



June 30, 2005

Charles Terreni
Chief Clerk and Administrator
South Carolina Public Service Commission
Post Office Drawer 11649
Columbia, South Carolina 29211

Re: Progress Energy Carolinas' 2004 Resource Plan
Docket No. 2005-_____-E

Dear Mr. Terreni:

Pursuant to Section 58-37-40 of the Code of Laws of South Carolina, Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc. hereby submits for filing an original and ten copies of its 2005 Resource Plan. We are also enclosing one extra copy to be stamped and returned.

Sincerely,

A handwritten signature in black ink, appearing to read 'Len S. Anthony', written over a large, stylized, handwritten flourish.

Len S. Anthony
Deputy General Counsel - Regulatory Affairs

Enclosures

c: Mitchell M. Perkins, State Energy Office
John Flitter, ORS

55006

Progress Energy Service Company, LLC
P.O. Box 1551
Raleigh, NC 27602

Progress Energy Carolinas Resource Plan



South Carolina Public Service Commission
Docket No.(tbd)
June 30, 2005

TABLE OF CONTENTS

Introduction.....	1
1. The demand and energy forecast for at least a 15-year period.....	2
2. The supplier's or producer's program for meeting the requirements shown in its forecast in an economic and reliable manner, including both demand-side and supply-side options.....	4
3. A brief description and summary of cost-benefit analysis, if available, of each option, which was considered, including those not selected.....	5
4. The supplier's and producer's assumptions and conclusions with respect to the effect of the plan on the cost and reliability of energy service, and a description of the external, environmental and economic consequences of the plan to the extent practicable.....	10

Appendices

- A. Resource Plan (Summer)
- B. Resource Plan (Winter)
- C. Levelized Busbar Costs - All Technologies (graph)
- D. Levelized Busbar Costs - Viable Technologies (graph)

INTRODUCTION

OWNERSHIP

Progress Energy Carolinas, Inc. (PEC) is a wholly owned subsidiary of Progress Energy, Inc. (Progress Energy), a registered holding company under the Public Utility Holding Company Act of 1935 (PUHCA), as amended. Progress Energy and its subsidiaries, including PEC, are subject to the regulatory provisions of the PUHCA. PEC is subject to the rules and regulations of the Federal Energy Regulatory Commission (FERC), the Public Service Commission of South Carolina (SCPSC) and the North Carolina Utilities Commission (NCUC).

AREA OF SERVICE

PEC distributes and sells electricity in 14 counties in northeastern South Carolina and 56 of the 100 counties in North Carolina. The territory served is an area of approximately 34,000 square miles, including an area in northeastern South Carolina, a substantial portion of the coastal plain of North Carolina extending to the Atlantic coast between the Pamlico River and the South Carolina border, the lower Piedmont section of North Carolina, and an area in western North Carolina in and around the city of Asheville. As of December 31, 2004, PEC was providing electric services, retail and wholesale, to approximately 1.4 million customers. Major wholesale power sales customers include North Carolina Eastern Municipal Power Agency (Power Agency or NCEMPA) and North Carolina Electric Membership Corporation (NCEMC).

TRANSMISSION / DISTRIBUTION

As of December 31, 2004, PEC had approximately 6,000 circuit miles of transmission lines including about 300 miles of 500-kilovolt (kV) lines and about 3,000 miles of 230 kV lines. PEC had distribution lines of approximately 45,000 circuit miles of overhead conductor and about 18,000 circuit miles of underground cable. Distribution line transformers numbered approximately 509,700 with an aggregate capacity of about 21,000,000 kVA.

TOTAL CAPACITY RESOURCE

PEC's eighteen generating plants represent a flexible mix of fossil, nuclear, hydroelectric, combustion turbines and combined cycle resources, with a current total summer generating capacity (including Power Agency's share) of 12,507 megawatts.

1. The demand and energy forecast for at least a 15-year period.

Peak Load and Energy Forecast

Methodology

PEC's forecasting processes have utilized econometric and statistical methods since the mid-70s. During this time enhancements have been made to the methodology as data and software have become more available and accessible. Enhancements have also been undertaken over time to meet the changing data needs of internal and external customers.

The System Peak Load Forecast is developed from the System Energy Forecast using a load factor approach. This load forecasting method couples the two forecasts directly, assuring consistency of assumptions and data. Class peak loads are developed from the class energy using individual class load factors. Peak load for the residential, commercial, and industrial classes are then adjusted for projected load management impacts. The individual loads for the retail classes, wholesale customers, NCEMPA, and Company Use are then totalized and adjusted for losses between generation and the customer meter to determine System Peak Load.

Wholesale sales and demands include a portion that will be provided by the Southeastern Power Administration (SEPA). NCEMPA sales and demands include power which will be provided under the joint ownership agreement with them.

Assumptions

Over the long term, growth in the standard of living, as reflected in personal income and Gross Domestic Product (GDP) per capita, is expected to slow modestly relative to recent history. The labor force can be predicted with some reliability because the working population for the early 21st century has already been born. Real dollar prices are used to enhance model reliability during periods of varying inflation. The forecast assumes that our customers will tend toward continuing energy efficiency in the future.

The forecast of system energy usage and peak load does not explicitly incorporate periodic expansions and contractions of business cycles, which are likely to occur from time to time during any long-range forecast period. While long-run economic trends exhibit considerable stability, short-run economic activity is subject to substantial variation. The exact nature, timing and magnitude of such short-term variations are unknown years in advance of their occurrence. The forecast, while it is a trended projection, nonetheless reflects the general long-run outcome of business cycles because actual historical data, which contain expansions and contractions, are used to develop the general relationships between economic activity and energy use. Weather normalized temperatures are assumed for the energy and system peak forecasts.

Forecast

The Company's Peak Load and Energy Forecast is given in the table below. Wholesale sales have become more uncertain due to the 1992 Energy Policy Act, subsequent FERC initiatives related to the wholesale market, the continuing evolution of the wholesale market and market conditions. As expectations for the various wholesale contracts change, those expectations are appropriately reflected in the wholesale forecast.

ANNUAL PEAK LOAD and ENERGY FORECAST		
Year	System Peak Load (MW)	PEC System Energy (MWh)
2005	11,780	62,278,424
2006	11,763	63,286,338
2007	11,792	64,604,074
2008	12,083	66,085,999
2009	12,284	67,184,839
2010	12,475	68,176,886
2011	12,698	69,365,283
2012	12,921	70,559,627
2013	13,137	71,712,499
2014	13,372	72,961,019
2015	13,611	74,221,250
2016	13,869	75,553,181
2017	14,117	76,845,835
2018	14,366	78,136,957
2019	14,623	79,465,336
2020	14,885	80,810,170

- 2. The supplier's or producer's program for meeting the requirements shown in its forecast in an economic and reliable manner, including both demand-side and supply-side options.**

See Appendices A and B.

3. A brief description and summary of cost-benefit analysis, if available, of each option, which was considered, including those not selected.

Screening of Generation Alternatives

Methodology

Progress Energy Carolinas periodically assesses various generating technologies to ensure that projections for new resource additions capture new and emerging technologies over the planning horizon. This analysis involves a preliminary screening of the generation resource alternatives based on commercial availability, technical feasibility, and cost.

First, the commercial availability of each technology is examined for use in utility-scale applications. For a particular technology to be considered commercially available, the technology must be able to be built and operated on an appropriate commercial scale in continuous service by or for an electric utility. Reasonable levels of detail for emerging technologies were developed to allow PEC to screen the technology options and to stay abreast of potential economic benefits as they mature.

Second, technical feasibility for commercially available technologies was considered to determine if the technology met PEC's particular generation requirements and whether it would integrate well into the PEC system. The evaluation of technical feasibility included the size, fuel type, and construction requirements of the particular technology and the ability to match the technology to the service it would be required to perform on the Carolinas system (e.g., baseload, intermediate, or peaking).

Finally, for each alternative, an estimate of the levelized cost of energy production, or "busbar" cost, was developed. Busbar analysis allows for the long-term economic comparison of capital, fuel, and O&M costs over the typical life expectancy of a future unit at varying capacity factor levels.

For the screening of alternatives, the data are generic in nature and thus not site specific. The costs and operating parameters are adjusted to reflect installation in the southeastern United States in current year dollars. The operating characteristics are based on state-of-the-art designs, and for most technologies the performance and costs are based on a specific unit size. Cost and performance projections were made with the assistance of EPRI's Technical Assessment Guide (TAG) software and internal PEC resources.

Capital and operating costs reflect the impact of known and emerging environmental requirements to the extent that such requirements can be quantified at this time. As these requirements and their impacts are more clearly defined in the future, capital and operating costs are subject to change. Such changes could alter the relative cost of one technology versus another and therefore result in the selection of different generating technologies for the future.

Cost and Performance

Categories of capacity alternatives that were reviewed as potential resource options included Conventional, Demonstrated, and Emerging technologies. ***Conventional*** technologies are mature, commercially available options with significant acceptance and operating experience in the utility industry. ***Demonstrated*** technologies are those where there is some recent commercial operating experience. ***Emerging*** technologies are still in the pilot, concept, or demonstration stage. In the most recent assessment, the following generation technologies were screened:

Conventional Technologies

Combined Cycle (CC)

- Nominal 240 MW, 1x1 configuration

- Nominal 473 MW, 2x1 configuration

Combustion Turbines (CT)

- Aeroderivative, non-augmented

- Aeroderivative, augmented (spray intercooled)

- Nominal 80 MW frame, non-augmented

- Nominal 170 MW frame, non-augmented

Pulverized Coal (PC)

- Sub-Critical

- Super-Critical

Demonstrated Technologies

- Atmospheric Fluidized Bed, Circulating (AFBC)

- Municipal Solid Waste (MSW)

- Refuse Tires (TIRES)

- Wind

- Wood

Emerging Technologies

- Coal Gasification/Combined Cycle (CGCC)

- Fuel Cell (FC)

- Solar Photovoltaic (PV)

- Nuclear Advanced Light Water Reactor (ALWN)

Of the technologies evaluated, not all are proven, mature, or commercially available. This is important to keep in mind when reviewing the data, as some options shown as low cost may *not* be commercially available or technically feasible as an option to meet resource plan needs and requirements at this time. In addition, the less mature a technology is the more uncertain and less accurate its cost estimate may be. As a result of this initial screening process, the following technologies were eliminated from further consideration by PEC, as discussed below.

Fuel cells appear to be competitive with the CC if projected cost reductions can be achieved, but they are currently still in the demonstration stage. Fuel cells can be assembled building block style to produce varying quantities of electric generation. However, as currently designed, a sufficient number of fuel cells cannot be practically assembled to create a source of generation comparable to other existing bulk generation technologies, such as CC. Further development of this technology is needed before it becomes viable as a resource option.

Generically, Wood, Municipal Solid Waste (MSW), and Refuse Tire Burning generation have high busbar costs, as well as potential environmental emission challenges. Currently, our plan does include power purchased from a wood waste facility and a municipal solid waste facility under the PURPA Qualifying Facilities provision. These technologies, as well as other renewables like Landfill Gas, will be evaluated for their economics on a case-by-case basis and included as a resource option if appropriate.

Coal Gasification-Combined Cycle (CGCC) appears to offer the potential to be competitive with other baseload generation technologies and has fewer environmental concerns. This technology, though, has only been demonstrated on a small scale at a handful of installations and is not commercially available at this time. With the possible need for new baseload generation in the future, PEC will continue to monitor the progress of this technology.

Nuclear Advanced Light Water reactors have moderately high capital costs but relatively low operating costs. Progress Energy recently joined the NuStart Energy Development consortium, which consists of eight other energy companies and two reactor vendors, to support the new construction and operating licensing process for advanced nuclear power reactors. The goal of this group is to get a new, advanced-reactor nuclear plant under construction by the year 2010. The Company continues to study the feasibility of baseload generation alternatives.

Wind projects have high fixed costs but essentially no operating costs. Therefore, at high enough capacity factors they could become economically competitive with the lower-cost technologies identified. However, geographic and atmospheric characteristics affect the ability of wind projects to achieve those capacity factors. Wind projects must be constructed in areas with high average wind speed. In general, wind resources in the southeast are limited. The average wind speed in the southeast is below 14 miles per hour and is not sufficient for wind projects to be an economic alternative. Because a wind project would not be expected to operate above 20-25% capacity factor in the Carolinas geographic area, it is not a viable alternative for intermediate duty. Further, because wind is not dispatchable, it is not a suitable alternative for peaking duty.

Solar photovoltaic (PV) projects are also technically constrained from achieving high capacity factors. In the southeast, they would be expected to operate at a capacity factor of approximately 20% making them unsuitable for intermediate or baseload duty cycles. At the lower capacity factors, they, like wind, are not dispatchable and therefore not

technically suited to provide reliable peaking capacity. Aside from their technical limitations, PV projects are not economically competitive generation technologies.

Although wind and solar projects are currently not viable options for meeting *reserve* requirements due to their relatively high cost and uncertain operating characteristics, they may play a future role in PEC's *energy* portfolio. External economic and non-economic forces, such as tax incentives, environmental regulations, federal or state policy directives, technological breakthroughs and consumer preferences through "green rates", may heavily drive these types of technologies. As part of PEC's regular planning cycle, changes to these external conditions are considered, as well as any technological changes, and will be continually evaluated for suitability as part of the overall resource plan.

For the technologies remaining, a more detailed economic analysis was performed. These technologies included atmospheric fluidized bed circulating, four types of simple-cycle combustion turbines, two configurations of combined cycle, and two types of pulverized coal

Appendix C provides an economic comparison of all technologies examined, regardless of their commercial availability, technical feasibility, or cost. Appendix D shows the technologies that are commercially available, technically feasible, and cost effective, making them viable generation alternatives in the Carolinas. This graph illustrates that, based on current planning assumptions, combustion turbines (CTs) are the most economical generation alternative for peaking duty cycles and combined cycle (CC) units are the preference for intermediate load operation. Appendix D also shows the potential for coal technologies to be cost competitive for base load operation. This relationship is dependent on projections for fuel prices, capital costs, and costs associated with environmental compliance. As discussed in Item 4, the Company continues to study the feasibility of baseload generation alternatives including gas-fired units, coal, and nuclear technologies. PEC will continue to refine its cost estimates and assess environmental compliance strategies to ensure the Company plans for the most economical and reliable generation additions.

Resource Optimization

While the type of analysis illustrated in Appendices C and D provides a valuable tool for a comparative screening of technologies, it does not address the specific needs of any particular resource plan. To develop a cost-effective resource plan, the type of generation added must be matched with a utility's particular load and energy requirements. This is accomplished by conducting resource optimization analyses.

The resource planning process incorporates the impact of all demand-side management programs on system peak load and total energy consumption, and optimizes supply-side options into a final, integrated optimal plan that will provide reliable and cost-effective electric service to its customers. PROVIEW, a module of New Energy Associates' STRATEGIST proprietary computer model, is used to conduct an economic evaluation of PEC's existing resource portfolio and viable capacity alternatives for satisfying reliability

requirements. The primary output of PROVIEW is a Cumulative Present Worth Revenue Requirements (CPWRR) comparison of all of the viable resource combinations. PROVIEW considers thousands of combinations of generation alternatives and ranks each of the resource combinations based on cost performance. PEC's "June 2005 South Carolina Resource Plan" is presented in Appendices A and B.

4. The supplier's and producer's assumptions and conclusions with respect to the effect of the plan on the cost and reliability of energy service, and a description of the external, environmental and economic consequences of the plan to the extent practicable.

Effect of plan on cost of energy service

As discussed in Item 3, the Company's resource planning process incorporates demand-side and supply-side resource options to produce an optimal plan for providing reliable and cost-effective electric service to its customers. PEC's current Resource Plan continues to provide reliable and cost-effective energy service. Future capacity additions included in this plan are consistent with previous plans and include combustion turbine (CT) and combined cycle (CC) capacity. The plan also includes renewal of operating licenses for the Company's Robinson, Brunswick, and Harris nuclear facilities.

Peaking resources such as combustion turbines are constructed and operated during peak load periods or emergency conditions. Combustion turbines have relatively low capital costs but higher operating costs than intermediate or base load generation, and are the most cost-effective new resource when a generator is needed to operate less than roughly 15% of the time. Combustion turbines can be started quickly in response to a sharp increase in customer demand and help supply power during cold winter mornings and hot summer afternoons. Combined cycle units, which consist of combustion turbines equipped with heat recovery steam generators, are the most cost-effective new resource when a generator is needed to provide intermediate service with capacity factors ranging from about 15% up to baseload operation. Combined cycle units have higher capital costs than peaking units, but lower operating costs. The heat recovery steam generator utilizes the hot exhaust gases from the combustion turbines to produce steam and generate additional megawatt hours by a steam turbine generator. Because waste exhaust gases from the combustion turbines power the steam turbine, no additional fuel is used to produce electricity from the steam turbine generator. The efficient operation of the combined cycle facility will burn less gas than a combustion turbine to produce a megawatt hour of generation, and will reduce generation produced by less efficient combustion turbines burning both gas and oil. These fuel savings will directly benefit ratepayers. Combined cycle facilities take several hours to start up and bring to full power output. These facilities are best utilized to operate at higher capacity factors than peaking units, and to respond to more predictable system load patterns.

PEC has recently completed power uprate projects at its nuclear facilities to increase electrical generation output. A power uprate was completed at the Harris Plant during 2001 and at the Robinson Nuclear Plant in 2002. A series of power uprate projects has been completed at the Brunswick Plant, with the last incremental uprate completed in the spring of 2005. These power uprate projects have added an estimated 274 MW of low cost nuclear generation to the PEC system.

Nuclear Regulatory Commission (NRC) operating licenses currently expire in December 2014 and September 2016 for Brunswick Units 2 and 1, respectively, in July 2010 for the Robinson unit and in October 2026 for the Harris Plant. A license renewal application for Brunswick Units 1 and 2 was submitted to the NRC in 2004 and the renewal application for Harris is expected to be made in 2006. The application to extend the Robinson license for 20 years to the year 2030 was approved in April 2004. Baseload nuclear capacity is typically fully loaded due to its low operating cost, except during times of forced outage or refueling. Extension of operating licenses for the Company's existing nuclear facilities will continue to provide approximately 3,500 MW of low cost generation, thereby offsetting higher cost fuel sources and providing continued benefits to ratepayers.

The Company continues to study the feasibility of baseload generation alternatives for the timeframe 2014 and beyond. The economics are driven by changes in fuel price assumptions, capital costs for permitting and constructing new facilities, and costs associated with environmental compliance. Baseload alternatives being assessed include not only gas-fired units but also coal and nuclear facilities. As previously mentioned, Progress Energy recently joined the NuStart Energy Development consortium, which consists of eight other energy companies and two reactor vendors, to support the new construction and operating licensing process for advanced nuclear power reactors. The goal of this group is to get a new, advanced-reactor nuclear plant under construction by the year 2010. PEC will continue to refine its cost and operating assumptions for baseload generation alternatives and environmental compliance strategies to ensure the Company plans for the most economical and reliable generation additions.

The Company's resource plan consisting of new combustion turbine and combined cycle capacity, in addition to existing low-cost nuclear and coal facilities, will continue to provide reliable and cost-effective generation to serve customer energy needs. Baseload generation alternatives will continue to be assessed to satisfy resource needs in the latter part of the planning horizon.

Effect of plan on reliability of energy service

The reliability of energy service is a primary input in the development of the Resource Plan. Utilities require a margin of generating capacity reserve available to the system in order to provide reliable service. Periodic scheduled outages are required to perform maintenance and inspections of generating plant equipment and to refuel nuclear plants. Unanticipated mechanical failures may occur at any given time, which may require shutdown of equipment to repair failed components. Adequate reserve capacity must be available to accommodate these unplanned outages and to compensate for higher than projected peak demand due to forecast uncertainty and weather extremes. In addition, some capacity must also be available as operating reserve to maintain the balance between supply and demand on a real-time basis.

The amount of generating reserve needed to maintain a reliable power supply is a function of the unique characteristics of a utility system including load shape, unit sizes, capacity mix, fuel supply, maintenance scheduling, unit availabilities, and the strength of

the transmission interconnections with other utilities. There is no one standard measure of reliability that is appropriate for all systems since these characteristics are particular to each individual utility.

Reliability Criteria

PEC employs both deterministic and probabilistic reliability criteria in its resource planning process. The Company establishes a reserve criterion for planning purposes based on probabilistic assessments of generation reliability, industry practice, historical operating experience, and judgment.

PEC conducts multi-area probabilistic analyses to assess generation system reliability in order to capture the random nature of system behavior and to incorporate the capacity assistance available through interconnections with other utilities. Decision analysis techniques are also incorporated in the analysis to capture the uncertainty in system demand. Generation reliability depends on the strength of the interconnections, the generation reserves available from neighboring systems, and the diversity in loads throughout the interconnected area. Thus, the interconnected system analysis shows the overall level of generation reliability and reflects the expected risk of capacity deficient conditions for supplying load.

A Loss-of-Load Expectation (LOLE) of one day in 10 years continues to be a widely accepted criterion for establishing system reliability. PEC uses a target reliability of one day in ten years LOLE for generation reliability assessments. LOLE can be viewed as the expected number of days that load will exceed available capacity. Thus, LOLE indicates the number of days that a capacity deficient condition would occur, resulting in the inability to supply some portion of customer demand. Results of the probabilistic assessments are correlated to appropriate deterministic measures of reliability, such as capacity margin or reserve margin, for use as targets in developing the Resource Plan. However, the real measure of reliability is the loss of load expectation.

Adequacy of Projected Reserves

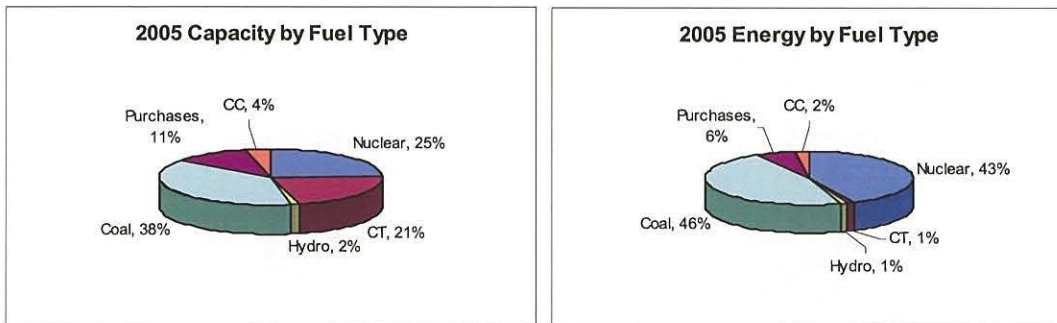
Reliability assessments have shown that reserves projected in PEC's Resource Plan are appropriate for providing an adequate and reliable power supply. The Company's Resource Plan reflects capacity margins in the range of approximately 11% to 15%, corresponding to reserve margins of approximately 13% to 18%. It should be noted that actual reserves as measured by megawatts of installed capacity continue to increase as load and the size of the system increase.

The reliability of PEC's generating system has significantly improved over the past several years. The addition of smaller and highly reliable CT capacity increments to the company's resource mix improve the reliability and flexibility of the PEC fleet in responding to increased load requirements. Since 1996, PEC has added approximately 3,300 MW of new combustion turbine and combined cycle capacity to system resources, either through new construction or purchased power contracts. Shorter construction lead times for building new combustion turbine and combined cycle power plants allow

greater flexibility to respond to changes in capacity needs and thus reduce exposure to load uncertainty. The Company's Resource Plan includes approximately 1,475 MW of additional new CT and CC capacity by 2011. Performance of PEC's existing nuclear and fossil fleet has greatly improved over the past few years, which has also significantly contributed to improved system reliability. All of these factors combine to ensure the Company's ability to provide an adequate and reliable power supply.

Figure 1 below shows PEC's capacity (MW) and energy (MWh) by fuel type projected for 2005. Nuclear and coal generation currently make-up approximately 63% of total capacity resources, yet account for about 89% of total energy requirements. Gas and oil generation accounts for about 25% of total supply capacity, yet only 3% of total energy.

Figure 1



The Company's capacity and energy by fuel type projected for 2011 are shown in Figure 2 below. Gas and oil resources are projected to increase to about 32% of total supply capacity, while only serving about 8% of the total energy requirements. In 2011, nuclear and coal are projected to account for approximately 58% of total capacity resources and serve about 88% of total system energy requirements. Thus, even though new capacity consists primarily of CT and CC units fueled by natural gas and oil, nuclear and coal resources will continue to account for the largest share of system capacity (MW) and satisfy most of the system energy (MWh) requirements.

Figure 2



Based on PEC's forecasted load and resources in the current Resource Plan, LOLE is expected to be within the reliability target of one day in ten years. The resources including reserves in the current plan are expected to continue to provide a reliable power supply.

Environmental consequences of plan

PEC's Resource Plan relies to a large extent on the use of gas-fired combustion turbines and combined cycle units. These units are the most environmentally benign, economical, large-scale capacity additions available. The new, advanced designs of these technologies are more efficient (as measured by heat rate) than previous designs, resulting in a smaller impact on the environment. Combined cycle generation, which utilizes the waste exhaust gases from the combustion turbines to produce additional electricity, is the cleanest and most efficient fossil-fueled generation currently available. The energy provided by combined cycle generation will have minimal environmental impact. The plan also includes renewal of operating licenses for the Company's existing nuclear facilities for continued operation of nuclear generation with essentially no air emissions impact. The Company's Resource Plan also reflects capacity derates to some of its coal-fired facilities in order to install controls necessary to ensure compliance with new environmental regulations. Progress Energy Carolinas continues to study and optimize its generation fleet to ensure economical operation and to minimize impact on the environment.

APPENDIX A

Progress Energy - Carolinas

June 2005 South Carolina Resource Plan Filing (Summer)

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
GENERATION ADDITIONS																
Wayne County CT				155												
Western Region						240										
Scrubber Derates		(18)	(31)	(39)	(38)			(5)	(16)							
Undesignated (1)					304	304	473	473	152	304	304	152	500		652	
INSTALLED GENERATION																
Combustion Turbine	2,975	2,975	2,975	3,130	3,130	3,130	3,130	3,130	3,130	3,130	3,130	3,130	3,130	3,130	3,130	3,130
Combined Cycle	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556
Fossil	5,285	5,267	5,236	5,197	5,159	5,159	5,159	5,154	5,138	5,138	5,138	5,138	5,138	5,138	5,138	5,138
Hydro	218	218	218	218	218	218	218	218	218	218	218	218	218	218	218	218
Nuclear	3,473	3,473	3,473	3,473	3,473	3,473	3,473	3,473	3,473	3,473	3,473	3,473	3,473	3,473	3,473	3,473
Undesignated (1)					304	848	1,321	1,794	1,946	2,250	2,554	2,706	3,206	3,206	3,858	3,858
PURCHASES & OTHER RESOURCES																
SEPA	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
NUG QF - Cogen	321	321	257	257	257	98	98	98	68	68	68	68	68	68	68	68
NUG QF - Renewable	61	16	16	16	9											
AEP/Rockport 2	250	250	250	250	250											
Broad River CT	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817
TOTAL SUPPLY RESOURCES	14,066	14,003	13,908	14,024	14,282	14,408	14,881	15,349	15,455	15,759	16,063	16,215	16,715	16,715	17,367	17,367
PEAK DEMAND																
Retail	8,651	8,851	9,042	9,223	9,385	9,568	9,754	9,937	10,112	10,304	10,499	10,712	10,917	11,123	11,338	11,600
Wholesale	3,129	2,912	2,750	2,860	2,899	2,907	2,944	2,984	3,025	3,068	3,112	3,157	3,200	3,243	3,285	3,285
SYSTEM PEAK LOAD	11,780	11,763	11,792	12,083	12,284	12,475	12,698	12,921	13,137	13,372	13,611	13,869	14,117	14,366	14,623	14,885
Firm Sales	135	585	450	300	300	300	300	300	300	300	300	300	300	300	300	300
FIRM OBLIGATION	11,915	12,348	12,242	12,383	12,584	12,775	12,998	13,221	13,437	13,672	13,911	14,169	14,417	14,666	14,923	15,185
Large Load Curtailment	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317
Voltage Reduction	57	58	60	61	62	63	64	65	67	67	69	71	72	73	75	75
TOTAL LOAD	12,289	12,723	12,619	12,761	12,963	13,155	13,379	13,603	13,821	14,056	14,297	14,557	14,806	15,056	15,315	15,577
RESERVES (2)																
Capacity Margin (3)	15%	12%	12%	12%	12%	11%	13%	14%	13%	13%	13%	13%	14%	12%	14%	13%
Reserve Margin (4)	18%	13%	14%	13%	13%	13%	14%	16%	15%	15%	15%	14%	16%	14%	16%	14%
ANNUAL SYSTEM ENERGY (GWh)	62,278	63,286	64,604	66,086	67,185	68,177	69,365	70,560	71,712	72,961	74,221	75,553	76,846	78,137	79,465	80,810

Notes:

- 1) For planning purposes only; does not indicate a commitment to type, amount or ownership.
- 2) Reserves = Total Supply Resources - Firm Obligations
- 3) Capacity Margin = Reserves / Total Supply Resources * 100.
- 4) Reserve Margin = Reserves / Firm Obligations * 100.

APPENDIX B

Progress Energy - Carolinas

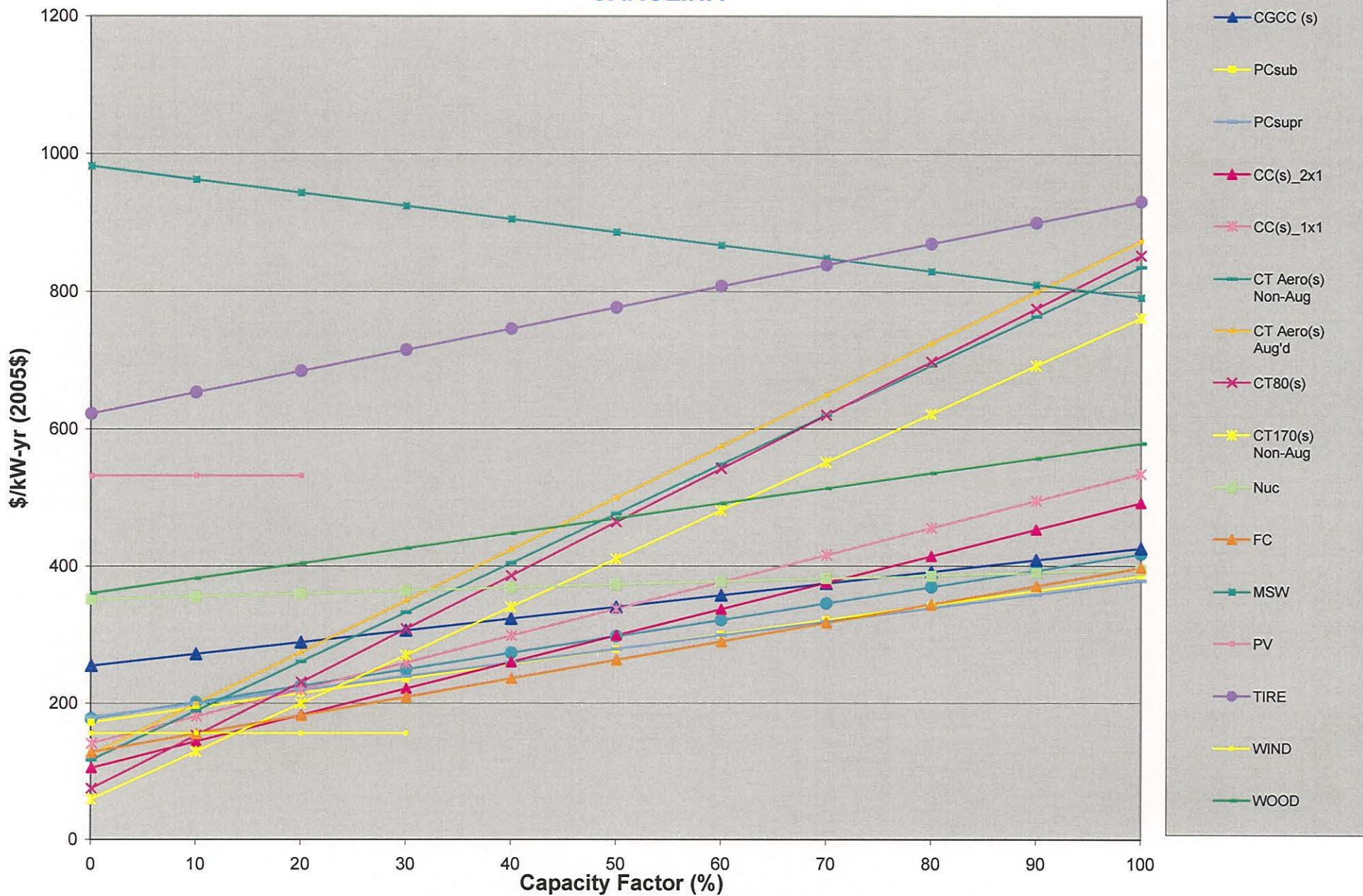
June 2005 South Carolina Resource Plan Filing (Winter)

	<u>05/06</u>	<u>06/07</u>	<u>07/08</u>	<u>08/09</u>	<u>09/10</u>	<u>10/11</u>	<u>11/12</u>	<u>12/13</u>	<u>13/14</u>	<u>14/15</u>	<u>15/16</u>	<u>16/17</u>	<u>17/18</u>	<u>18/19</u>	<u>19/20</u>
GENERATION ADDITIONS															
Wayne County CT				180											
Western Region					282										
Scrubber Derates	(8)	(10)	(45)	(41)	(22)		(5)	(16)							
Undesignated (1)					388	388	555	749		388	388	194	500	194	500
INSTALLED GENERATION															
Combustion Turbine	3,474	3,474	3,474	3,654	3,654	3,654	3,654	3,654	3,654	3,654	3,654	3,654	3,654	3,654	3,654
Combined Cycle	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648
Fossil	5,361	5,351	5,306	5,265	5,243	5,243	5,238	5,222	5,222	5,222	5,222	5,222	5,222	5,222	5,222
Hydro	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216
Nuclear	3,493	3,493	3,493	3,493	3,493	3,493	3,493	3,493	3,493	3,493	3,493	3,493	3,493	3,493	3,493
Undesignated (1)					670	1,058	1,613	2,362	2,362	2,750	3,138	3,332	3,832	4,026	4,526
PURCHASES & OTHER RESOURCES															
SEPA	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
NUG QF - Cogen	323	259	259	259	100	100	100	88	88	88	88	88	88	88	88
NUG QF - Renewable	13	13	13	5											
AEP/Rockport 2	250	250	250	250											
Broad River CT	842	842	842	842	842	842	842	842	842	842	842	842	842	842	842
TOTAL SUPPLY RESOURCES	14,729	14,655	14,610	14,741	14,975	15,363	15,913	16,614	16,614	17,002	17,390	17,584	18,084	18,278	18,778
PEAK DEMAND															
Retail	7,939	8,134	8,290	8,438	8,598	8,767	8,934	9,093	9,270	9,448	9,643	9,829	10,018	10,212	10,212
Wholesale	2,648	2,479	2,585	2,618	2,629	2,661	2,695	2,730	2,765	2,802	2,839	2,876	2,912	2,949	2,949
SYSTEM PEAK LOAD	10,587	10,613	10,875	11,056	11,227	11,428	11,629	11,823	12,035	12,250	12,482	12,705	12,930	13,161	13,161
Firm Sales	585	535	300	300	300	300	300	300	300	300	300	300	300	300	300
FIRM OBLIGATION	11,172	11,148	11,175	11,356	11,527	11,728	11,929	12,123	12,335	12,550	12,782	13,005	13,230	13,461	13,461
Large Load Curtailment	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317
Voltage Reduction	180	185	188	192	195	199	203	207	211	214	218	222	227	231	235
TOTAL LOAD	11,669	11,650	11,680	11,865	12,039	12,244	12,449	12,647	12,863	13,081	13,317	13,544	13,774	14,009	14,013
RESERVES (2)															
Capacity Margin (3)	3,557	3,507	3,435	3,385	3,448	3,635	3,984	4,491	4,279	4,452	4,608	4,579	4,854	4,817	5,317
Reserve Margin (4)	24%	24%	24%	23%	23%	24%	25%	27%	26%	26%	26%	26%	27%	26%	28%

Notes:

- 1) For planning purposes only; does not indicate a commitment to type, amount or ownership
- 2) Reserves = Total Supply Resources - Firm Obligations
- 3) Capacity Margin = Reserves / Total Supply Resources * 100
- 4) Reserve Margin = Reserves / Firm Obligations * 100.

APPENDIX C Levelized Busbar Cost for All Technologies *CAROLINA*



APPENDIX D

Levelized Busbar Cost for Viable Technologies

CAROLINA

