

APPENDIX A NRC NEPA ISSUES FOR LICENSE RENEWAL OF NUCLEAR POWER PLANTS

Progress Energy has prepared this environmental report in accordance with the requirements of U.S. Nuclear Regulatory Commission (NRC) regulation 10 CFR 51.53. NRC included in the regulation a list of National Environmental Policy Act (NEPA) issues for license renewal of nuclear power plants. Table A-1 lists these 92 issues and identifies the section in which BSEP addressed each applicable issue in this environmental report. For organization and clarity, BSEP has assigned a number to each issue and uses the issue numbers throughout the environmental report.

**TABLE A-1
BSEP ENVIRONMENTAL REPORT DISCUSSION OF
LICENSE RENEWAL NEPA ISSUES^a**

Issue	Category	Section of this Environmental Report	GEIS Cross Reference^b (Section/Page)
Surface Water Quality, Hydrology, and Use (for all plants)			
1. Impacts of refurbishment on surface water quality	1	NA	Issue applies to an activity, refurbishment, that BSEP will not undertake.
2. Impacts of refurbishment on surface water use	1	NA	Issue applies to an activity, refurbishment, that BSEP will not undertake.
3. Altered current patterns at intake and discharge structures	1	4.0	4.2.1.2.1/4-5
4. Altered salinity gradients	1	4.0	4.2.1.2.2/4-4
5. Altered thermal stratification of lakes	1	NA	Issue applies to a plant feature, discharge to a lake, that BSEP does not have.
6. Temperature effects on sediment transport capacity	1	4.0	4.2.1.2.3/4-8
7. Scouring caused by discharged cooling water	1	4.0	4.2.1.2.3/4-6
8. Eutrophication	1	NA	Issue applies to a plant feature, discharge to a lake, that BSEP does not have.
9. Discharge of chlorine or other biocides	1	4.0	4.2.1.2.4/4-10
10. Discharge of sanitary wastes and minor chemical spills	1	4.0	4.2.1.2.4/4-10
11. Discharge of other metals in waste water	1	4.0	4.2.1.2.4/4-10
12. Water use conflicts (plants with once-through cooling systems)	1	4.0	4.2.1.3/4-13
13. Water use conflicts (plants with cooling ponds or cooling towers using make-up water from a small river with low flow)	2	NA, and discussed in Section 4.1	
Aquatic Ecology (for all plants)			
14. Refurbishment impacts to aquatic resources	1	NA	Issue applies to an activity, refurbishment, that BSEP will not undertake.
15. Accumulation of contaminants in sediments or biota	1	4.0	4.2.1.2.4/4-10
16. Entrainment of phytoplankton and zooplankton	1	4.0	4.2.2.1.1/4-15

**TABLE A-1
BSEP ENVIRONMENTAL REPORT DISCUSSION OF
LICENSE RENEWAL NEPA ISSUES^a (Continued)**

Issue	Category	Section of this Environmental Report	GEIS Cross Reference^b (Section/Page)
17. Cold shock	1	4.0	4.2.2.1.5/4-18
18. Thermal plume barrier to migrating fish	1	4.0	4.2.2.1.6/4-19
19. Distribution of aquatic organisms	1	4.0	4.2.2.1.6/4-19
20. Premature emergence of aquatic insects	1	4.0	4.2.2.1.7/4-20
21. Gas supersaturation (gas bubble disease)	1	4.0	4.2.2.1.8/4-21
22. Low dissolved oxygen in the discharge	1	4.0	4.2.2.1.9/4-23
23. Losses from predation, parasitism, and disease among organisms exposed to sublethal stresses	1	4.0	4.2.2.1.10/4-24
24. Stimulation of nuisance organisms (e.g., shipworms)	1	4.0	4.2.2.1.11/4-25
Aquatic Ecology (for plants with once-through and cooling pond heat dissipation systems)			
25. Entrainment of fish and shellfish in early life stages for plants with once-through and cooling pond heat dissipation systems	2	4.2	4.2.2.1.2/4-16
26. Impingement of fish and shellfish for plants with once-through and cooling pond heat dissipation systems	2	4.3	4.2.2.1.3/4-16
27. Heat shock for plants with once-through and cooling pond heat dissipation systems	2	4.4	4.2.2.1.4/4-17
Aquatic Ecology (for plants with cooling-tower-based heat dissipation systems)			
28. Entrainment of fish and shellfish in early life stages for plants with cooling-tower-based heat dissipation systems	1	NA	Issue applies to a heat dissipation system, cooling towers, that BSEP does not have
29. Impingement of fish and shellfish for plants with cooling-tower-based heat dissipation systems	1	NA	Issue applies to a heat dissipation system, cooling towers, that BSEP does not have
30. Heat shock for plants with cooling-tower-based heat dissipation systems	1	NA	Issue applies to a heat dissipation system, cooling towers, that BSEP does not have

**TABLE A-1
BSEP ENVIRONMENTAL REPORT DISCUSSION OF
LICENSE RENEWAL NEPA ISSUES^a (Continued)**

Issue	Category	Section of this Environmental Report	GEIS Cross Reference^b (Section/Page)
Ground-water Use and Quality			
31. Impacts of refurbishment on groundwater use and quality	1	NA	Issue applies to an activity, refurbishment, that BSEP will not undertake.
32. Groundwater use conflicts (potable and service water; plants that use < 100 gpm)	1	4.0	4.8.1.1/4-116
33. Groundwater use conflicts (potable, service water, and dewatering; plants that use > 100 gpm)	2	NA, and discussed in Section 4.5	
34. Groundwater use conflicts (plants using cooling towers withdrawing make-up water from a small river)	2	NA, and discussed in Section 4.6	
35. Groundwater use conflicts (Ranney wells)	2	NA, and discussed in Section 4.7	
36. Groundwater quality degradation (Ranney wells)	1	NA	Issue applies to a feature, Ranney Wells, that BSEP does not have.
37. Groundwater quality degradation (saltwater intrusion)	1	4.0	4.8.2.1/4-119
38. Groundwater quality degradation (cooling ponds in salt marshes)	1	NA	Issue applies to a feature, cooling ponds, that BSEP does not have.
39. Groundwater quality degradation (cooling ponds at inland sites)	2	NA, and discussed in Section 4.8	
Terrestrial Resources			
40. Refurbishment impacts to terrestrial resources	2	NA, and discussed in Section 4.9	
41. Cooling tower impacts on crops and ornamental vegetation	1	NA	Issue applies to a feature, cooling towers, that BSEP does not have.
42. Cooling tower impacts on native plants	1	NA	Issue applies to a feature, cooling towers, that BSEP does not have.
43. Bird collisions with cooling towers	1	NA	Issue applies to a feature, cooling towers, that BSEP does not have.

**TABLE A-1
BSEP ENVIRONMENTAL REPORT DISCUSSION OF
LICENSE RENEWAL NEPA ISSUES^a (Continued)**

Issue	Category	Section of this Environmental Report	GEIS Cross Reference^b (Section/Page)
44. Cooling pond impacts on terrestrial resources	1	NA	Issue applies to a feature, cooling ponds, that BSEP does not have.
45. Power line right-of-way management (cutting and herbicide application)	1	4.0	4.5.6.1/4-71
46. Bird collisions with power lines	1	4.0	4.5.6.2/4-74
47. Impacts of electromagnetic fields on flora and fauna (plants, agricultural crops, honeybees, wildlife, livestock)	1	4.0	4.5.6.3/4-77
48. Floodplains and wetlands on power line right-of-way	1	4.0	4.5.7/4-81
Threatened or Endangered Species (for all plants)			
49. Threatened or endangered species	2	4.10	4.1/4-1
Air Quality			
50. Air quality during refurbishment (non-attainment and maintenance areas)	2	NA, and discussed in Section 4.11	
51. Air quality effects of transmission lines	1	4.0	4.5.2/4-62
Land Use			
52. Onsite land use	1	4.0	3.2/3-1
53. Power line right-of-way land use impacts	1	4.0	4.5.3/4-62
Human Health			
54. Radiation exposures to the public during refurbishment	1	NA	Issue applies to an activity, refurbishment, that BSEP will not undertake.
55. Occupational radiation exposures during refurbishment	1	NA	Issue applies to an activity, refurbishment, that BSEP will not undertake.
56. Microbiological organisms (occupational health)	1	4.0	4.3.6/4-48
57. Microbiological organisms (public health) (plants using lakes or canals, or cooling towers or cooling ponds that discharge to a small river)	2	NA, and discussed in Section 4.12	
58. Noise	1	4.0	4.3.7/4-49

**TABLE A-1
BSEP ENVIRONMENTAL REPORT DISCUSSION OF
LICENSE RENEWAL NEPA ISSUES^a (Continued)**

Issue	Category	Section of this Environmental Report	GEIS Cross Reference^b (Section/Page)
59. Electromagnetic fields, acute effects (electric shock)	2	4.13	4.5.4.1/4-66
60. Electromagnetic fields, chronic effects	NA	4.0	
61. Radiation exposures to public (license renewal term)	1	4.0	4.6.2/4-87
62. Occupational radiation exposures (license renewal term)	1	4.0	4.6.3/4-95
Socioeconomics			
63. Housing impacts	2	4.14	3.7.2/3-10 (refurbishment) 4.7.1/4-101 (renewal term)
64. Public services: public safety, social services, and tourism and recreation	1	4.0	<u>Refurbishment</u> 3.7.4/3-14 (public services) 3.7.4.3/3-18 (safety) 3.7.4.4/3-19 (social) 3.7.4.6/3-20 (tour, rec) <u>Renewal Term</u> 4.7.3/4-104 (public services) 4.7.3.3/4-106 (safety) 4.7.3.4/4-107 (social) 4.7.3.6/4-107 (tour, rec)
65. Public services: public utilities	2	4.15	3.7.4.5/3-19 (refurbishment) 4.7.3.5/4-107 (renewal term)
66. Public services: education (refurbishment)	2	NA, and discussed in Section 4.16	
67. Public services: education (license renewal term)	1	4.0	4.7.3.1/4-106
68. Offsite land use (refurbishment)	2	NA, and discussed in Section 4.17.1	
69. Offsite land use (license renewal term)	2	4.17.2	4.7.4/4-107
70. Public services: transportation	2	4.18	3.7.4.2/3-17 (refurbishment) 4.7.3.2/4-106 (renewal term)
71. Historic and archaeological resources	2	4.19	3.7.7/3-23 (refurbishment) 4.7.7/4-114 (renewal term)
72. Aesthetic impacts (refurbishment)	1	NA	Issue applies to an activity, refurbishment, that BSEP will not undertake.
73. Aesthetic impacts (license renewal term)	1	4.0	4.7.6/4-111

**TABLE A-1
BSEP ENVIRONMENTAL REPORT DISCUSSION OF
LICENSE RENEWAL NEPA ISSUES^a (Continued)**

Issue	Category	Section of this Environmental Report	GEIS Cross Reference^b (Section/Page)
74. Aesthetic impacts of transmission lines (license renewal term)	1	4.0	4.5.8/4-83
Postulated Accidents			
75. Design basis accidents	1	4.0	5.3.2/5-11 (design basis) 5.5.1/5-114 (summary)
76. Severe accidents	2	4.20	5.3.3/5-12 (probabilistic analysis) 5.3.3.2/5-19 (air dose) 5.3.3.3/5-49 (water) 5.3.3.4/5-65 (groundwater) 5.3.3.5/5-95 (economic) 5.4/5-106 (mitigation) 5.5.2/5-114 (summary)
Uranium Fuel Cycle and Waste Management			
77. Offsite radiological impacts (individual effects from other than the disposal of spent fuel and high-level waste)	1	4.0	6.2/6-8
78. Offsite radiological impacts (collective effects)	1	4.0	Not in GEIS.
79. Offsite radiological impacts (spent fuel and high-level waste disposal)	1	4.0	Not in GEIS.
80. Nonradiological impacts of the uranium fuel cycle	1	4.0	6.2.2.6/6-20 (land use) 6.2.2.7/6-20 (water use) 6.2.2.8/6-21 (fossil fuel) 6.2.2.9/6-21 (chemical)
81. Low-level waste storage and disposal	1	4.0	6.4.2/6-36 (low-level def) 6.4.3/6-37 (low-level volume) 6.4.4/6-48 (renewal effects)
82. Mixed waste storage and disposal	1	4.0	6.4.5/6-63
83. Onsite spent fuel	1	4.0	6.4.6/6-70
84. Nonradiological waste	1	4.0	6.5/6-86
85. Transportation	1	4.0	6.3/6-31, as revised by Addendum 1, August 1999.
Decommissioning			
86. Radiation doses (decommissioning)	1	4.0	7.3.1/7-15
87. Waste management (decommissioning)	1	4.0	7.3.2/7-19 (impacts) 7.4/7-25 (conclusions)
88. Air quality (decommissioning)	1	4.0	7.3.3/7-21 (air) 7.4/7-25 (conclusion)

**TABLE A-1
BSEP ENVIRONMENTAL REPORT DISCUSSION OF
LICENSE RENEWAL NEPA ISSUES^a (Continued)**

Issue	Category	Section of this Environmental Report	GEIS Cross Reference ^b (Section/Page)
89. Water quality (decommissioning)	1	4.0	7.3.4/7-21 (water) 7.4/7-25 (conclusion)
90. Ecological resources (decommissioning)	1	4.0	7.3.5/7-21 (ecological) 7.4/7-25 (conclusion)
91. Socioeconomic impacts (decommissioning)	1	4.0	7.3.7/7-24 (socioeconomic) 7.4/7-25 (conclusion)
Environmental Justice			
92. Environmental justice	NA	2.6.2	

- a. Source: 10 CFR 51, Subpart A, Appendix A, Table B-1. (Issue numbers added to facilitate discussion.)
- b. Source: Generic Environmental Impact Statement for License Renewal of Nuclear Plants (NUREG-1437).
- c. NRC findings are not applicable because Progress Energy has no plans for major refurbishment.
- d. Not applicable because BSEP discharges to the ocean and not a [small] lake or river.
- e. Not applicable because BSEP does not use cooling ponds or cooling towers using make-up water from a small river with low flow.
- f. Not applicable because BSEP uses less than 100 gpm of groundwater.
- g. Not applicable because BSEP does not use Ranney wells.

NEPA = National Environmental Policy Act.

APPENDIX B NPDES PERMIT

This Appendix contains selected pages of Brunswick Steam Electric Plant's National Pollutant Discharge Elimination System permit, including the cover page, which authorizes the Plant to discharge wastewater to the Atlantic Ocean in the Cape Fear River Basin, and pages pertinent to the [Chapter 4](#) discussions of entrainment, impingement, and heat shock.

Permit NC0007064

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

PERMIT

TO DISCHARGE WASTEWATER UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES)

In compliance with the provision of North Carolina General Statute 143-215.1, other lawful standards and regulations promulgated and adopted by the North Carolina Environmental Management Commission, and the Federal Water Pollution Control Act, as amended,

Progress Energy Carolinas, Inc.

is hereby authorized to discharge wastewater from outfalls located at the

**Brunswick Steam Electric Plant
NC Highway 87, Southport
Brunswick County**

to receiving waters designated as the Atlantic Ocean below the Cape Fear River Basin in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, IV and V hereof.

This permit shall become effective **August 1, 2003**.

This permit and authorization to discharge shall expire at midnight on **November 30, 2006**.

Signed this day **June 30, 2003**.

Alan Klimek, P.E., Director
Division of Water Quality
By Authority of the Environmental Management Commission

SUPPLEMENT TO PERMIT COVER SHEET

Progress Energy Carolinas, Inc.

is hereby authorized:

1. to continue operating a 1,900 MGD cooling water system consisting of an intake structure, 9.6 miles of intake and effluent canals connected via internal Outfalls 001 and 002, circulation pumps, siphons under the intra-coastal waterway, a discharge pump station at Oak Island, and final discharge conduits terminating 2,000 feet off shore; all necessary appurtenances to withdraw cooling water from the Cape Fear River near Snow Marsh, and thereby to discharge cooling water into the Atlantic Ocean; and
2. to continue operating and discharging via internal Outfall 004 (see attached map), a 0.055 MGD domestic wastewater treatment plant (WWTP) consisting of influent pumps, bar screen, flow measuring device, aeration tank, secondary clarifier and chlorination chamber; and
3. to continue discharging via internal Outfall 010 (see attached map), and continue operating the existing 0.036 MGD Support Services domestic WWTP (previously permitted under NC0083895) consisting of an influent duplex pump station, manually cleaned bar screen, flow EQ basin, flow splitter box, two (2) aeration basins, two (2) clarifiers, two (2) tertiary filters, aerobic sludge digester with airlift sludge pump, baffled chlorine contact chamber with two (2) tablet chlorinators, and an effluent flow v-notch weir measuring device; and
4. to begin operating additional "helper" cooling facilities and begin discharging 0.187 MGD of cooling tower blowdown (if installed) to Outfall 011, then to Outfall 005 to the Intake Canal (see attached map); and
5. to continue to discharge treated metal cleaning wastes (Outfall 006), treated low-volume wastes and stormwater (Outfall 005) to the Intake Canal; and
6. to continue operating a diversion fence located at the mouth of the intake canal; and
7. to continue operating fine-mesh screens, as described under Part I, A.(1.) Outfalls 001 and 002 at intake pump bays; and
8. to continue to operate an intake pump system to minimize intake flow rate; and
9. to discharge stormwater from Outfalls 007, 008, and 009 (see attached map) into Nancy's Creek, classified as Class SC-Sw-HQW waters within the Cape Fear River Basin; and
10. to discharge stormwater, wastewater, and cooling water via internal outfalls from said treatment works, Intake Canal, and Discharge Canal (see **Attachment 1**) into the Atlantic Ocean, Class SB waters;

located at the **Brunswick Steam Electric Plant** on NC Highway 87, Southport, Brunswick County.

All discharges shall conform to the attached schedules:

- Part I: Wastewater Monitoring, Controls and Limitations for Permitted Discharges**
- Part II: Stormwater Monitoring, Controls and Limitations for Permitted Discharges**
- Part III: Standard Conditions for NPDES Permits**
- Part IV: Other Requirements**
- Part V: Annual Administering and Compliance Monitoring Fee Requirements**

This permit does not relieve the permittee from responsibility to comply with any other applicable federal, state or local law, rule, standard, ordinance, order, judgement or decree.

Permit No. NC0007064

A. (1.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge once-through cooling and non-contact service water through **Outfalls 001 and 002**. Such discharges shall be limited and monitored by the Permittee as specified below:

Effluent Characteristics	Discharge Limitations			Monitoring Requirements		
	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location 1
Cooling Water Flow 2				Continuous	Pump Logs / Recording	
For April - November			1105 cfs / unit 3,4			
For December - March			922 cfs / unit			

1. Unless otherwise specified, the permittee shall sample the effluent of each individual generating unit prior to mixing with other waste streams. During periods of refueling and other outages at zero reactor power, the Permittee shall maintain minimum unit flows required for the safe and efficient operation & maintenance of plant systems.
2. During a generating-unit outage (one unit not in operation), the Permittee may increase flow to the remaining operating unit as needed, provided that the total cooling water flow does not exceed the maximum flow limit for two-unit operation.
3. During the months of July, August and September, **one unit only** may increase its flow to 1230 cfs. At times when the system demand is within 200 MW of available system reserves, the Permittee may suspend flow limitations upon notice to the Regional Supervisor. Notice shall include anticipated flow rates and an estimate of the duration of flow rates in excess of those otherwise allowed. Excursions up to eight hours per week are allowed to clean debris from filters. Three hours per week are allowed for testing of backup pumps and related equipment.
4. cfs/unit = cubic feet per second per generating unit

NOTE: Part III A.7.a. identifying flow limits as Monthly Averages is not applicable to flow requirements for 001 and 002.

Permit No. NC0007064

A. (1.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS -- Continued

FINE MESH SCREENS – Two and a half (2½) fine mesh screens shall be maintained on the plant intake structure such that intake cooling water flowing into three (3) pump bays per generating unit will continuously pass through the two and a half (2½) fine mesh screens. The fourth bay will be maintained with one half (½) fine mesh screens such that, if this fourth pump bay is put in service, cooling water will pass through one half (½) fine mesh screen in this bay only. If the Circulating Water Intake Pumps are in jeopardy of tripping as a result of high differential pressure across the traveling screens, the fine mesh screens may be temporarily removed to prevent or mitigate unplanned decreases in power or plant trips. The fine mesh screens will be reinstalled when conditions permit the Circulating Water Intake Pumps to sustain continuous operation. Should the use of at least two and a half (2½) fine-mesh pumped bays be impossible as a result of screen failure or other malfunction, the Permittee shall provide explanation in the monthly report stating the cause(s) of the malfunction, duration and corrective action(s) taken by the plant. For testing purposes, pumps may be operated when not in compliance with the fine mesh screen requirements.

Preventative maintenance of the fine mesh screens is allowed during periods when the generating unit is operating, if such work is accomplished in the time between one hour after sunrise and one hour before sunset. Preventative maintenance as required at other times is allowed; however, the Permittee shall report monthly the total time that screens are out of service for such maintenance. CP&L shall maintain a record of fine-mesh screen total maintenance outages.

DIVERSION FENCE - A diversion fence located at the mouth of the intake canal shall be continuously operated and maintained in such a manner as to minimize impingement. A biological monitoring program shall be continued which will provide sufficient information to allow for a continuing assessment of the impact of the Brunswick Steam Electric Plant on the Cape Fear estuary, with particular emphasis on the marine fisheries. Data shall be reported annually and shall include an interpretive summary report assessing the effectiveness of the diversion fence, and the effectiveness of flow minimization and fine mesh screens to curtail organism **impingement** and **entrainment**. The Director of the Division of Water Quality shall approve any major changes in the biological monitoring program.

CHLORINE - There shall be no discharge of Total Residual Chlorine (total residual oxidants) at the ocean outfall. Total Residual Chlorine or total residual oxidants are to be measured weekly at the Caswell Beach Pump Station by multiple grab samples.

Permit No. NC0007064

A. (1.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS -- Continued

TEMPERATURE -- Cooling-water system facilities shall be effectively maintained and operated so as to meet the temperature standards assigned to the Atlantic Ocean: 0.8°C (1.44°F) increase above ambient water temperature during the months June through August; 2.2°C (3.96°F) increase above ambient water temperature during the months September through May. In no case should the temperature exceed 32°C (89.6°F) due to the discharge of heated liquid measured three (3) feet below the water surface except within the following defined mixing zones:

- (a). The temperature increase above ambient water temperature shall not exceed 7°F outside an area of **120 acres** included within the plume extending from the point of discharge.
- (b). The temperature increase above ambient water temperature shall not exceed 0.8°C (1.44°F) increase above ambient water temperature during the months of June through August; 2.2°C (3.96°F) increase above ambient water temperature during the months of September through May. In no case should the temperature exceed 32°C (89.6°F) outside an area of **2000 acres**.
- (c). The temperature increase above ambient water temperature at the bottom (defined as one foot above the ocean floor) shall not exceed 7°F for more than **1000 feet** from the point of discharge, nor for an area of more than **four (4) acres**.

Temperature monitoring at the ocean discharge shall be conducted **semiannually**, once during the months of **April - November** and once during the months of **December - March**. Reactor power levels should be at least 85% for each unit on the date of monitoring. If it is determined by this Division that the water quality standards or conditions of this permit are being violated or being threatened (within 90% of the limitations or standards), additional monitoring may be required.

Temperature shall be monitored within a 2320-acre rectangular mixing zone defined by two (2) sampling grids; one near the ocean surface (three feet below the water surface) and the second near the bottom (one foot above the ocean floor). Temperatures shall be recorded at locations sufficient in number to establish compliance with Water Quality Standards. If sufficient temperature variation exists, the permittee shall plot 1°F isotherms to report surface and bottom conditions. The permittee shall likewise establish and report ambient temperatures beyond each grid by averaging four (4) temperature measurements -- each measurement to be taken approximately 1500 feet beyond a different mixing-zone corner on a bearing approximately 135° relative to each sampling grid.

The Permittee shall discharge no polychlorinated biphenyl compounds such as those used for transformer fluid.

Discharge at the ocean outfall shall contain no floating solids or foam visible in other than trace amounts.

DENR / DWQ / NPDES Unit
SUPPLEMENTAL FACT SHEET FOR 2003 FINAL PERMIT
NPDES Permit No. NC0007064

FACILITY DESCRIPTION

Brunswick Steam Electric Plant (BSEP) is a two-unit, 1642 megawatts (MWe) power-generating facility intending to uprate 10 to 15% during this permit cycle (to ~1806 MWe). The facility utilizes cooling water captured from the Cape Fear River via an intake canal with diversion fence. For this renewal, this facility is permitted to utilize eleven (11) internal outfalls including two on-site domestic wastewater treatment plants (WWTP), one previously permitted under NC0083895. At the permittee's request, the latter permit will be rescinded and its discharge included under this renewal at the issuance of NC0007064 as Outfall 010.

PERMIT DRAFT REVIEW SUMMARY

During the permit renewal interim, the parent company, Carolina Power and Light (CP&L), requested a company name change to **Progress Energy Carolinas, Inc.** Therefore the final permit for the Brunswick Steam Electric Plant (BSEP) shall be issued under this new company name.

The Division submitted the Draft Permit to public notice and to the EPA Region 4 for review on March 23, 2002. EPA Region 4 requested clarification and justification for permittee-proposed new mixing zone parameters and monitoring schedules. Following EPA's review of supporting documentation for the proposed power up-rate and related doubling of the Atlantic Ocean discharge mixing zone, no significant permit changes were deemed necessary by EPA. Therefore, the Division did not re-notice the Draft Final permit. For Division and permittee responses to EPA requests for additional information, see the Division's transmittal to EPA Region 4 and accompanying attachments dated May 6, 2003.

The permittee has requested minor permit revisions and corrections to the Draft Final, all of which have been documented and explained in the final issuance cover letter. For a record of changes to the Draft permit, see the **Fact Sheet for Draft Final Permit** (signed March 31, 2003).

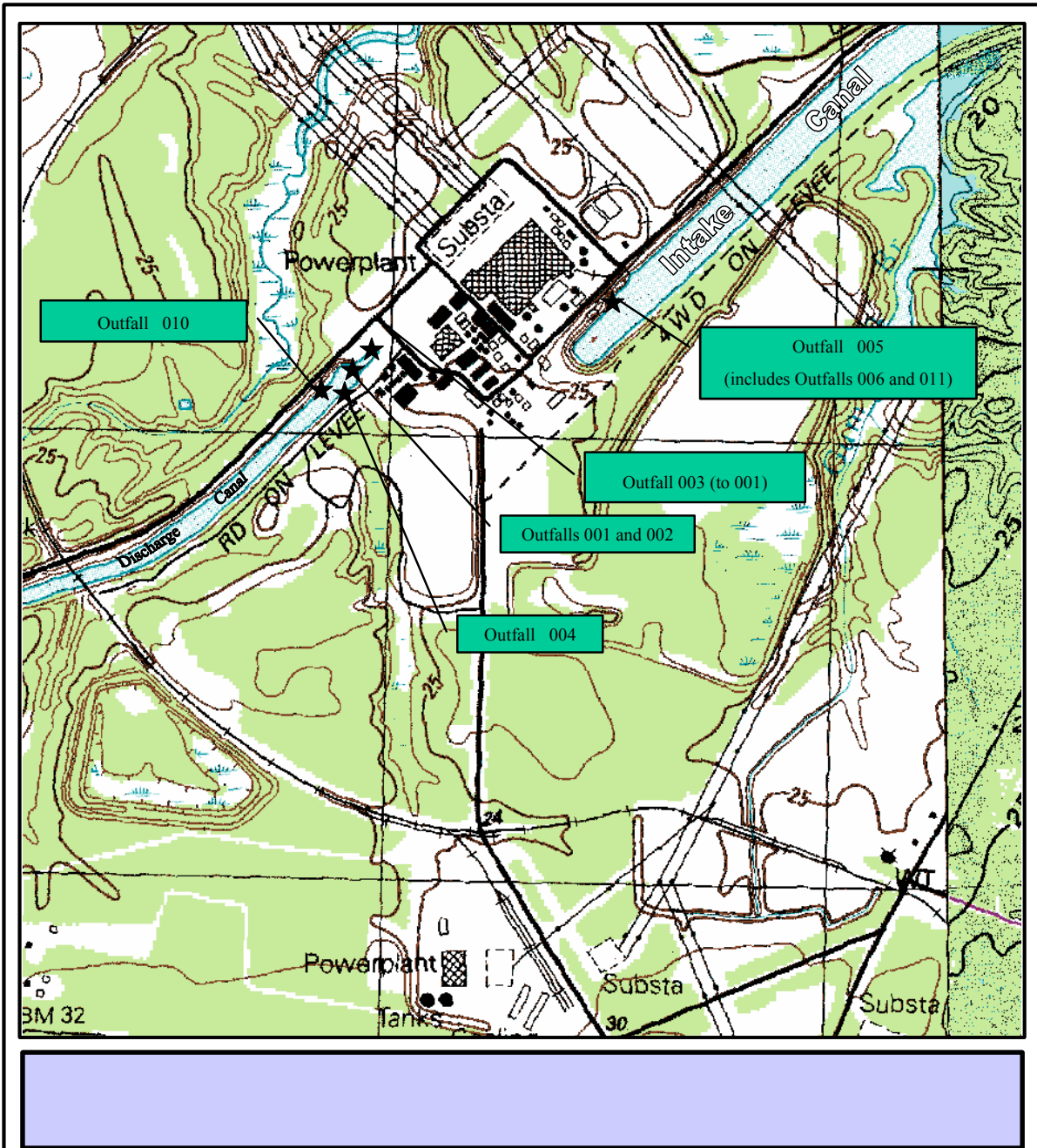
PROPOSED SCHEDULE OF ISSUANCE

Draft Permit to Public Notice:	March 20, 2002.
Permit Scheduled to Issue:	August 1, 2003

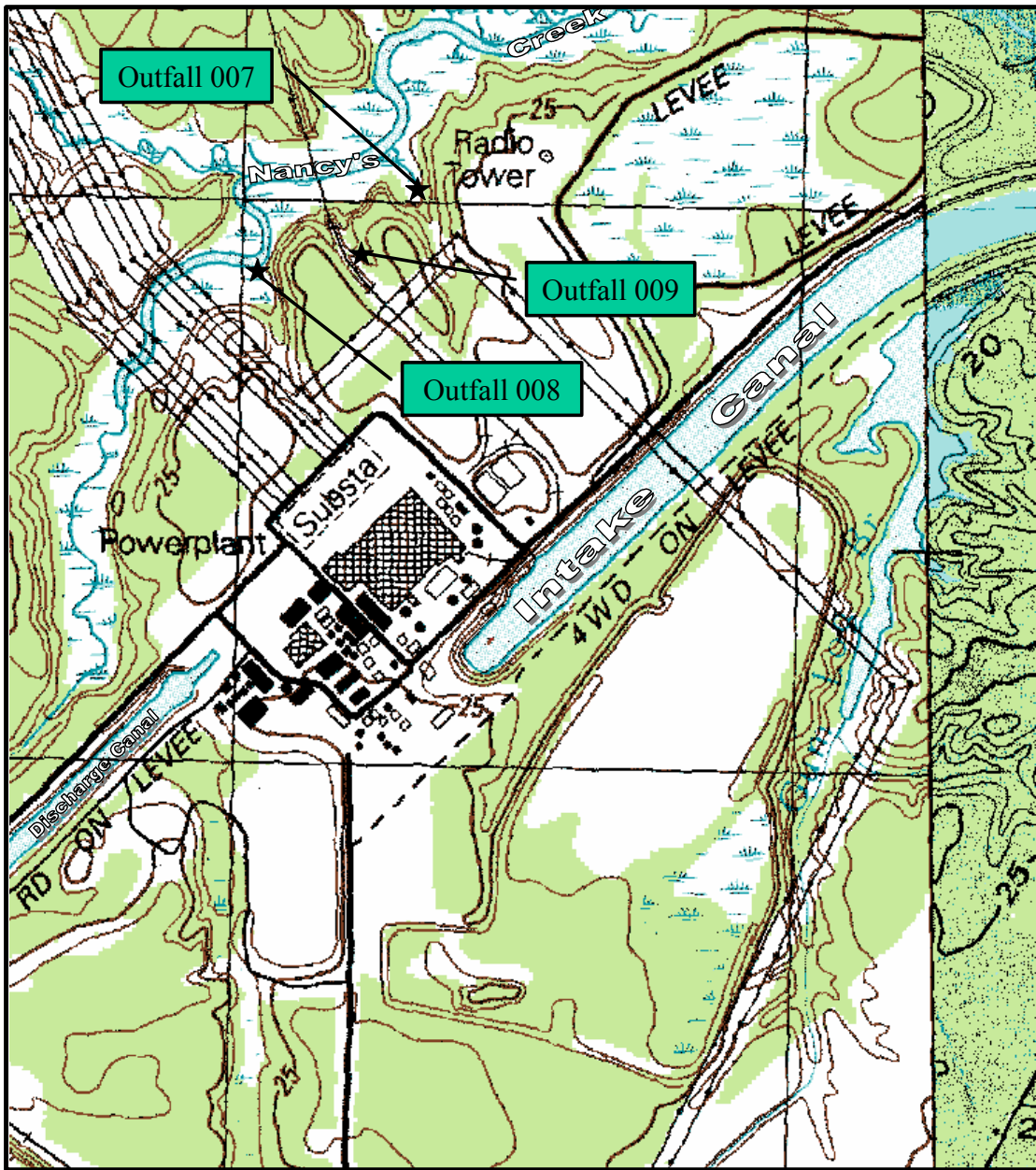
NPDES UNIT CONTACT

If you have questions regarding any of the above information or the final permit, please contact Joe Corporon at (919) 733-5083 ext. 597.

NAME: _____ **DATE:** _____



<h3>Brunswick Steam Electric Plant</h3> <p>Internal Outfalls 001 through 006, 010 and 011</p>			<p>Facility Location</p> <p>not to scale</p>
<p>Latitude: 33° 53' 31" N</p> <p>Longitude: 78° 03' 22" W</p> <p>Receiving Stream: Atlantic Ocean</p> <p>Stream Class: SB</p>	<p>State Grid/Quad: L 26 NE / Southport, NC</p> <p>Permitted Flow: 1900 MGD</p> <p>Drainage Basin: Cape Fear River Basin</p> <p>Sub-Basin: 03-06-17</p>		



Brunswick Steam Electric Plant

Stormwater Outfalls 007, 008 and 009

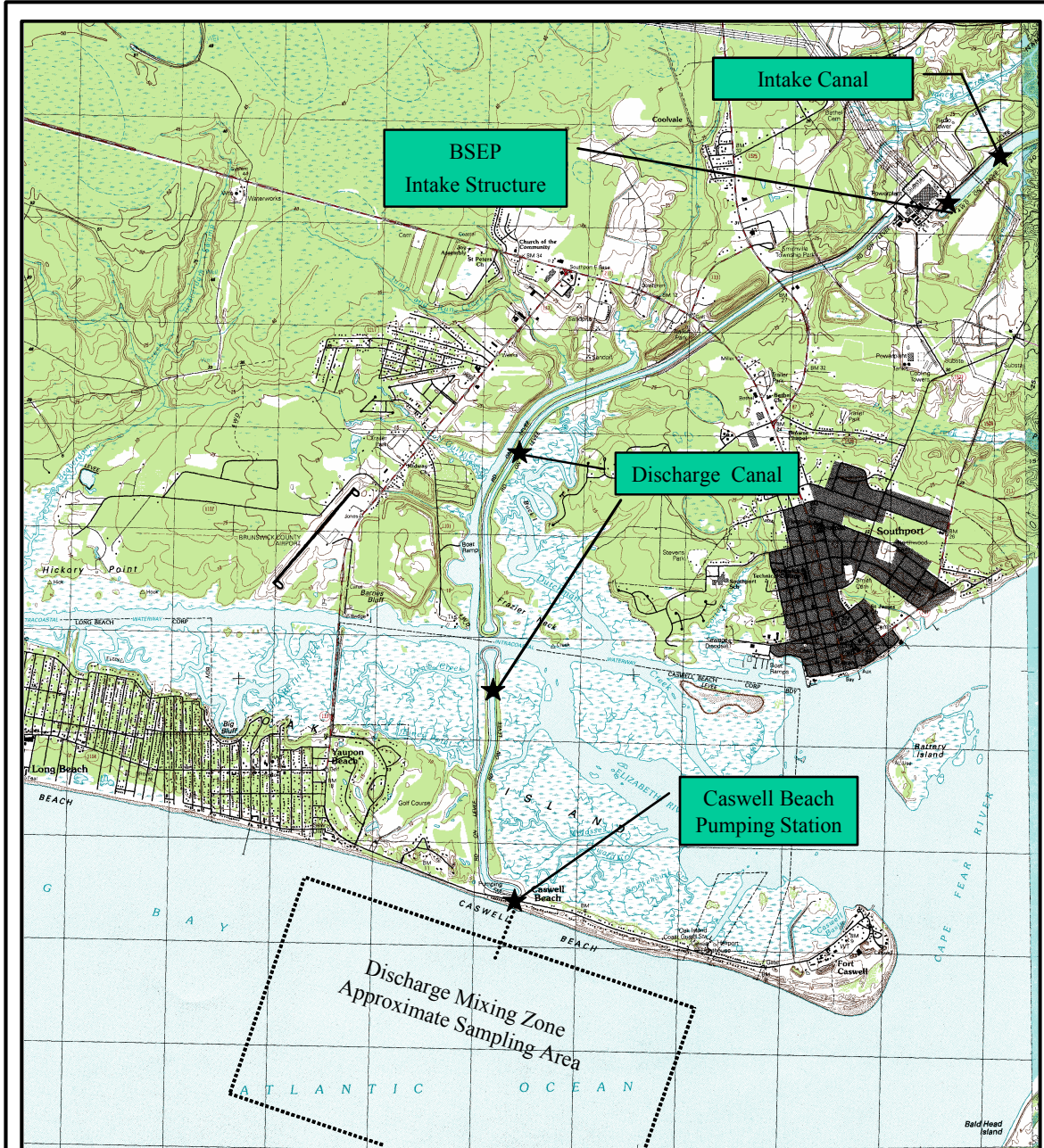
Latitude: 33° 53' 31" N	State Grid/Quad: L 26 NE / Southport, NC
Longitude: 78° 03' 22" W	Permitted Flow: 1900 MGD
Receiving Stream: Atlantic Ocean	Drainage Basin: Cape Fear River Basin
Stream Class: SB	Sub-Basin: 03-06-17



Facility
Location
not to scale



NPDES Permit No. NC0007064
Brunswick County



Brunswick Steam Electric Plant
Intake and Discharge Infrastructure

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Facility
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