Carolina Power & Light Company
Legal Department/CPB 13A2
PO Box 1551
Raleigh NC 27602-1551

June 30, 2000

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

Re: Carolina Power & Light Company's 2000 Short-Term Action Plan
Docket No. 98-434-E

Dear Mr. Walsh:

Pursuant to the Public Service Commission's Order No. 98-502 issued in Docket No. 87-223-E, Carolina Power & Light Company hereby submits for filing an original and ten copies of its 2000 Short-Term Action Plan. We are also enclosing one extra copy to be stamped and returned.

Sincerely,

B. Mitchell Williams (by D.H.S.)

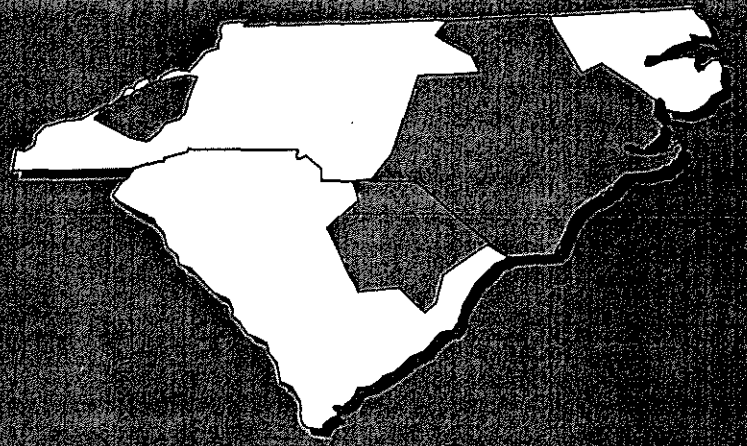
B. Mitchell Williams
Manager, Regulatory Affairs

BMW
Enclosures
c: William F. Austin, Esq.
Serena D. Burch, Esq.
Elliott F. Elam, Jr., Esq.
Mr. Mitchell M. Perkins
William Larry Porter, Esq.
Garrett A. Stone, Esq.
55006

Short-Term Action Plan

CP&L

Carolina Power & Light



South Carolina Public Service Commission
Docket No. 98-434-E
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INTRODUCTION

Carolina Power & Light Company provides electric power to approximately 1.15 million customers in a 30,000 square mile area having a total population of about 3.9 million people. 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 least-cost Integrated 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.

Energy and Peak Load 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. In response to these changing planning needs, CP&L's forecasts were expanded to include energy forecasts at the end-use level. Econometric and end-use energy forecast results are combined to produce the energy forecasts for the residential and commercial classes.

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. 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 1999 Energy and Peak Load 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 today's 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. More efficient electrical equipment, continued cost-effective conservation measures, and specific load management programs are expected to result in slower energy growth when compared with the 1970s and 1980s.

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.

DECEMBER 1999 PEAK LOAD and ENERGY FORECAST
(Annual Peak Load and Energy at Expected Peaking Temperatures)

Year	System Peak Load (MW)	Fayettevile Replacement (MW)	Net Internal Demand (MW)	Net Internal Energy (MWh)
2000	10,783	230	11,013	58,520
2001	11,238	230	11,468	60,182
2002	11,577	230	11,807	61,974
2003	11,905	230	12,135	63,899
2004	12,238	230	12,468	65,766
2005	12,584	230	12,814	67,620
2006	12,910	230	13,140	69,455
2007	13,255	230	13,485	71,323
2008	13,585	230	13,815	73,191
2009	13,929	230	14,159	75,063
2010	14,267	230	14,497	76,927
2011	14,598	230	14,828	78,789
2012	14,939	230	15,169	80,701
2013	15,294	230	15,524	82,599
2014	15,634	230	15,864	84,507

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. To remain competitive in the future, the costs of future generation technologies need to be assessed. This report is intended to provide a consistent and documented database for use in the Company's planning studies.

This year, seventeen technologies were analyzed. (See Appendices C and E) Except in cases where data specific to CP&L and our service territory was obtained, the data presented in the report are **generic** in nature and thus not site specific. Cost and operating data are presented for conventional generation technologies that utilize non-renewable resources, for advanced generation technologies that are still being developed, and for alternative technologies that utilize renewable sources of energy. 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. When other data is used or where adjustments are made to EPRI data, the reasons are indicated.

Of the seventeen technologies evaluated this year, only ten (10) are commercially available at this time and only five (5) of those are mature, proven technologies. This is important to keep in mind when reviewing the data, as some of the least cost options such as the solid oxide fuel cell may not yet be available. 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 include fixed and variable O&M, fuel, construction costs, and the levelized fixed charge rate. These costs also include reliability impacts to capture the operating availability of the technologies. For example, the availability of wind generation is limited to the amount of wind energy.

Current analysis of busbar costs for technologies that are commercially available indicates that the combustion turbine (CT) is the most economical generation for peaking duty cycles, and the combined cycle (CC) is the preference for intermediate and base load operation. (See Appendices D, E) Combustion turbines and combined cycles also have the lowest overnight capital costs at $331/kW and $478/kW, respectively.

Pulverized coal is not a least cost alternative at any operating level. (See Appendices D and E) Although fuel cells are still in the demonstration stage, they appear to be competitive with the CC if projected cost reductions can be achieved. (See Appendices C and D) Wind, which would not be expected to operate above 20-25% in our geographic area, 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.

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

The most recent version of CP&L's Integrated Resource Plan (IRP) is not significantly different from previous plans. This Plan continues to be a plan that provides low cost energy service. The IRP contains additions of combustion turbine (CT) and combined cycle (CC) units. These additions are being made to help supply customer demand during cold winter mornings and hot summer afternoons. While this type of capacity will become a significant portion of CP&L's supply resources in the future, the energy from these resources will compose a much smaller percentage. The majority of the energy required by the Company's customers will continue to be served by CP&L's fleet of low-cost nuclear and coal resources.

Effect of plan on reliability of energy service

The reliability of energy service is a primary input in the development of the IRP. 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. Percentage reserve measures, where the required reserve is based on a fixed percentage of either the expected peak demand or installed capacity, are deterministic criteria used for planning capacity additions. The Company establishes a capacity margin criterion for planning purposes based on probabilistic assessments of generation reliability and management judgement. Probabilistic assessments are significant because they capture the random nature of system behavior such as generator equipment failures and load variation.

CP&L has performed studies to evaluate the reliability criteria. These studies provide sound analytical basis for selecting reliability criteria and allow CP&L to augment its operating experience and judgement with in-depth analysis in developing reliability criteria. In 1995, a major reliability criteria study was performed. This study was undertaken to examine and establish the appropriate reliability criteria for the Company to employ in planning future resource additions. The study included a comprehensive assessment of generation reliability for the CP&L system using a multi-area analysis that takes into consideration capacity assistance available through interconnections with neighboring electric systems.

Previous reliability analyses demonstrated that the use of a fixed capacity margin criterion to schedule resource additions results in increasing reliability over time. The relatively high reliability and small unit size of planned additions to the resource mix contribute to this improvement trend.

A CP&L reserve level of 1500 MW was found to closely satisfy the one day in ten years Loss of Load Expectation (LOLE) target level of reliability given the projected assistance area capacity margins, and assuming a small degree of load diversity exists within the assistance area region. Although reserves are slightly less than 1500 MW in the first couple of years of the plan, due to the Company's knowledge of the amount of capacity available in the region CP&L believes the risks for loss of load are small.

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. The Plan also contains more than 250 MW of nuclear additions through the uprating of the Harris and Brunswick plants. These additions will provide a significant amount of energy with virtually no environmental impact.

CAROLINA POWER & LIGHT CO.
JUNE 2000 INTEGRATED RESOURCE PLAN (Winter)

	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
GENERATION ADDITIONS															
Asheville CT #3-4	185	185													
Wayne County CT #1-4		746													
Rowan CT #1-5			540		360										
Richmond CT #1-8			720	540		180									
Undesignated CT (1)									552		552		552	552	
Rowan ST #1					160										
Richmond ST #1-2				160		160									
Undesignated CC (1)							575	575				1,725			
Harris NP Uprate			50												
Brunswick NP Uprate				52	52	63	63								
Robinson 2 NP Retirement												(718)			
INSTALLED GENERATION															
Combustion Turbine	1,643	2,574	3,834	4,014	4,014	3,834	3,834	3,834	4,386	4,386	4,938	4,938	5,490	6,042	6,042
Combined Cycle	106	106	106	626	1,146	1,666	2,241	2,816	2,816	2,816	2,816	4,541	4,541	4,541	4,541
Hydro	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216
Coal	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	3,209	3,209	3,259	3,311	3,363	3,426	3,489	3,489	3,489	3,489	3,489	2,771	2,771	2,771	2,771
PURCHASES & OTHER RESOURCES															
SEPA	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
NUG Cogeneration	330	263	231	68	68	68	68	68	68	68	68	68	68	68	68
Fayetteville	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285
AEP/Rockport 2	250	250	250	250	250	250	250	250	250	250					
Broad River CT #1-3			522	522	522	522	522	522	522	522	522	522	522	522	522
Undesignated Purchase			150	300	300	300	300	150							
Undesignated Purchase		200													
TOTAL SUPPLY RESOURCES	11,587	12,651	14,401	15,140	15,712	16,115	16,753	17,178	17,580	17,580	17,882	18,889	19,441	19,993	19,993
UNIT POWER SALES	-	-	350	350	350	350	350	350	350	350	350	350	350	350	350
NET RESOURCES FOR LOAD	11,587	12,651	14,051	14,790	15,362	15,765	16,403	16,828	17,230	17,230	17,532	18,539	19,091	19,643	19,643
PEAK DEMAND															
CP&L Retail	7,519	7,768	7,992	8,207	8,443	8,665	8,873	9,092	8,628	8,820	9,005	9,181	9,367	9,558	9,735
CP&L Wholesale	2,488	2,661	2,752	2,841	2,914	3,013	3,107	3,209	3,979	4,106	4,235	4,365	4,497	4,635	4,773
CP&L SYSTEM PEAK LOAD	10,007	10,429	10,744	11,048	11,357	11,678	11,980	12,301	12,607	12,926	13,240	13,546	13,864	14,193	14,508
Fayetteville Replacement	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
Firm Contract Sales	-	735	735	885	885	885	885	800	800	800	800	800	800	800	800
FIRM OBLIGATIONS	10,237	11,394	11,709	12,163	12,472	12,793	13,095	13,331	13,637	13,956	14,270	14,576	14,894	15,223	15,538
Non-Firm Contract Sales	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Load Curtailment	335	328	322	322	322	322	322	322	322	322	322	322	322	322	322
Voltage Reduction	154	160	165	169	174	178	183	187	192	196	201	205	209	214	218
Load Served by Others	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
OPERATING AREA LOAD	11,096	12,102	12,416	12,874	13,188	13,513	13,820	14,060	14,371	14,694	15,013	15,323	15,645	15,979	16,298
RESERVES (2)	1,350	1,257	2,342	2,627	2,890	2,972	3,308	3,497	3,593	3,274	3,262	3,963	4,197	4,420	4,105
CAPACITY MARGIN (3)	11.7%	9.9%	16.7%	17.8%	18.8%	18.9%	20.2%	20.8%	20.9%	19.0%	18.6%	21.4%	22.0%	22.5%	20.9%
RESERVE MARGIN (4)	13.2%	11.0%	20.0%	21.6%	23.2%	23.2%	25.3%	26.2%	26.3%	23.5%	22.9%	27.2%	28.2%	29.0%	26.4%

NOTES:

1) For planning purposes only; does not indicate a commitment to type, amount or ownership.
2) Net Resources For Load - Net Internal Demand.
3) Reserves / Net Resources For Load * 100.
4) Reserves / Firm Obligations * 100.

CAROLINA POWER & LIGHT CO.
JUNE 2000 INTEGRATED RESOURCE PLAN (Summer)

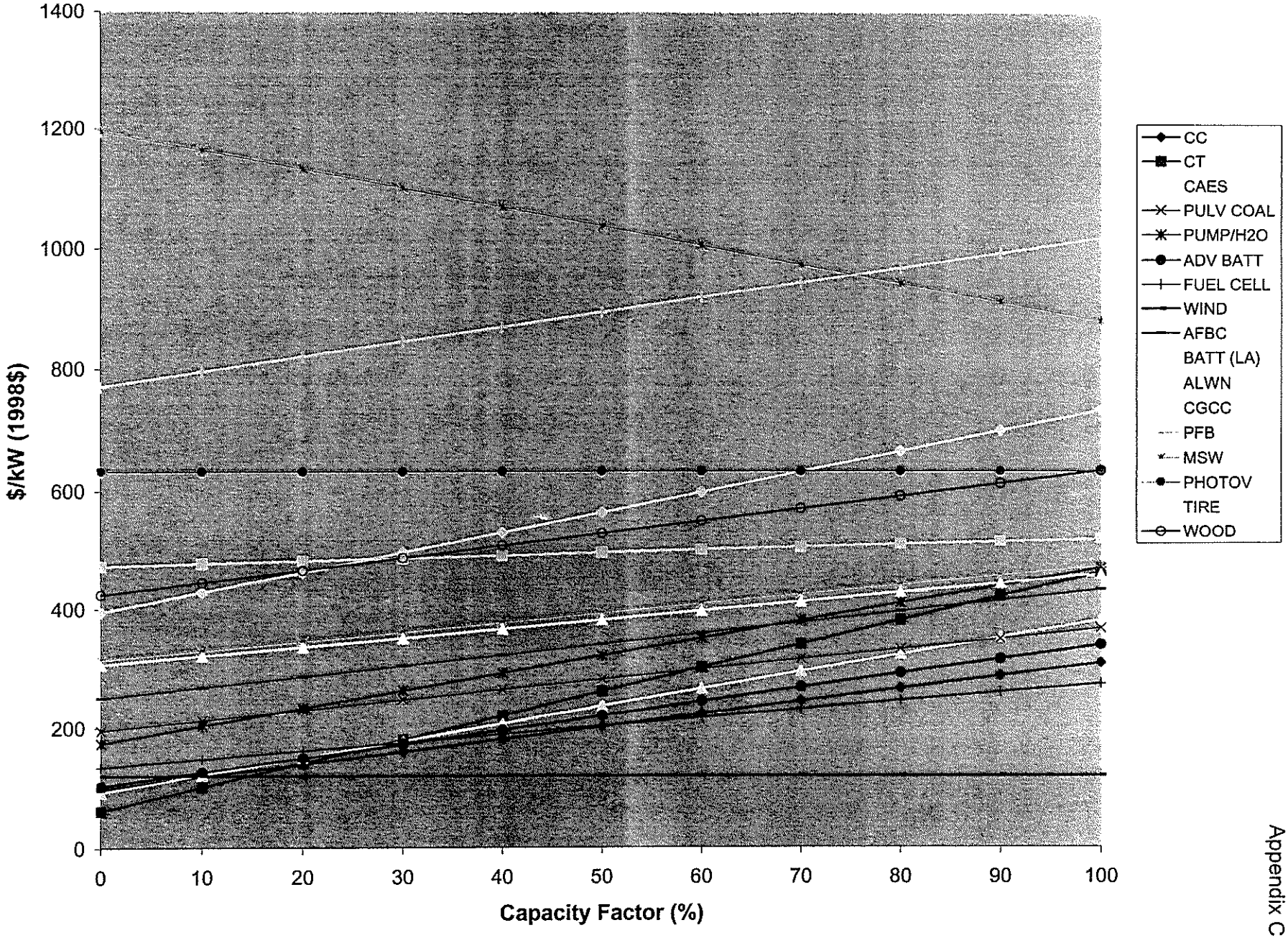
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
GENERATION ADDITIONS															
Asheville CT #4	165														
Wayne County CT #1-4	668														
Rowan CT #1-5		459		306											
Richmond CT #1-8		620	465		155										
Undesignated CT (1)								480		480		480	480		
Rowan ST #1				160											
Richmond ST #1-2			160		160										
Undesignated CC (1)						500	500				1,500				500
Harris NP Uprate			50												
Brunswick NP Uprate			52	52	63	63									
Robinson 2 NP Retirement											(683)				
INSTALLED GENERATION															
Combustion Turbine	2,200	3,279	3,434	3,432	3,277	3,277	3,277	3,757	3,757	4,237	4,237	4,717	5,197	5,197	5,197
Combined Cycle	84	84	554	1,022	1,492	1,992	2,492	2,492	2,492	2,492	3,992	3,992	3,992	3,992	4,492
Hydro	218	218	218	218	218	218	218	218	218	218	218	218	218	218	218
Coal	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	3,174	3,174	3,276	3,328	3,391	3,454	3,454	3,454	3,454	3,454	2,771	2,771	2,771	2,771	2,771
PURCHASES & OTHER RESOURCES															
SEPA	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
NUG Renewable	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
NUG Cogeneration	330	263	231	68	68	68	68	68	68	68	68	68	68	68	68
Fayetteville	283	283	283	283	283	283	283	283	283	283	283	283	283	283	283
AEP/Rockport 2	250	250	250	250	250	250	250	250	250	250					
PECO Purchase (2)	300	300	300	300											
Broad River CT #1-3		453	453	453	453	453	453	453	453	453	453	453	453	453	453
Undesignated Purchase		150	300	300	300	300	150								
TOTAL SUPPLY RESOURCES	12,306	#####	14,766	15,121	15,199	15,762	16,112	16,442	16,442	16,922	17,489	17,969	18,449	18,449	18,949
UNIT POWER SALES	-	301	350	350	350	350	350	350	350	350	350	350	350	350	350
NET RESOURCES FOR LOAD	12,306	#####	14,416	14,771	14,849	15,412	15,762	16,092	16,092	16,572	17,139	17,619	18,099	18,099	18,599
PEAK DEMAND															
CP&L Retail	7,849	8,057	8,284	8,505	8,731	8,958	9,173	9,396	9,607	9,823	10,032	10,232	10,442	10,659	10,860
CP&L Wholesale	2,934	3,182	3,293	3,400	3,507	3,625	3,737	3,859	3,979	4,106	4,235	4,365	4,497	4,635	4,773
CP&L SYSTEM PEAK LOAD	10,783	#####	11,577	11,905	12,238	12,584	12,910	13,255	13,585	13,929	14,267	14,598	14,939	15,294	15,634
Fayetteville Replacement	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
Firm Contract Sales	-	735	885	885	885	885	885	800	800	800	800	800	800	800	800
FIRM OBLIGATIONS	11,013	#####	12,692	13,020	13,353	13,699	14,025	14,285	14,615	14,959	15,297	15,628	15,969	16,324	16,664
Non-Firm Contract Sales	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Load Curtailment	335	328	322	322	322	322	322	322	322	322	322	322	322	322	322
Voltage Reduction	47	49	50	52	53	54	56	57	59	60	61	63	64	65	66
Load Served by Others	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
OPERATING AREA LOAD	11,765	#####	13,284	13,614	13,948	14,295	14,623	14,884	15,216	15,561	15,900	16,233	16,575	16,931	17,272
RESERVES (3)	1,293	1,417	1,724	1,751	1,496	1,713	1,737	1,807	1,477	1,613	1,842	1,991	2,130	1,775	1,935
CAPACITY MARGIN (4)	10.5%	10.4%	12.0%	11.9%	10.1%	11.1%	11.0%	11.2%	9.2%	9.7%	10.7%	11.3%	11.8%	9.8%	10.4%
RESERVE MARGIN (5)	11.7%	11.6%	13.6%	13.4%	11.2%	12.5%	12.4%	12.6%	10.1%	10.8%	12.0%	12.7%	13.3%	10.9%	11.6%
ANNUAL ENERGY (GWh)	58,520	#####	61,974	63,899	65,766	67,620	69,455	71,323	73,191	75,063	76,927	78,789	80,701	82,599	84,507

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) Net Resources For Load - Net Internal Demand.
4) Reserves / Net Resources For Load * 100.
5) Reserves /Firm Obligations * 100.

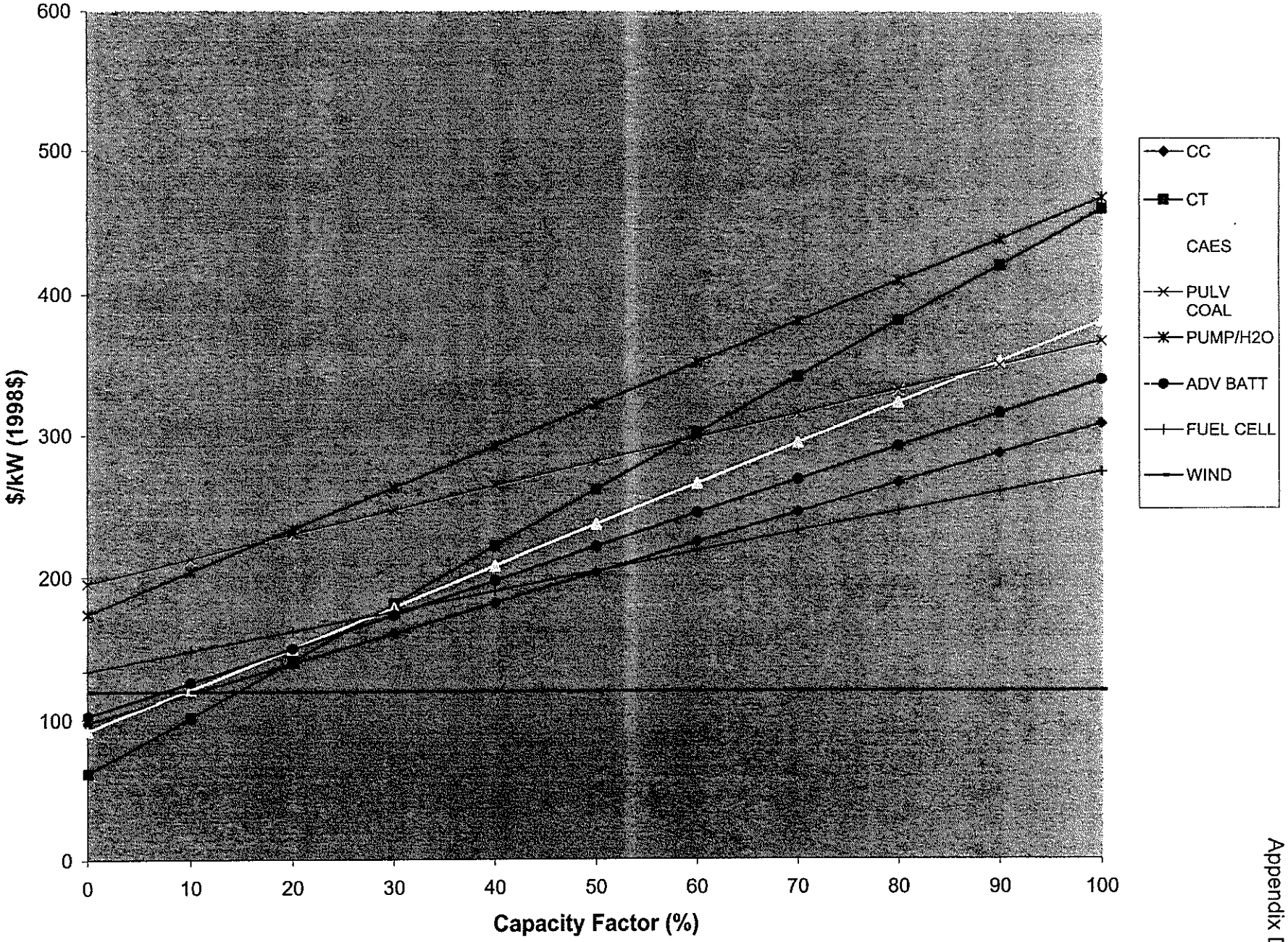
Appendix B

Levelized Busbar Costs of All Technologies



Appendix C

Levelized Busbar Costs of Lowest Cost Technologies



Appendix D

LEVELIZED BUSBAR COST COMPARISON by DUTY CYCLE

(cents/kWh)

Rank	Peaking Service * 10% Capacity Factor		Intermediate Service * 30% Capacity Factor		Intermediate Service * 50% Capacity Factor		Base Load Service * 60% Capacity Factor		Base Load Service * 80% Capacity Factor	
1	CT	11.6	CC	6.1	CC	4.6	Fuel Cell	4.1	Fuel Cell	3.5
2	CC	13.6	Fuel Cell	6.7	Fuel Cell	4.7	CC	4.3	CC	3.8
3	Wind	13.7	CT	6.9	Pulv Coal	6.4	Pulv Coal	5.7	Pulv Coal	4.7
4	CAES	13.8	Pulv Coal	9.4	AFBC	7.8	AFBC	6.8	AFBC	5.6
5	Battery-Adv	14.4	AFBC	11.6	CGCC	8.7	CGCC	7.6	CGCC	6.1
6	Fuel Cell	16.9	CGCC	13.4	PFB	9.0	PFB	7.8	PFB	6.3
7	Pump Hydro	23.3	PFB	13.8	ALW Nuclear	11.3	ALW Nuclear	9.5	ALW Nuclear	7.3
8	Pulv Coal	24.3	ALW Nuclear	18.5	Wood	12.1	Wood	10.5	Wood	8.4
9	AFBC	30.5	Wood	18.5	Tires	20.4	Tires	17.5	MSW	13.5
10	CGCC	36.6	Tires	32.2	MSW	23.7	MSW	19.1	Tires	13.8
11	PFB	37.8	MSW	41.9						
12	Battery-LA	48.9								
13	Wood	50.8								
14	Nuclear	54.5								
15	Solar PV	72.1								
16	Tires	90.8								
17	MSW	132.8								

* Some technologies may not be suitable for this mode of operation.