



Progress Energy

OCT 18 2004

SERIAL: BSEP 04-0145

10 CFR 54

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
System Drawings Supporting License Renewal

Reference: Letter from Cornelius J. Gannon to the U. S. Nuclear Regulatory
Commission (Serial: BSEP 04-0006), "Application for Renewal of
Operating Licenses," dated October 18, 2004

Ladies and Gentlemen:

On October 18, 2004, Carolina Power & Light Company, now doing business as Progress Energy Carolinas, Inc. (PEC), submitted an application to the Nuclear Regulatory Commission (NRC) for renewal of the operating licenses of the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. In support of this application, drawings were prepared for the majority of mechanical systems to supplement license renewal scoping calculations and provide a visual representation of portions of mechanical systems within the scope of license renewal. The drawings were developed using existing system flow diagrams, where available, and they have been highlighted to show the system boundaries associated with fulfilling one or more system-intended functions as discussed in 10 CFR 54.4(b). These drawings are not part of the official application for license renewal; however, PEC is making them available to the NRC staff as additional information to support a more efficient review.

The enclosure to this letter contains an index of drawings supporting BSEP license renewal. One set of the referenced system drawings is being provided to the Document Control Desk, three sets are being provided to NRR (i.e., Mr. S. K. Mitra, the License Renewal Project Manager for BSEP), and one set is being provided to the Region II, Regional Administrator.

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Please refer any questions regarding this submittal to Mr. Mike Heath, Supervisor - License Renewal, at (910) 457-3487.

Sincerely,

A handwritten signature in black ink, appearing to read "E T O'Neil". The signature is stylized with a large "E" and "O'Neil" written in a cursive-like font.

Edward T. O'Neil
Manager - Support Services
Brunswick Steam Electric Plant

MAT/mat

Enclosure:

License Renewal System Boundary Drawing Index

cc

U. S. Nuclear Regulatory Commission, Region II
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(w/Enclosure and 1 set of boundary drawings)

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(w/o Enclosure)

**THIS PAGE IS IN REFERENCE
TO THE LICENSE RENEWAL
SYSTEM BOUNDARY
DRAWINGS FOR BRUNSWICK
STEAM ELECTRIC PLANT,
UNITS 1 & 2**

**DRAWINGS WERE SCANNED,
ADDED TO ADAMS AND
INCLUDED IN THE ADAMS
PACKAGE WITH THE
TRANSMITTAL LETTER.
REFERENCE THE SUBSEQUENT
INDICES IMMEDIATELY
FOLLOWING THIS
PAGE/IMAGE**

License Renewal System Boundary Drawing Index

LR Flow Diagram Legend		
BSEP Unit 1	BSEP Unit 2	BSEP Common
License Renewal Drawing Index		
None	None	D-02519-LR, Sheet 1, 2, 3

Reactor Vessel, Internals, and Reactor Coolant System		
BSEP Unit 1	BSEP Unit 2	BSEP Common
Reactor Vessel and Internals		
D-25020-LR, Sheet 3A, 3B, 3C	D-02520-LR, Sheet 3A, 3B, 3C	None
D-25021-LR, Sheet 1A, 1B, 1C	D-02521-LR, Sheet 1A, 1B, 1C	
D-25022-LR, Sheet 2A, 2B, 2C	D-02522-LR, Sheet 2A, 2B, 2C	
Neutron Monitoring System		
None	None	None
Reactor Manual Control System		
None	D-02516-LR, Sheet 1A, 1B	None
Control Rod Drive Hydraulic System		
D-25016-LR, Sheet 1A, 1B	D-02516-LR, Sheet 1A, 1B	None
D-25017-LR, Sheet 2A, 2B	D-02517-LR, Sheet 2A, 2B	
Reactor Coolant Recirculation System		
D-25018-LR, Sheet 1A, 1B	D-02518-LR, Sheet 1A, 1B	None
D-25048-LR, Sheet 2A, 2B	D-02548-LR, Sheet 2A, 2B	

Engineered Safety Features		
BSEP Unit 1	BSEP Unit 2	BSEP Common
Residual Heat Removal		
D-25025-LR, Sheet 1A, 1B	D-02525-LR, Sheet 1A, 1B	
D-25026-LR, Sheet 2A, 2B	D-02526-LR, Sheet 2A, 2B	
Containment Atmosphere Control (CAC) System		
D-25015-LR, Sheet 1A, 1B, 1C, 1D	D-02515-LR, Sheet 1A, 1B, 1C, 1D	D-02560-LR, Sheet 2A
D-72018-LR	D-07218-LR	
D-73026-LR, Sheet 1, 2	D-07326-LR, Sheet 1, 2	
High Pressure Coolant Injection (HPCI) System		
D-25023-LR, Sheet 1, 2	D-02523-LR, Sheet 1, 2	None
Automatic Depressurization System		
D-25021-LR, Sheet 1A, 1B	D-02521-LR, Sheet 1A, 1B	None
Core Spray (CS) System		
D-25024-LR, Sheet 1, 2	D-02524-LR, Sheet 1, 2	None
Standby Gas Treatment System		
F-40073-LR, Sheet 3	F-04073-LR, Sheet 3	D-04104-LR
		F-02314-LR

Engineered Safety Features (continued)		
BSEP Unit 1	BSEP Unit 2	BSEP Common
Standby Liquid Control System		
D-25047-LR	D-02547-LR	None
HVAC Control Building		
None	None	F-04080-LR, Sheet 1, 2
Reactor Protection System		
None	None	None

Auxiliary Systems		
BSEP Unit 1	BSEP Unit 2	BSEP Common
Reactor Water Cleanup System		
D-25027-LR, Sheet 1A, 1B	D-02527-LR, Sheet 1A, 1B	None
F-25028-LR, Sheet 2A	F-02528-LR, Sheet 2A	
Reactor Core Isolation Cooling System		
D-25029-LR, Sheet 1, 2	D-02529-LR, Sheet 1, 2	None
Reactor Building Sampling System		
D-70070-LR, Sheet 1, 2	D-07070-LR, Sheet 1, 2	None
Post-Accident Sampling System		
D-73027-LR, Sheet 1	D-07327-LR, Sheet 1	None
Circulating Water System		
None	None	None
Screen Wash Water System		
D-20042-LR	D-02042-LR	None
Service Water System		
D-20034-LR, Sheet 2	D-02034-LR, Sheet 1	D-02274-LR, Sheet 1, 2
D-20041-LR, Sheet 1, 2	D-02041-LR, Sheet 1, 2	
D-25037-LR, Sheet 1, 2	D-02537-LR, Sheet 1, 2	
Reactor Building Closed Cooling Water System		
D-25038-LR, Sheet 1, 2	D-02538-LR, Sheet 1, 2	None
D-25041-LR	D-02541-LR	
Turbine Building Closed Cooling Water System		
None	None	None

Auxiliary Systems (continued)		
BSEP Unit 1	BSEP Unit 2	BSEP Common
Diesel Generator System		
Diesel Fuel Oil System		
None	None	D-02268-LR, Sheet 1A, 1B
		D-02269-LR, Sheet 2A, 2B
Diesel Lube Oil System		
None	None	D-02270-LR, Sheet 1A, 1B
		D-02271-LR, Sheet 2A, 2B
Diesel Jacket Water System		
None	None	D-02272-LR, Sheet 1A, 1B
		D-02273-LR, Sheet 2A, 2B
DG Service Water System		
None	None	D-02274-LR, Sheet 1, 2
DG Starting Air System		
None	None	D-02265-LR, Sheet 1A, 1B
		D-02266-LR, Sheet 2A, 2B
DG Intake/Exhaust System		
None	None	D-02267-LR, Sheet 1, 2
Heat Tracing System		
None	None	F-02586-LR, Sheet 1
Instrument Air System		
D-70007-LR, Sheet 1	D-07007-LR, Sheet 1	F-02587-LR, Sheet 2
D-70029-LR, Sheet 2A, 2B	D-07029-LR, Sheet 2A, 2B	
D-70077-LR, Sheet 3A, 3B	D-07077-LR, Sheet 3A, 3B	
D-72006-LR, Sheet 4	D-07206-LR, Sheet 4	
D-72009-LR	D-07209-LR, Sheet 6	
D-73068-LR, Sheet 1	D-07368-LR	
Service Air		
D-25042-LR	D-02542-LR	None
Pneumatic Nitrogen System		
None	None	D-02494-LR, Sheet 1
Fire Protection System		
D-29099-LR, Sheet 1, 2	D-02043-LR, Sheet 1	D-02057-LR, Sheet 2A, 2B
	D-02299-LR	D-02058-LR, Sheet 3A, 3B
		D-02301-LR
		D-02302-LR
		D-02303-LR, Sheet 1, 2
		D-02304-LR
		D-04106-LR
		F-02315-LR, Sheet 1
Fuel Oil System		
None	None	D-02026-LR

Auxiliary Systems (continued)		
BSEP Unit 1	BSEP Unit 2	BSEP Common
Radioactive Floor Drains System		
D-25043-LR, Sheet 1B	D-02543-LR, Sheet 1B	None
D-25044-LR, Sheet 2	D-02544-LR	
D-25045-LR, Sheet 3B	D-02545-LR, Sheet 3B	
D-25046-LR	D-02546-LR	
	D-02533-LR, Sheet 2	
Radioactive Equipment Drains System		
D-25043-LR, Sheet 1A	D-02543-LR, Sheet 1A, 1B	None
D-25045-LR, Sheet 3A	D-02545-LR, Sheet 3A	
	D-02531-LR, Sheet 1	
Makeup Water Treatment System		
D-25030-LR, Sheet 1, 2	D-02530-LR, Sheet 1, 2	D-02040-LR, Sheet 1A, 1B
D-25043-LR, Sheet 1A, 1B	D-02543-LR, Sheet 1A, 1B	D-02057-LR, Sheet 2B
D-25044-LR, Sheet 2	D-02544-LR	D-04035-LR, Sheet 2
Chlorination System		
None	None	None
Potable Water System		
None	None	D-04035-LR, Sheet 2
Process Radiation Monitoring System		
None	None	None
Area Radiation Monitoring System		
None	None	None
Liquid Waste Processing System		
D-25043-LR, Sheet 1A, 1B	D-02543-LR, Sheet 1A, 1B	D-02492-LR
D-25044-LR, Sheet 2	D-02544-LR, Sheet 2	D-02534-LR, Sheet 1, 2
D-25045-LR, Sheet 3A, 3B	D-02545-LR, Sheet 3A, 3B	
D-25046-LR	D-02546-LR	
Spent Fuel System		
None	None	None
Fuel Pool Cooling and Cleanup System		
D-23007-LR	D-02307-LR	None
D-25026-LR, Sheet 2B	D-02526-LR, Sheet 2B	
D-25049-LR, Sheet 1A, 1B	D-02549-LR, Sheet 1A, 1B	
HVAC Diesel Generator Building		
None	None	D-04101-LR
HVAC Reactor Building		
F-40073-LR, Sheet 1, 2	F-04073-LR, Sheet 1, 2	None
D-40056-LR	D-04056-LR	
HVAC Service Water Intake Structure		
None	None	None
HVAC Turbine Building		
None	None	None

Auxiliary Systems (continued)		
BSEP Unit 1	BSEP Unit 2	BSEP Common
HVAC Radwaste Building		
None	None	None
Torus Drain System		
D-26098-LR	D-02698-LR	None
Civil Structure Auxiliary Systems		
None	None	None
Non-Contaminated Water Drainage System		
None	None	None

Steam and Power Conversion Systems		
BSEP Unit 1	BSEP Unit 2	BSEP Common
Main Steam System		
D-20020-LR, Sheet 1, 2	D-02020-LR, Sheet 1, 2	None
D-25021-LR, Sheet 1A, 1B	D-02521-LR, Sheet 1A, 1B	
D-20028-LR	D-02028-LR	
Extraction Steam System		
None	None	None
Moisture Separator Reheater Drains and Reheat Steam System		
None	None	None
Auxiliary Boiler		
None	None	D-02021-LR
Feedwater System		
D-25021-LR, Sheet 1A, 1B, 1C	D-02521-LR, Sheet 1A, 1B, 1C	None
Heater Drains and Miscellaneous Vents and Drains		
D-20028-LR	D-02028-LR	None
Condensate System		
D-20030-LR, Sheet 1B	D-02030-LR, Sheet 1B	D-02040-LR, Sheet 1A, 1B
D-20028-LR	D-02028-LR	
Turbine Building Sampling System		
D-20020-LR, Sheet 1	D-02020-LR, Sheet 1	None
Main Condenser Gas Removal System		
D-25043-LR, Sheet 1B	D-02543-LR, Sheet 1B	None
Turbine Electro-Hydraulic Control System		
None	None	None
Turbine Generator Lube Oil System		
None	None	None
Stator Cooling System		
None	None	None
Hydrogen Seal Oil		
None	None	None