOEP-2	45	B 3.4.8-4	30
LOEP-3	46	B 3.4.8-5	30
LOEP-4	49	B 3.4.9-1	30
LOEP-5	30	B 3.4.9-2	35
		B 3.4.9-3	35
i	30	B 3.4.9-4	30
ii	30	B 3.4.9-5	35
		B 3.4.9-6	35
B 3.4.1-1	30	B 3.4.9-7	30
B 3.4.1-2	30	B 3.4.9-8	30
B 3.4.1-3	30	B 3.4.9-9	35
B 3.4.1-4	30	B 3.4.10-1	30
B 3.4.1-5	30	B 3.4.10-2	30
B 3.4.1-6	30		
B 3.4.2-1	30	B 3.5.1-1	30
B 3.4.2-2	30	B 3.5.1-2	30
B 3.4.2-3	30	B 3.5.1-3	30
B 3.4.2-4	30	B 3.5.1-4	33
B 3.4.3-1	30	B 3.5.1-5	33
B 3.4.3-2	30	B 3.5.1-6	39
B 3.4.3-3	30	B 3.5.1-7	30
B 3.4.3-4	30	B 3.5.1-8	30
B 3.4.4-1	30	B 3.5.1-9	30
B 3.4.4-2	30	B 3.5.1-10	30
B 3.4.4-3	30	B 3.5.1-11	30
B 3.4.4-4	30	B 3.5.1-12	30
B 3.4.4-5	30	B 3.5.1-13	30
B 3.4.5-1	30	B 3.5.1-14	42
B 3.4.5-2	30	B 3.5.1-15	42
B 3.4.5-3	41	B 3.5.1-16	30
B 3.4.5-4	39	B 3.5.1-17	30
B 3.4.6-1	39	B 3.5.2-1	30
B 3.4.6-2	39	B 3.5.2-2	30
B 3.4.6-3	39	B 3.5.2-3	30
B 3.4.7-1	30	B 3.5.2-4	30
B 3.4.7-2	30	B 3.5.2-5	30
B 3.4.7-3	39	B 3.5.2-6	30
		B 3.5.3-1	30
		B 3.5.3-2	39

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LIST OF EFFECTIVE PAGES - BASES (continued)

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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

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(continued)

BASES

ACTIONS  
(continued)

D.1

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

; where

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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.

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