



June 28, 2002

The Honorable Gary E. Walsh
Executive Director
South Carolina Public Service Commission
Post Office Drawer 11649
Columbia, South Carolina 29211

Re: Carolina Power & Light Company's 2001 Resource Plan
Docket No. 2001-265-E

Dear Mr. Walsh:

Pursuant to Section 58-37-40 of the Code of Laws of South Carolina, Carolina Power & Light Company hereby submits for filing an original and ten copies of its 2002 Short-Term Action Plan. We are also enclosing one extra copy to be stamped and returned.

Sincerely,

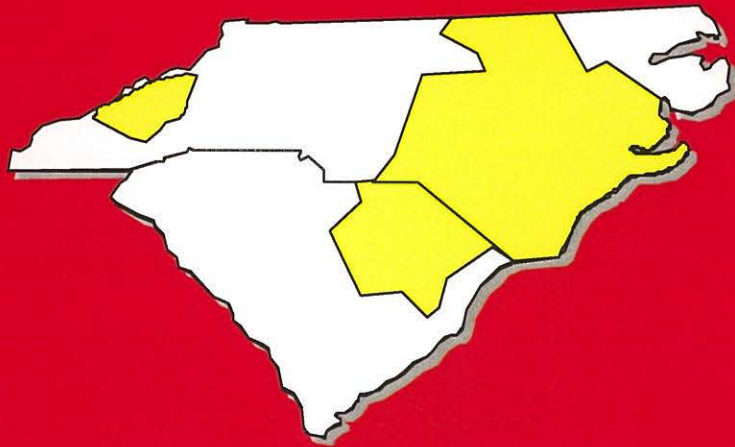
A handwritten signature in cursive script that reads 'B. Mitchell Williams'.

B. Mitchell Williams
Supervisor, Regulatory Affairs

BMW
Enclosures
c: Mr. Mitchell M. Perkins, State Energy Office

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Short-Term Action Plan



South Carolina Public Service Commission
Docket No. 2001-265-E
June 30, 2002

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INTRODUCTION

Carolina Power & Light Company, a subsidiary of Progress Energy, provides electric power to approximately 1.3 million customers in a 33,000 square mile area. The service area covers much of eastern and central North Carolina, the Asheville area in western North Carolina, and the northeast quadrant of South Carolina.

To provide a reliable, safe and economic supply of electricity for those customers, CP&L annually develops long-term forecasts of system energy sales and peak loads, and reviews and revises capacity addition plans. Further, the states of North Carolina and South Carolina each have in place rules requiring the filing of specific information regarding CP&L's resource plans. This report presents CP&L's current Resource Plan and contains the information required in the South Carolina resource plan filings.

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

Peak Load and Energy Forecast

Methods

CP&L'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 forecast 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. Fayetteville Public Works Commission Replacement Interchange Contract is then added to the System Peak Load to determine Net Internal 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. Also included in the forecast is a replacement interchange contract of approximately 230 MW with the Fayetteville Public Works Commission (FPWC) instituted in July 1994; this contract will expire on July 1, 2003. On January 1, 1996, NCEMC began receiving service for 200 MW of load from another supplier. This portion of NCEMC load is not included in the forecast.

Summaries of the Peak Load and Energy Forecast are provided in the following table. Peak load and energy data presented in the table is at generation level. The table provides both CP&L's **System Forecast** and **Net Internal Forecast**. CP&L's **System Forecast** *does not include* power provided under the Company's replacement interchange contract with the Fayetteville Public Works Commission (FPWC). CP&L's **Net Internal Forecast** *does include* the FPWC replacement interchange contract. CP&L System and CP&L Net Internal peak load forecasts assume the use of all load management capability at the time of system peak.

Forecast Assumptions

Generally, 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 levels. 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.

PEAK LOAD and ENERGY FORECAST				
(Annual Peak Load and Energy at Expected Peaking Temperatures)				
Year	System Peak Load (MW)	Fayetteville Replacement (MW)	Net Internal Demand (MW)	Net Internal Energy (MWh)
2002	11,303	230	11,533	59,524,404
2003	11,531	0	11,531	61,035,164
2004	11,582	0	11,582	60,597,297
2005	11,933	0	11,933	61,754,676
2006	12,203	0	12,203	63,354,955
2007	12,439	0	12,439	65,036,653
2008	12,714	0	12,714	66,657,416
2009	12,937	0	12,937	68,190,692
2010	13,199	0	13,199	69,776,392
2011	13,449	0	13,449	71,311,911
2012	13,705	0	13,705	72,793,807
2013	13,955	0	13,955	74,300,323
2014	14,204	0	14,204	75,796,164
2015	14,458	0	14,458	77,346,951
2016	14,705	0	14,705	78,812,843
2017	14,954	0	14,954	80,540,367

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 option.**

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.

The utility industry continues to experience significant changes that challenge the planning process for providing the resources needed to meet growing electricity demands. Industry and environmental regulations plus increasing competition in the wholesale power market are some of the issues that face utilities. In order to make sound resource planning decisions, it is necessary to assess the costs of future generation technologies. To conduct such an assessment, CP&L develops a consistent and documented database of future technologies for use in the Company's planning studies.

In the most recent assessment, thirteen (13) technologies were analyzed. These included conventional generation technologies that utilize non-renewable resources, advanced generation technologies that are still being developed, and alternative technologies that utilize renewable sources of energy. Specifically, the following technologies were evaluated:

Conventional Technologies

- Pulverized Coal (PC)
- Combustion Turbine (CT)
- Combined Cycle (CC)

Advanced Technologies

- Atmospheric Fluidized Bed Combustion (AFBC)
- Pressurized Fluidized Bed Combustion (PFBC)
- Coal Gasification/Combined Cycle (CGCC)
- Advanced Light Water Nuclear (ALWN)
- Fuel Cell (FC)

Alternative Technologies

- Municipal Solid Waste (MSW)
- Solar Photovoltaic (PV)
- Refuse Tires (TIRE)
- Wind
- Wood

Of the thirteen technologies evaluated and shown in Appendix C, only eight (8) are commercially available at this time and only three (3) of those are mature, proven technologies. This is important to keep in mind when reviewing the data, as some of the options shown as low cost, such as the solid oxide fuel cell, may not be commercially available or technically feasible as a generation option at this time. Also, the less mature a technology is, the more uncertain and less accurate its cost estimates may be.

Busbar costs allow for comparison of fixed and operating costs of all technologies over different operating levels. This analysis is done using the spreadsheet program

COMPETE. It compares the long-term economics of future power plants and reports the busbar costs by capacity factor. Data input to COMPETE for each technology includes fixed and variable O&M, fuel, construction costs, and the levelized fixed charge rate.

Except in cases where data specific to CP&L and its service territory were obtained, the data presented are **generic** in nature and thus not site specific. The costs and operating parameters are adjusted to reflect installation in the southeastern United States. The operating characteristics are based on state-of-the-art designs, with some of the advanced and renewable resource technologies *not* being currently available commercially. The primary source of information in developing the database is the EPRI Technical Assessment Guide (TAG) database.

Appendix C provides an economic comparison of all technologies examined, regardless of their technical feasibility. 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, the geographic and atmospheric characteristics of the Carolinas limit the ability of wind projects to achieve those capacity factors. Wind projects must be constructed in areas with high average wind speed. Studies conducted by NCAEC (North Carolina Alternative Energy Corporation) and Pacific Northwest Laboratory examined the potential for wind projects in North Carolina and determined that only a limited number of locations exist with potentially sufficient wind speed and that those locations are likely not available for commercial operations. 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 to the CC for intermediate duty. Further, because wind is not dispatchable, it is not a suitable alternative to the CT for peaking duty.

Similar to wind projects, solar photovoltaic (PV) projects are also technically constrained from achieving higher capacity factors. In the Carolinas they would be expected to operate at approximately 20% capacity factor making them unsuitable for intermediate or higher 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 as is apparent in Appendix C.

Although fuel cells appear to be competitive with the CC if projected cost reductions can be achieved, 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.

Appendix D provides the most recent busbar cost comparison of technologies that are commercially available, cost effective, and technically feasible, making them viable generation alternatives in the Carolinas. This graph illustrates that the combustion

turbine (CT) is the most economical generation alternative for peaking duty cycles, and the combined cycle (CC) is the preference for intermediate and base load operation. Combustion turbines and combined cycles also have the lowest overnight capital costs.

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

CP&L's Resource Plan (RP) is not significantly different from previous plans. This Plan continues to be a plan that provides low cost energy service. The RP contains additions of combustion turbine (CT) and combined cycle (CC) units, and also capacity uprates to the Robinson and Brunswick nuclear plants.

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 approximately 20% 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 operate more than approximately 20% of the time. 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 the steam turbine is powered by waste exhaust gases from the combustion turbines, 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 and are best utilized to operate at higher capacity factors and respond to the more predictable system load patterns.

The Company's resource plan also includes approximately 200 MW of additional baseload capacity as a result of planned modifications to uprate the Robinson and Brunswick nuclear facilities. Baseload nuclear capacity is typically fully loaded due to its low operating cost, except during times of forced outage or refueling. This additional nuclear generation will offset higher cost fuel sources providing further benefits to ratepayers. The Company's resource plan consisting of additional nuclear capacity and 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.

Effect of plan on reliability of energy service

The reliability of energy service is a primary input in the development of the RP. This Plan provides for a reliable supply of electricity.

Carolina Power & Light Company employs both deterministic and probabilistic reliability criteria in the 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 judgement. Probabilistic assessments are significant because they capture the random nature of system behavior such as generator equipment failures and load variation.

CP&L conducts multi-area probabilistic analyses to assess generation system reliability. A multi-area analysis takes into consideration the capacity assistance available through interconnections with neighboring electric utilities. Decision analysis techniques are also incorporated in the analysis to capture load uncertainty. Generating reliability depends on the strength of the interconnections, the generation reserves available from the neighboring systems, and also 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 is a widely accepted criterion for establishing system reliability. CP&L 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 the 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 customer demand. Results of the probabilistic assessments are correlated to appropriate deterministic measures such as capacity margin for use in developing the resource plan.

Reliability assessments have shown that reserves projected in CP&L's RP are appropriate for providing an adequate and reliable power supply. Reserves expressed as margin percentages are lower than historical levels due to a number of factors. However, the lower percentages do not equate to decreased reliability. Actual reserves as measured by MW of installed capacity have continued to increase as load and the size of the system have grown. Since 1996 CP&L has added over 3,200 MW of new combustion turbine and combined-cycle capacity to system resources, either through new construction or purchased power contracts. CP&L plans to add approximately 600 MW of additional new capacity by 2007. CP&L also plans to add about 200 MW of additional baseload capacity by 2005 as a result of planned modifications to uprate the Robinson and Brunswick nuclear facilities. Growth of the generating system and the addition of smaller and highly reliable CT capacity increments to the company's resource mix decrease the capacity margin percentage needed to maintain adequate reliability. 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. Performance of CP&L'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 favorably reduce the reserve margin percentage needed to ensure adequate reliability. Based upon CP&L'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. Thus, the reserves included in the current plan are expected to provide adequate reliability.

Environmental consequences of plan

The 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 Plan also contains more than 200 MW of nuclear additions through the uprating of the Robinson and Brunswick plants. These additions will provide a significant amount of energy with virtually no environmental impact.

CAROLINA POWER & LIGHT CO.
June 2002 Resource Plan (SUMMER)

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<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>
GENERATION ADDITIONS																
Richmond Co. CT	465			155		310										
Richmond Co. ST	162			162												
Robinson NP Uprate		20														
Brunswick NP Uprate		67	63	58												
Undesignated Capacity (1)							155	310	480	310	310	170	310	310	170	310
INSTALLED GENERATION																
Combustion Turbine	2,975	2,975	2,975	2,820	2,820	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	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,028
Hydro	218	218	218	218	218	218	218	218	218	218	218	218	218	218	218	218
Fossil Steam	5,285	5,285	5,285	5,285	5,285	5,285	5,285	5,285	5,285	5,285	5,285	5,285	5,285	5,285	5,285	5,285
Nuclear	3,214	3,301	3,364	3,422	3,422	3,422	3,422	3,422	3,422	3,422	3,422	3,422	3,422	3,422	3,422	3,422
Undesignated Capacity (1)	-	-	-	-	-	-	155	465	945	1,255	1,565	1,735	2,045	2,355	2,525	2,835
PURCHASES & OTHER RESOURCES																
SEPA	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
NUG Renewable	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
NUG Cogeneration	231	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
Fayetteville	283															
AEP/Rockport 2	250	250	250	250	250	250	250	250								
PECO Purchase (2)	300	300														
Broad River CT	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782
TOTAL SUPPLY RESOURCES	14,273	13,914	13,677	14,052	14,052	14,362	14,517	14,827	15,057	15,367	15,677	15,847	16,157	16,467	16,637	16,947
PEAK DEMAND																
CP&L Retail	8,233	8,455	8,677	8,911	9,145	9,336	9,567	9,752	9,974	10,184	10,400	10,610	10,820	11,033	11,241	11,448
CP&L Wholesale	3,070	3,076	2,905	3,022	3,058	3,103	3,147	3,185	3,225	3,265	3,305	3,345	3,384	3,425	3,464	3,506
SYSTEM PEAK LOAD	11,303	11,531	11,582	11,933	12,203	12,439	12,714	12,937	13,199	13,449	13,705	13,955	14,204	14,458	14,705	14,954
Fayetteville Replacement	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Firm Contract Sales	950	750	550	550	100	-	-	-	-	-	-	-	-	-	-	-
FIRM OBLIGATIONS	12,483	12,281	12,132	12,483	12,303	12,439	12,714	12,937	13,199	13,449	13,705	13,955	14,204	14,458	14,705	14,954
Large Load Curtailment	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322
Voltage Reduction	50	52	53	54	56	57	59	60	61	63	64	65	66	66	69	69
TOTAL LOAD	12,855	12,655	12,507	12,859	12,681	12,818	13,095	13,319	13,582	13,834	14,091	14,342	14,592	14,846	15,096	15,345
RESERVES (3)	1,790	1,633	1,545	1,569	1,749	1,923	1,803	1,890	1,858	1,918	1,972	1,892	1,953	2,009	1,932	1,993
CAPACITY MARGIN (4)	12.5%	11.7%	11.3%	11.2%	12.4%	13.4%	12.4%	12.7%	12.3%	12.5%	12.6%	11.9%	12.1%	12.2%	11.6%	11.8%
RESERVE MARGIN (5)	14.3%	13.3%	12.7%	12.6%	14.2%	15.5%	14.2%	14.6%	14.1%	14.3%	14.4%	13.6%	13.8%	13.9%	13.1%	13.3%

NOTES:

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

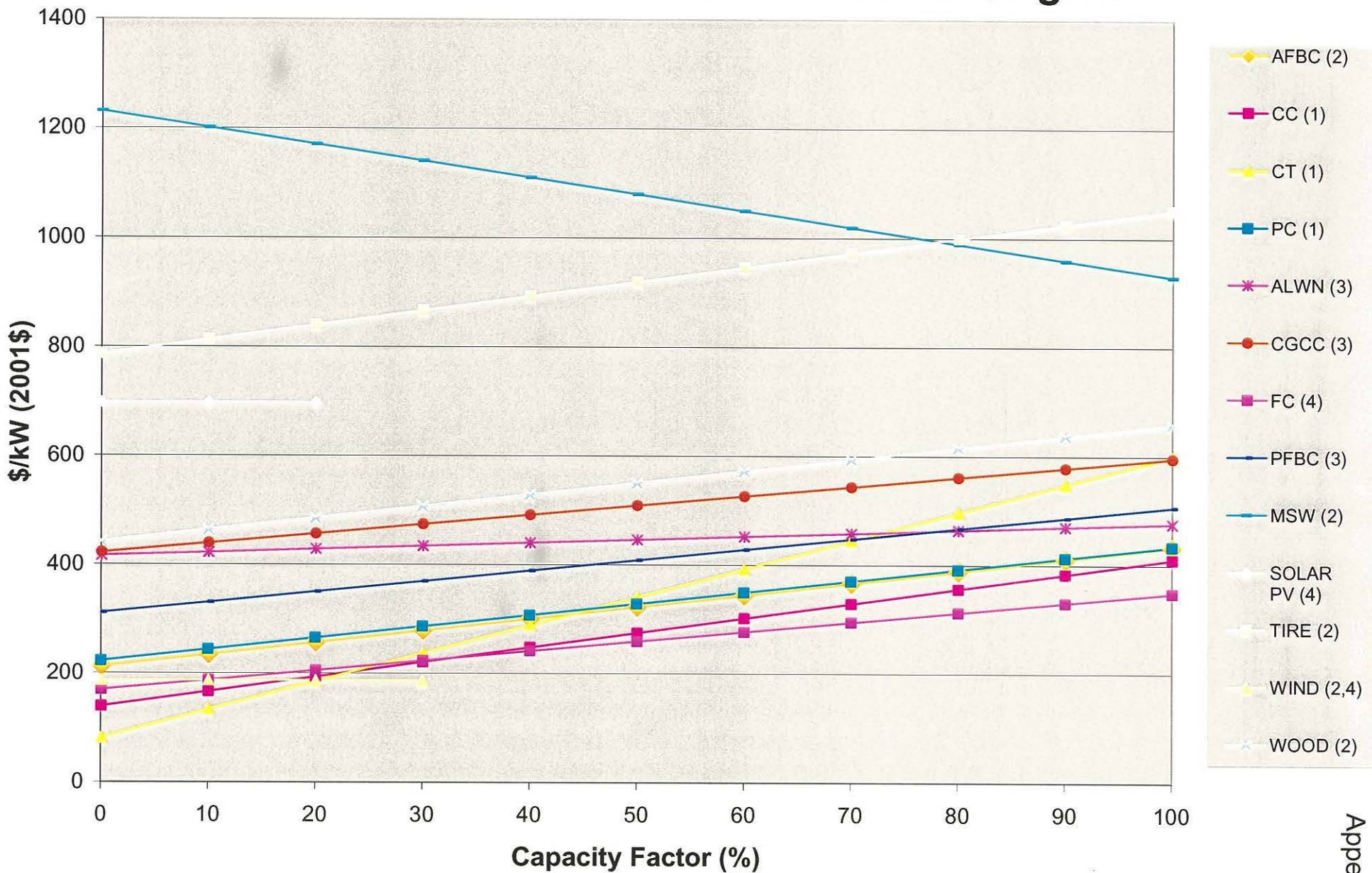
CAROLINA POWER & LIGHT CO.
June 2002 Resource Plan (WINTER)

	<u>02/03</u>	<u>03/04</u>	<u>04/05</u>	<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>
GENERATION ADDITIONS																
Richmond Co. CT	540			180		360										
Richmond Co. ST	182			182												
Robinson NP Uprate	20															
Brunswick NP Uprate	32	35	63	58												
Undesignated Capacity (1)							178	356	552	356	356	196	356	356	196	356
INSTALLED GENERATION																
Combustion Turbine	3,474	3,474	3,474	3,294	3,294	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	1,190	1,190	1,190	1,190	1,190	1,190	1,190	1,190	1,190	1,190	1,190	1,190	1,190
Hydro	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216
Fossil Steam	5,369	5,369	5,369	5,369	5,369	5,369	5,369	5,369	5,369	5,369	5,369	5,369	5,369	5,369	5,369	5,369
Nuclear	3,301	3,336	3,399	3,457	3,457	3,457	3,457	3,457	3,457	3,457	3,457	3,457	3,457	3,457	3,457	3,457
Undesignated Capacity (1)	-	-	-	-	-	-	178	534	1,086	1,442	1,798	1,994	2,350	2,706	2,902	3,258
PURCHASES & OTHER RESOURCES																
SEPA	109	109	109	109	109	109	109	109	109	109	109	109	109	109	110	111
NUJG Renewable	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
NUJG Cogeneration	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
Fayetteville	285															
AEP/Rockport 2	250	250	250	250	250	250	250									
Broad River CT	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850
TOTAL SUPPLY RESOURCES	14,637	14,387	14,450	14,870	14,870	15,230	15,408	15,514	16,066	16,422	16,778	16,974	17,330	17,686	17,883	18,240
PEAK DEMAND																
CP&L Retail	7,652	7,814	8,049	8,265	8,439	8,649	8,817	9,019	9,212	9,408	9,603	9,792	9,987	10,177	10,367	10,563
CP&L Wholesale	2,726	2,610	2,691	2,718	2,756	2,793	2,826	2,860	2,892	2,926	2,957	2,992	3,025	3,058	3,091	3,127
SYSTEM PEAK LOAD	10,378	10,424	10,740	10,983	11,195	11,442	11,643	11,879	12,104	12,334	12,560	12,784	13,012	13,235	13,458	13,690
Fayetteville Replacement	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Firm Contract Sales	850	550	550	100	-	-	-	-	-	-	-	-	-	-	-	-
FIRM OBLIGATIONS	11,458	10,974	11,290	11,083	11,195	11,442	11,643	11,879	12,104	12,334	12,560	12,784	13,012	13,235	13,458	13,690
Large Load Curtailment	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322
Voltage Reduction	172	176	181	185	190	195	200	204	209	215	219	223	228	228	228	228
TOTAL LOAD	11,952	11,472	11,793	11,590	11,707	11,959	12,165	12,405	12,635	12,871	13,101	13,329	13,562	13,785	14,008	14,240
RESERVES (2)	3,179	3,413	3,160	3,787	3,675	3,788	3,765	3,635	3,962	4,088	4,218	4,190	4,318	4,451	4,425	4,550
CAPACITY MARGIN (3)	21.7%	23.7%	21.9%	25.5%	24.7%	24.9%	24.4%	23.4%	24.7%	24.9%	25.1%	24.7%	24.9%	25.2%	24.7%	24.9%
RESERVE MARGIN (4)	27.7%	31.1%	28.0%	34.2%	32.8%	33.1%	32.3%	30.6%	32.7%	33.1%	33.6%	32.8%	33.2%	33.6%	32.9%	33.2%

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.

Levelized Busbar Costs of All Technologies



(1) Commercially Available & Mature (2) Commercially Available (3) Not Commercially Available (4) Not Technically Feasible

Levelized Busbar Costs of Viable Technologies

