

Annual Report Of Updates To Least Cost

Integrated Resource Plans

Carolina Power & Light Company

June 30, 1997

Annual Update And Short-Term Action Plan

This document presents updates to CP&L's Integrated Resource Plan (IRP) and the near-term actions that are necessary to implement the IRP. The attached reports, "Annual Report of Updates to Integrated Resource Plan" and "Short-Term Action Plan" are filed in accordance with State Commission rules and provide information which updates prior forecasts and plans.

Executive Summary

Carolina Power & Light Company (CP&L) is an investor-owned electric utility which provides electric power to more than 1.1 million customers in central, eastern, and western North Carolina and central South Carolina. Headquartered in Raleigh, North Carolina, CP&L serves a 30,000-square-mile territory with a population of more than 3.8 million.

Load and Energy Forecast

The annual forecast growth rate of net internal demand is 2.3%, the same as in the 1996 plan.

Resource Plan

The December 1996 IRP is similar to the prior year's plan with respect to the type of capacity additions. The plan includes planned capacity increases at the Brunswick nuclear units. Turbine modifications have been completed at Brunswick 1 and 2. Thermal uprate modifications were made to Brunswick 1 in 1996 and are planned for Brunswick 2 in 1997. The work will be completed by the fall of 1997. The total uprate for all the projects at the plant will be 102 MW and is reflected in 1998.

On October 17, 1995 a ground breaking was held for the Darlington County CT Addition. Two new combustion turbines (CTs) are scheduled to enter service in June 1997. The CTs are being installed at the existing Darlington County Electric Plant located near Hartsville, South Carolina. The planned summer capability of the two CTs is 240 MW.

Expected NUG additions include output from a 5 MW waste-to-energy facility from United Supply of America which is scheduled to begin operation in April 1997 and 7 MW from another waste-to-energy plant being built by Carolina Energy for in-service in mid-1997. A third facility totaling 8 MW will be added in 1998 by Jordan Hydro Electric.

A change in the resource plan is the purchase of 200 MW from Philadelphia Electric Company (PECO) for the months of June through September of 1998. This purchase came as a result of a Notice of Inquiry for peaking capacity issued in 1996.

Annual Update And Short-Term Action Plan

Executive Summary

Resource Plan (continued)

In March 1996, CP&L received a Certificate of Public Convenience and Necessity for a proposed three-unit combustion turbine peaking plant in Wayne County, North Carolina, near CP&L's existing Lee Plant. As a result of the PECO purchase, the planned in-service date for the Wayne County addition was delayed from 1998 to 1999. The planned summer capability of the three combustion turbines is 522 MW.

After the Wayne County CTS, the plan contains 2,700 MW of undesignated combustion turbines and 2,700 MW of undesignated combined cycle. There is no new coal capacity in the current resource plan.

The additions after the Wayne County CT Addition are characterized as "undesignated." This means that the Company has not committed to a particular design, unit size, or location for the capacity. The Company has not committed to building any of this capacity itself. Some or all of it may be purchased from other utilities, marketers, or independent power producers or be provided by DSM programs. CP&L is committed to acquiring resources at the lowest reasonable cost.

In June 1996, CP&L issued a Request for Proposals (RFP) for bids from third parties to supply its 1999 capacity requirements. Bids received in the RFP will be compared to CP&L self-build alternatives. Final decisions on 1999 capacity additions will be made during 1997.

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Item (a)

- (a) A tabulation of summer and winter peak loads, annual energy forecast, generating capability, and reserve margins for each year.

Tables 1 and 2 provide projected load, resources, and reserves for the fifteen-year period beginning 1997 for summer and winter, respectively. Table 1 also provides system annual energy input (forecasted energy sales adjusted for losses and Company use).

Table 1

CAROLINA POWER & LIGHT CO.
DECEMBER 1996 RESOURCE PLAN
PROJECTED SUMMER RESOURCES, LOAD, and RESERVES

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
GENERATION ADDITIONS															
DARLINGTON CT ADDITION	240														
WAYNE COUNTY CT ADDITION			522												
UNDESIGNATED CT (1)			500	400	400	300	400					400			300
UNDESIGNATED CC (1)								300	300	300	300		300	1,200	
UNDESIGNATED COAL (1)															
INSTALLED GENERATION															
OIL/GAS	1,046	1,286	1,286	2,308	2,708	3,108	3,408	3,808	4,108	4,408	4,708	5,008	5,408	5,708	6,908
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	3,064	3,166	3,166	3,166	3,166	3,166	3,166	3,166	3,166	3,166	3,166	3,166	3,166	2,483	2,483
PURCHASES & OTHER RESOURCES															
SEPA	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
NUG RENEWABLE RESOURCES	143	151	151	151	151	151	151	151	151	151	151	151	151	151	151
NUG COGENERATION	330	330	330	330	263	231	68	68	68	68	68	68	68	68	68
FAYETTEVILLE GENERATION	283	283	283	283	283	283	283	283	283	283	283	283	283	283	283
AEP PURCHASE (Rockport 2)	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
NCEMPA/SCPSA PURCHASE	100	50													
DUKE PURCHASE (Schedule J)	400	400													
PECO PURCHASE		200													
NCEMPA PEAKING PROJECT								200	200	200	200	200	200	200	200
TOTAL SUPPLY RESOURCES	11,468	11,728	12,100	12,500	12,833	13,101	13,338	13,838	14,138	14,438	14,738	15,138	15,438	15,705	16,005
OPERATING AREA LOAD															
NCEMC/AEP LOAD	10,969	11,277	11,549	11,840	12,105	12,362	12,625	12,917	13,207	13,522	13,842	14,143	14,422	14,656	14,909
	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205
TOTAL INTERNAL DEMAND	10,764	11,072	11,344	11,635	11,900	12,157	12,420	12,712	13,002	13,317	13,637	13,938	14,217	14,451	14,704
AIR CONDITIONER CONTROL															
WATER HEATER CONTROL	126	128	130	132	135	137	139	142	144	146	148	151	153	155	158
LARGE LOAD CURTAILMENT	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
VOLTAGE REDUCTION	380	382	382	382	382	382	382	382	382	382	382	382	382	382	382
	143	147	151	155	159	163	166	170	174	178	182	185	188	191	195
NET INTERNAL DEMAND	10,086	10,386	10,652	10,937	11,195	11,446	11,704	11,989	12,273	12,582	12,896	13,191	13,465	13,694	13,940
FAYETTEVILLE REPLACEMENT	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
CP&L SYSTEM PEAK DEMAND	9,856	10,156	10,422	10,707	10,965	11,216	11,474	11,759	12,043	12,352	12,666	12,961	13,235	13,464	13,710
RESERVES (2)	1,382	1,342	1,448	1,563	1,638	1,655	1,634	1,849	1,865	1,856	1,842	1,947	1,973	2,011	2,065
CAPACITY MARGIN (3)	12.1%	11.4%	12.0%	12.5%	12.8%	12.6%	12.3%	13.4%	13.2%	12.9%	12.5%	12.9%	12.8%	12.8%	12.9%
RESERVE MARGIN (4)	13.7%	12.9%	13.6%	14.3%	14.6%	14.5%	14.0%	15.4%	15.2%	14.8%	14.3%	14.8%	14.7%	14.7%	14.8%
ANNUAL ENERGY (GWh)	54780	56455	58014	59604	61052	62487	64018	65608	67216	68999	70786	72446	74046	75418	76881

NOTES:

- (1) FOR PLANNING PURPOSES ONLY. DOES NOT INDICATE A COMMITMENT TO TYPE, AMOUNT OR OWNERSHIP.
(2) TOTAL SUPPLY RESOURCES - NET INTERNAL DEMAND.
(3) RESERVES / TOTAL SUPPLY RESOURCES * 100.
(4) RESERVES / NET INTERNAL DEMAND * 100.

Table 2

CAROLINA POWER & LIGHT CO.
DECEMBER 1996 RESOURCE PLAN
PROJECTED WINTER RESOURCE, LOAD, and RESERVES

	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11
GENERATION ADDITIONS															
DARLINGTON CT ADDITION		276													
WAYNE COUNTY CT ADDITION				600											
UNDESIGNATED CT (1)				575	460	460	345	460					460	345	1,380
UNDESIGNATED CC (1)									345	345	345	345			
UNDESIGNATED COAL (1)															
INSTALLED GENERATION															
OIL/GAS	1,298	1,298	1,574	1,574	2,749	3,209	3,669	4,014	4,474	4,819	5,164	5,509	5,854	6,314	6,659
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	3,099	3,201	3,201	3,201	3,201	3,201	3,201	3,201	3,201	3,201	3,201	3,201	3,201	3,201	2,483
PURCHASES & OTHER RESOURCES															
SEPA	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
NUG RENEWABLE RESOURCES	128	148	148	148	148	148	148	148	148	148	148	148	148	148	148
NUG COGENERATION	330	330	330	330	263	231	68	68	68	68	68	68	68	68	68
FAYETTEVILLE GENERATION	285	285	285	285	285	285	285	285	285	285	285	285	285	285	285
AEP PURCHASE (Rockport 2)	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
NCEMPA/SCPSA PURCHASE	100	50													
DUKE PURCHASE (Schedule J)	400	400	400												
NCEMPA PEAKING PROJECT								200	200	200	200	200	200	200	200
TOTAL SUPPLY RESOURCES	11,584	11,932	11,882	12,657	13,050	13,478	13,660	14,320	14,665	15,010	15,355	15,700	16,160	16,255	16,917
OPERATING AREA LOAD															
NCCEM/AEP LOAD	10,130	10,418	10,668	10,936	11,180	11,417	11,661	11,929	12,197	12,487	12,782	13,059	13,318	13,533	13,765
NCCEM/AEP LOAD	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205
TOTAL INTERNAL DEMAND	9,925	10,213	10,463	10,731	10,975	11,212	11,456	11,724	11,992	12,282	12,577	12,854	13,113	13,328	13,560
WATER HEATER CONTROL															
LARGE LOAD CURTAILMENT	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
VOLTAGE REDUCTION	360	365	365	365	365	365	365	365	365	365	365	365	365	365	365
	143	147	151	155	159	163	166	170	174	178	182	185	188	191	195
NET INTERNAL DEMAND	9,381	9,660	9,907	10,171	10,411	10,644	10,884	11,148	11,412	11,699	11,990	12,264	12,519	12,731	12,960
FAYETTEVILLE REPLACEMENT	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
CP&L SYSTEM PEAK DEMAND	9,151	9,430	9,677	9,941	10,181	10,414	10,654	10,918	11,182	11,469	11,760	12,034	12,289	12,501	12,730
RESERVES (2)															
CAPACITY MARGIN (3)	2,203	2,272	1,975	2,486	2,639	2,834	2,776	3,172	3,253	3,311	3,365	3,436	3,641	3,524	3,957
RESERVE MARGIN (4)	19.0%	19.0%	16.6%	19.6%	20.2%	21.0%	20.3%	22.2%	22.2%	22.1%	21.9%	21.9%	22.5%	21.7%	23.4%
RESERVE MARGIN (4)	23.5%	23.5%	19.9%	24.4%	25.3%	26.6%	25.5%	28.5%	28.5%	28.3%	28.1%	28.0%	29.1%	27.7%	30.5%

NOTES:

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(2) TOTAL SUPPLY RESOURCES - NET INTERNAL DEMAND.
(3) RESERVES / TOTAL SUPPLY RESOURCES * 100.
(4) RESERVES / NET INTERNAL DEMAND * 100.

Item (b)

- (b) A list of the existing plants in service with capacity, location, and any technological innovations to be backfitted to improve environmental quality to the extent known.

Carolina Power & Light Company
Existing Plants In Service

<u>Name/Location</u>	<u>MDC Rating (MW)</u>	<u>Planned Environmental Protection Additions</u>
Brunswick S.E.P. Southport, N. C.	1,521	Expanding ground water monitoring program Use of sodium hypochlorite to reduce reliance on gaseous chlorine Implementation of new storm water plan Underground piping assessment
H.B. Robinson Unit 2 Hartsville, S. C.	683	Implementation of new storm water plan Make-up water neutralization and condensate polisher systems upgrade Underground piping assessment
Shearon Harris N.P.P. New Hill, N. C.	860	Implementation of new storm water plan Underground piping assessment
Asheville S.E.P. Skyland, N. C.	392	Low NOx burners
Blewett H.P./C.T.G. Lilesville	74	Stream flow gaging
Cape Fear S.E.P./C.T.G. Moncure, N. C.	400	Upgrade plant drainage system

Item (b)

<u>Name/Location</u>	<u>MDC Rating (MW)</u>	<u>Planned Environmental Protection Additions</u>
Lee S.E.P./C.T.G. Goldsboro, N.C.	498	Low NOx burners
Mayo S.E.P. Roxboro, N. C.	745	Stream flow gaging
Marshall H.P. Marshall, N. C.	5	None
Morehead City, C.T.G. Morehead City, N. C.	15	None
Robinson Unit 1/C.T.G. Hartsville, S. C.	189	Stream flow gaging Low NOx burner tips Fuel oil piping upgrade
Roxboro S.E.P./C.T.G. Roxboro, N. C.	2,477	Stream flow gaging Storm water system upgrade Low NOx burners Carbon reclaim system
Sutton S.E.P./C.T.G. Wilmington, N. C.	677	Heavy oil piping removal Low NOx burners
Tillery H.P. Mt. Gilead, N. C.	86	None
Walters H. P. Waterville, N. C.	105	Stream flow gaging
Weatherspoon S.E.P./C.T.G. Lumberton, N. C.	314	None

Item (c)

- (c) A list of generating units under construction or planned at plant locations for which property has been acquired, for which certificates have been received, or for which applications have been filed with location, capacity, plant type, and proposed date of operation included.

<u>Location</u>	<u>Capacity</u>	<u>Plant Type</u>	<u>Proposed Date of Operation</u>
Darlington County South Carolina	Approx. 240 MW	Combustion Turbine	June 1, 1997
Wayne County North Carolina	Approx. 522 MW	Combustion Turbine	June 1, 1999
Buncombe County North Carolina	Approx. 160 MW	Combustion Turbine	June 1, 1999

Items (d) and (e)

- (d) A list of proposed generating units at locations not known with general location, capacity, plant type, and date of operation included to the extent known.

<u>Location</u>	<u>Capacity (MW)</u>	<u>Plant Type</u>	<u>Proposed Date of Operation</u>
Undesignated	500	CT	1999
Undesignated	400	CT	2000
Undesignated	400	CT	2001
Undesignated	300	CT	2002
Undesignated	400	CT	2003
Undesignated	300	CC	2004
Undesignated	300	CC	2005
Undesignated	300	CC	2006
Undesignated	300	CC	2007
Undesignated	400	CT	2008
Undesignated	300	CC	2009
Undesignated	1200	CC	2010
Undesignated	300	CT	2011

Items (d) and (e)

- (e) A list of units to be retired from service with location, capacity and expected date of retirement from the system.

The fossil maintenance programs utilized by CP&L have allowed the Company to operate its units longer than their 30-40 years expected life. CP&L believes that continued maintenance will allow its fossil plants to operate indefinitely. Thus, no fossil generating units are currently scheduled to be retired during the period covered by the IRP.

There is one nuclear unit scheduled to be retired during the period covered by the IRP. Given the uncertainty in the requirements for relicensing a nuclear unit, CP&L's long-range planning assumption for nuclear units is to retire the units at the end of their current operating licenses. This planning assumption does not imply that CP&L has made a decision on license extension. The Company continues to study its options, such as license renewal for periods shorter than a full-term license.

<u>Name/Location</u>	<u>MDC Rating (MW)</u>	<u>Retirement Date</u>
H. B. Robinson Unit 2 Hartsville, SC	683	July 31, 2010

Item (f)

- (f) A list of units which are being considered for life extension, refurbishment or upgrading. The reporting utility shall also provide the expected (or actual) date removed from service, general location, capacity rating upon return to service, expected return to service date, and a general description of work to be performed.

For many years CP&L has utilized its maintenance programs to keep its units in the most up-to-date and the best operating condition that is economically reasonable. These maintenance programs deal both with replacement of worn parts to restore equipment to its original condition and with replacements intended to upgrade the equipment to a more reliable and more efficient condition. Because of this type of program, CP&L has no plans for major comprehensive life extension projects.

One-year and five-year maintenance schedules are developed annually for our generating units. These schedules are periodically reviewed and adjusted as appropriate based on system conditions/needs, unit operating performance, etc.

The process of continually maintaining generating units, in conjunction with new test data and changing regulatory requirements, occasionally results in some uprating or derating of facilities. The Brunswick Plant is scheduled to undergo a capacity uprating which is reflected in the Resource Plan. Uprating will be due to turbine upgrades at both units. In addition, CP&L applied for and received a 5% thermal power license uprate. All work modifications are planned to occur during planned maintenance periods thus eliminating the need for removing the unit from service. These changes result in a 102 MW uprating in 1998.

Item (g)

- (g) A list of transmission lines and other associated facilities (200 KV or over) which are under construction or proposed including the capacity and voltage levels, location, and schedules for completion and operation.

CP&L TRANSMISSION LINE ADDITIONS

YEAR	<u>Location</u>		CAPACITY <u>MVA</u>	VOLTAGE <u>KV</u>	<u>COMMENTS</u>
	<u>FROM</u>	<u>TO</u>			
1998	Roxboro	(AEP) East Danville #1 Interconnection	825	230	Conversion, Relocation
	Roxboro	(AEP) East Danville #2 Interconnection	825	230	Conversion, Relocation
	Concord		300	230/115	New
1999	Darlington County Plant	Robinson Plant	784	230	New
	Robinson Plant	Laurinburg	637	230	Relocate from Darlington County Plant
	Darlington County Plant	Sumter East	534	230	Relocate from Robinson Plant
	Darlington County Plant	Darlington (SCPSA)	534	230	Relocate from Robinson Plant
2000	Lee	Wommack South	1068	230	Relocate & Uprate
	New Bern	Wommack South	617	230	Relocate

Item (g)

<u>YEAR</u>	<u>Location</u>		<u>CAPACITY</u> <u>MVA</u>	<u>VOLTAGE</u> <u>KV</u>	<u>COMMENTS</u>
	<u>FROM</u>	<u>TO</u>			
	Fayetteville	Vander (North)	204	115	New
2001	Lee 230 kV Substation	Mount Olive	308	115	Rebuild for 230 kV, Operate 115 kV
2003	Sutton Plant	Castle Hayne North	617	230	Conversion
2004	Durham Switching Station	Falls	1234	230	New
2005	Brunswick Plant	Castle Hayne East	534	230	Relocate
	Lee 230 kV Substation	Wallace	120	115	Uprate

*Tap - Connection made at intermediate point on circuit.

Items (h) and (i)

- (h) A list of any generation and associated transmission facilities under construction which have delays of over six months in the previously reported in-service dates and the major causes of such delays. Upon request from the Commission Staff, the reporting utility shall supply a statement of the economic impact of such delays.

None

- (i) A list of future probable sites giving general location and description, major advantages, and whether the site is wholly owned, partially owned or not owned by the utility.

As stated in item (d), CP&L has identified the need for additional capacity beginning in the mid-1990s. The first block of combustion turbine capacity is planned to be located at the existing Darlington County Electric Plant for 1997. Additional CT capacity is planned for 1999 at the proposed Wayne County Site adjacent to the existing Lee Steam Electric Plant and at the existing Asheville Steam Electric Plant. The remainder has not been sited.

**Annual Report Of Updates To
Short-Term Action Plan**

Carolina Power & Light Company

June 30, 1997

Short-Term Action Plan

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Short-Term Action Plan

Introduction

The Short-Term Action Plan summarizes those actions planned by CP&L over the 1997-1999 period to implement its Integrated Resource Plan (hereinafter the "Resource Plan or IRP"). Specifically, the Short Term Action Plan describes anticipated activities regarding the following electric system resources:

- Demand-Side Programs
- Capacity Additions
- Purchased Power from Non-Utility Generators

The Short-Term Action Plan is a snapshot in time of the Company's Corporate Planning Process as it relates to the implementation of the Company's Integrated Resource Plan (IRP). Each year the Company reviews its IRP in light of changing conditions and evaluates the impact these changes have had or may have on its resource plans, including purchases and other resource options.

Planning Overview

The Short-Term Action Plan is a product of the Integrated Resource Planning Process. It is developed based upon decisions and actions specifically relating to implementation of the Company's Integrated Resource Plan. CP&L's Short-Term Action Plan includes a summary of the resource options or programs contained in the current Integrated Resource Plan for which specific actions must be taken by CP&L within the next three years. For each resource option or program, the summary includes:

- (a) The objective of the resource option or program;
- (b) Criteria for measuring progress toward the objective;
- (c) The implementation schedule for the program over the next two to three years; and
- (d) Actual progress toward the objective to date.

Short-Term Action Plan

Introduction

Planning Overview (continued)

CP&L continues to evaluate and analyze cost effective means of meeting the energy needs of its customers. One way of meeting these needs is through cost-effective demand-side resources.

CP&L's demand-side programs include: encouraging thermally efficient homes and buildings through the use of high efficiency heat pumps and greater insulation; interruptible service programs; and time-of-use rates to encourage valley filling and load shifting. All of CP&L's demand-side programs are designed to impact the timing and magnitude of electric demands resulting in increased utilization of existing generating capacity, and reduced need for additional capacity.

CP&L's strategy of maintaining a diversified mix of resources is apparent in its Integrated Resource Plan. The plan builds on a well-balanced mix of existing demand-side and supply-side resources that includes conservation and load management programs, coal, nuclear, oil/gas, and hydroelectric generation facilities, and purchases from non-utility generators and other utilities. The Company's planned resource additions continue to reflect a diverse portfolio of conservation and load management programs in addition to new supply resources.

Short-Term Action Plan

Demand-Side Management Resources

Summary of DSM Programs

Load Shape Objectives

The Company's demand-side management programs are a part of CP&L's combination of resources utilized to meet forecasted customer demand in a cost-effective manner. Such programs offer customers a broad portfolio of options that encourage them to use electricity economically and help the Company to achieve its load shape objectives. The load shape objectives considered by the Company are strategic conservation, load shifting, peak clipping, valley filling, and strategic load growth. Each of these objectives are described below:

- Strategic conservation reduces load in both peak and off-peak periods with larger reductions on peak. The objective is to reduce more load during peak times in order to reduce the need for future generation, transmission and distribution capacity ("new capacity") while minimizing reductions in off-peak sales.
- Load shifting moves existing load from peak to off-peak periods. This not only reduces peak demand and the need for new capacity but also improves the system load factor because total annual energy sales remain about the same.
- Peak clipping reduces system peak load on an as-needed basis. It is dispatched by the utility for a limited number of hours per year. The peak reduction minimizes the need for new capacity and improves the system load factor.
- Valley filling adds new load in off-peak periods such as nights and weekends. This has no effect on the system peak but improves the system load factor and utilization of existing capacity by increasing off-peak energy sales.
- Strategic load growth involves increasing customer usage in a manner that improves the system load factor, thus improving the cost effectiveness of CP&L's facilities and lowering CP&L's cost per kilowatt hour. This might involve increasing market share where competing fuels are available, economic development or improving industrial productivity with electrotechnologies.

Short-Term Action Plan

Summary of DSM Programs (continued)

Implementation Schedule of DSM Programs

During the period 1997-1999, the Company plans to increase the capability of its demand-side management programs by an additional 48 MW. The following table provides a listing of programs by customer class, the objective of each program, and forecasted incremental megawatt reductions at time of summer peak for the years 1997-1999. Additional information on the Company's programs can be found on the pages referenced in the table.

Short-Term Action Plan

Implementation Schedule of DSM Programs

Program	Objective	Page Number	Incremental MW 1997	Incremental MW 1998	Incremental MW 1999
Residential					
Common Sense Home	Strategic Conservation	10	4.8	4.8	4.8
Home Energy Loan/Conservation Discount	Strategic Conservation	14	.5	.9	.9
EZ-\$64	Peak Clipping	16	2.3	2.3	2.2
High Efficiency Heat Pump	Strategic Conservation, Strategic Load Growth	18	3.1	3.1	3.0
Time-Of-Use	Load Shifting	20	.4	.5	.4
Commercial					
Thermal Energy Storage	Load Shifting	21	NA	NA	NA
Energy Efficient Design	Load Shifting, Strategic Conservation	22	NA	NA	NA
Time of Use	Load Shifting, Strategic Conservation	24	1.3	.7	.7
Industrial					
Audit/Energy Efficient Plants	Peak Clipping, Load Shifting, Strategic Conservation	25	NA	NA	NA
Time-Of-Use	Load Shifting	26	3.6	2.3	1.8
Large Load Curtailment	Peak Clipping	27	1	2.5	0
GRAND TOTAL			17	17.1	13.8

Short-Term Action Plan

Implementation Costs

The following tables show actual 1996 and projected expenses directly allocated to programs included in the Short-Term Action Plan. Lost revenues are excluded.

Demand-Side Management Program Costs 1996 (Millions of Dollars)

Residential

Energy Conservation Discount	\$11.9
EZ-\$64	3.5
High Efficiency Heat Pump	7.8
Common Sense (Thermal Efficiency-New Homes)	4.6
Common Sense (Thermal Efficiency-Manufactured Homes)	0.7
Time-of-Use	0.1
Thermal Efficiency-Existing Homes (6% Energy Loan)	1.0
R&D/General/Miscellaneous	1.0

Commercial

Thermal Energy Storage/Time-of-Use	\$0.0
Energy Audit/Energy Efficient Design	0.2
R&D/General/Miscellaneous	0.5

Industrial

Large Load Curtailment	\$18.2
Audit/Energy Efficient Plants	0.1
Time-of-Use/Thermal Energy Storage	0.0
Miscellaneous	1.5

General

General DSM Planning/Evaluation/R&D Support	\$0.4
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<u>TOTAL</u>	\$51.5
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Short-Term Action Plan

Demand-Side Management Program Costs 1997-1999

Listed below are the projected demand-side management costs by customer class for the period 1997-1999. Lost revenues are not included.

	CUSTOMER SECTOR (Millions of Dollars)			TOTAL
	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>1997-1999</u>
Residential	\$29.8	\$30.6	\$31.3	\$91.7
Commercial	\$0.8	\$0.8	\$0.8	\$2.4
Industrial	\$19.8	\$20.0	\$20.0	\$59.8
General	<u>\$0.4</u>	<u>\$0.4</u>	<u>\$0.4</u>	<u>\$1.2</u>
Total	\$50.8	\$51.8	\$52.5	\$155.1

Short-Term Action Plan

Implemented DSM Programs

The following pages provide an objective, program description, load shape objective, criteria for measuring progress, implementation schedule, and progress to date for each of the Company's implemented DSM programs as of the end of the year 1996. These programs are as follows:

Residential Sector

- Common Sense Home (Thermal Efficiency - New Homes)
- Common Sense Manufactured Home/Thermal Efficiency - New Homes
- Thermal Efficiency - Existing Homes
- Homeowner's Energy Loan Program
- EZ - \$64
- Residential High Efficiency Heat Pump
- Residential Time-Of-Use

Commercial Sector

- Commercial Thermal Energy Storage
- Commercial Energy Efficient Design
- Commercial Energy Audit
- Commercial Time of Use

Industrial Sector

- Industrial Audit/Energy Efficient Plants
- Industrial Time-Of-Use
- Large Load Curtailment

Short-Term Action Plan

Common Sense Home Program (Thermal Efficiency - New Homes)

Objective

Improved thermal efficiency for new residential homes, apartments, and manufactured homes. This program provides greater comfort and energy savings for customers. The program also results in better utilization of CP&L facilities and improved load factor, as well as a reduction in summer peak load.

Description

The Common Sense Home Program encourages the construction of energy-efficient residences. Structures which meet the program's requirements for thermal integrity and equipment efficiency earn the Common Sense Home designation and qualify for CP&L's 5% Residential Energy Conservation Discount.

Current Common Sense Home requirements are: (1) minimum insulation levels of R-30 in ceilings, R-16 in walls, R-19 in floors, and R-5 in slabs; (2) window area limited to 15% of floor area; (3) insulated windows and doors; (4) an electric hot water heater with a minimum tank size of 40 gallons and minimum insulation value of R-12; and (5) an electric heat pump with a minimum 11 Seasonal Energy Efficiency Ratio (SEER) and a sealed duct system.

The Common Sense Program offers incentives to builders of new homes and apartments who meet program criteria which start at \$100/ton of installed heat pumps and increases in \$25 increments as the efficiency of the heat pump increases.

The Company has implemented a Common Sense Plus Home Pilot Program in the Raleigh area. This pilot program is an effort to further encourage CP&L's residential customers and builders to invest in even higher energy efficient standards. In addition to meeting all the criteria of the enhanced Common Sense Home Program, this pilot program requires quality installation standards for the equipment, prewiring for appliance control, and a larger electric water heater thus resulting in greater comfort and energy efficiency for the homeowner. Builders who build homes to these standards are eligible for an incentive similar to Common Sense, but starting at \$200/ton of installed heat pumps.

Load Shape Objectives

Strategic Conservation

Short-Term Action Plan

Common Sense Home Program (Thermal Efficiency - New Homes) (continued)

Criteria for Measuring Progress

The major criterion for measuring progress is cumulative megawatts of peak load reduction capability.

Thermal efficiency is verified by field representatives and reported by customer name, location and other identifiers through the Customer Information Management System.

Implementation Schedule

Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>
Incremental MW:	4.8	4.8	4.8
Incremental MWh:	24,600	24,800	24,600

Progress to Date

141 MW of peak load reduction through December 1996

Short-Term Action Plan

Common Sense Manufactured Home-Enhancement (Thermal Efficiency - New Homes)

Objective

Improved thermal efficiency for new manufactured homes. This program will provide greater comfort and energy savings for customers. The program will also result in better utilization of CP&L facilities and improved load factor as well as reduction in summer peak load.

Description

The Common Sense Manufactured Home Program encourages the construction of energy-efficient manufactured homes. Structures which meet the program's requirements for thermal integrity and equipment efficiency earn the Common Sense Home designation and qualify for CP&L's 5% Residential Energy Conservation Discount.

Current Common Sense Manufactured Home requirements are: (1) minimum insulation levels of R-30 in ceilings, R-11 in walls and R-19 in floors; (2) window area limited to 12% of floor area; (3) insulated windows and doors; (4) ventilation requirements; (5) an electric hot water heater with a minimum tank size of 40 gallons; and (6) an electric heat pump with a minimum 11 Seasonal Energy Efficiency Ratio (SEER) and a sealed duct system.

The Common Sense Manufactured Home Program offers incentives to manufacturers, retailers and salespersons of manufactured homes that meet program criteria .

Load Shape Objective

Strategic Conservation

Criteria for Measuring Progress

The major criterion for measuring progress is cumulative megawatts of peak load reduction capability.

Thermal efficiency is verified by Manufactured Home Profile sheet and reported by customer name, location and other identifiers through the Customer Information Management System.

Implementation Schedule and Progress to Date

Included in values reported under Common Sense Home Program (Thermal Efficiency - New Homes).

Short-Term Action Plan

Thermal Efficiency - Existing Homes

Objective

Encourage customer options which conserve energy and reduce peak load to reduce the need for future generating capacity and improve customer satisfaction.

Description

Thermal efficiency is promoted for existing residential structures through the Homeowner's Energy Loan Program (HELP) used for insulation and high-efficiency heat pumps and customer education. In addition, an upgraded structure that meets CP&L's efficiency standards will also qualify for the 5% Residential Energy Conservation Discount which provides a reduction in energy usage costs.

Load Shape Objective

Strategic Conservation

Criteria for Measuring Progress

The major criterion for measuring progress is cumulative megawatts of peak load reduction capability.

Thermal efficiency is verified by field representatives and reported by customer name location and other identifiers through the Customer Information Management System.

Implementation Schedule

Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>
Incremental MW:	.5	.9	.9
Incremental MWh:	2,200	3,900	3,000

Progress to Date

34.4 MW of peak load reduction through December 1996

Short-Term Action Plan

Thermal Efficiency - Existing Homes (Homeowner's Energy Loan Program)

Objective

Provide customers with options that encourage energy conservation and peak load reduction which can reduce the need for future generation capacity and improve customer satisfaction.

Description

CP&L developed the Homeowner's Energy Loan Program in 1981 to promote conservation of energy and demand reduction by providing convenient and inexpensive financing of conservation measures for residential homeowners.

In 1990, the maximum loan amount was increased from \$600 to \$1500 and in 1993, again increased to \$3000. The Homeowner's Energy Loan Program was also enhanced to allow further conservation by residential customers. The Company recognized the need to add additional conservation measures to allow residential customers to have more control over their electricity usage.

Under the enhanced program, CP&L will loan a homeowner with approved credit up to \$3000 for the installation of cost-effective conservation measures for homes with electric heat or whole-house air conditioning at 6% simple interest. The homeowner will have up to five years to repay the loan conveniently via the monthly electric bill.

The approved measures are: ceiling insulation, wall insulation, floor insulation, duct insulation/modification, duct testing/sealing, storm or double glass windows, storm or insulated doors, programmable heat pump thermostats, and energy-efficient water heaters.

Load Shape Objective

Strategic Conservation

Criteria for Measuring Progress

This program is a component of Thermal Efficiency - Existing Homes. Peak load reductions are accounted for through Thermal Efficiency - Existing Homes.

**Thermal Efficiency - Existing Homes
(Homeowner's Energy Loan Program)
(continued)**

Implementation Schedule

Refer to Thermal Efficiency - Existing Homes

Progress to Date

Refer to Thermal Efficiency - Existing Homes

Short-Term Action Plan

EZ-\$64 Program

Objective

Reduce peak demand and defer the need for additional peaking capacity.

Description

The EZ-\$64 Program uses either radio or power-line carrier to interrupt residential customers' central air conditioners for up to four hours per day (maximum of 60 hours during cooling season) and/or electric water heaters for up to four hours per day throughout the year. Participants receive a credit of \$2 per month for water heater control and an additional \$10 per month (\$13 for multiple units) from June through September for air conditioner control with the water heater option. A standalone air conditioner option is also available during the summer months offering the customer a discount of \$8 per month (\$11 for multiple units).

Load Shape Objective

Peak Clipping

Criteria for Measuring Progress

The major criterion for measuring progress is cumulative megawatts of peak load reduction capability.

The Company tracks participation in the program by customer name, location and other identifiers, net of dropouts, through the Customer Information Management System.

Implementation Schedule

Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>
Incremental MW:	2.3	2.3	2.2

There is no projected impact on annual megawatt-hours. It is assumed that the reduction in megawatt hours occurring during controlled periods is offset by increased megawatt hours following the controlled periods.

Short-Term Action Plan

EZ-\$64 Program (continued)

Progress to Date

150.3 MW of peak load reduction through December 1996, 28.6 MW of peak load reduction achieved through the water heating control, and 121.7 MW of peak load reductions achieved through air conditioning control.

Short-Term Action Plan

Residential High-Efficiency Heat Pump Program

Objective

Encourage the use of high-efficiency equipment to reduce system peak and reduce the need for future generation capacity. This also helps to assure a balanced and optimized future system design.

Description

CP&L's High-Efficiency Heat Pump Program includes a Homeowner's Energy Loan Program which provides low cost financing for high efficiency heat pumps and approved conservation measures including performance testing and duct sealing. Also included are a Quality Heat Pump Dealer List, dealer incentives for high quality, high efficiency installations and advertising to inform residential customers regarding high-efficiency heat pumps.

The heat pump financing is tied to the SEER rating of the equipment purchased by the residential customer. To qualify for financing, heat pumps must have SEER rating of 11 or higher. Customers will receive a 9% financing rate for 11 - 11.99 SEER units and a 6% rate on units rated 12 SEER or higher. The finance rates apply to both split and package systems.

Dealers in the CP&L service area who satisfy CP&L's program guidelines and who demonstrate quality installation and service will be eligible to become part of the Company's Quality Heat Pump Dealer List. A list of these dealers is given to residential customers who ask for advice on heat pump installations and is promoted as containing those dealers who meet requirements that will help ensure quality installations.

Dealers and dealer sales representatives included on the Quality Dealer List receive dollar credits for each high-efficiency heat pump. The dealers use the accumulated credits toward an equivalent amount of heat pump training and/or equipment for servicing heat pumps, advertising, travel and catalog merchandise. The dealer sales representatives can redeem for travel and catalog merchandise only. A limited amount of credits may be used to fund advertising focused on high-efficiency heat pumps in order to educate residential customers about heat pump operation and to promote the benefits of high-efficiency heat pumps installed. As an incentive to improve installation quality, Quality Dealers who maintain high levels of customer satisfaction and inspection ratings will receive bonus dollar credits. To ensure customer comfort through performance testing and duct sealing, dealers may receive assistance for NCAEC Duct School training and low interest financing of performance testing equipment and a \$50 cash incentive.

During 1996 CP&L made 4,688 heat pump loans.

Load Shape Objective

Strategic Conservation, Strategic Load Growth

Short-Term Action Plan

Residential High-Efficiency Heat Pump Program (continued)

Criteria for Measuring Progress

The main criterion for measuring progress is cumulative megawatts of peak load reduction capability. Field reports identify SEER levels and size of high efficiency heat pumps and central air conditioners by customer name, location and other identifiers.

Implementation Schedule

Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>
Incremental MW:	3.1	3.1	3.0
Incremental MWh:	3,000	2,900	3,000

Progress to Date

33.8 MW of peak load reduction through December 1996

Short-Term Action Plan

Residential Time-Of-Use

Objective

Shift demand and energy to the off-peak periods.

Description

The Company offers two residential time-of-use rates which use financial incentives through rate design to encourage customers to shift load and usage to off-peak periods. Participating customers may choose an all energy time-of-use rate or a time-of-use rate that contains both demand and energy components.

Load Shape Objective

Load Shifting

Criteria for Measuring Progress

The major criterion for measuring progress is cumulative megawatts of peak load reduction capability.

The Company tracks participation in the program by customer name, location and other identifiers, net of dropouts, through the Customer Information Management System.

Implementation Schedule

Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>
Incremental MW:	.4	.5	.4

There is no impact on annual megawatt-hours because usage is shifted from the on-peak hours to the off-peak hours.

Progress to Date

21.8 MW of peak load reduction through December 1996

Short-Term Action Plan

Commercial Thermal Energy Storage Program

Objective

Promote the installation of Thermal Energy Storage (TES) with emphasis on the utilization of cool storage for off-peak air conditioning in order to shift peak summer load.

Description

The TES Program emphasis is placed on customer education and working closely with HVAC design professionals and other business associates to make them aware of the various CP&L off-peak rates that are available for Thermal Storage applications. The program encourages the customer, design professional or business associate to perform a payback calculation for the additional first cost expenses associated with a TES installation, which will be offset through savings on the electric bill via the appropriate time-of-use or thermal storage rate.

Load Shape Objective

Load Shifting

Criteria for Measuring Progress

Site-specific load reductions were identified and verified on a case-by-case basis.

Implementation Schedule

Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>
Incremental MW:	NA	NA	NA

Progress to Date

2.1 MW of peak load reduction through December 1996

Short-Term Action Plan

Commercial Energy-Efficient Design Program

Objective

Assist commercial customers with the design of energy-efficient new and renovated facilities.

Description

Recommendations and proposals are made by account representatives and/or power engineers to customers and design professionals early in the planning process with respect to increased energy efficiency. Specific measures recommended include: thermal integrity improvements, the use of energy-efficient lights, high-efficiency heating/air conditioning equipment, and proper control devices.

Load Shape Objective

Load Shifting, Strategic Conservation

Criteria for Measuring Progress

Assumed to be part of technology transfer to market. Results reflected in forecast for population.

Progress to Date

93.7 MW of peak load reduction through December 1995

Short-Term Action Plan

Commercial Energy Analysis (Audit) Program

Objective

Provide commercial customers with on-site energy recommendations and proposals to increase energy efficiency in end uses and site operations.

Description

The Commercial Energy Analysis Program was implemented in 1985 for large commercial customers (200 kW and above). The program was expanded in 1987 to include smaller commercial customers with the implementation of a Simplified Energy Analysis (walk-through audit). Recommendations and proposals are made to the customer by marketing representatives and/or power engineers with respect to increased energy efficiency in end uses such as HVAC, thermal envelope, and other end uses.

Load Shape Objective

Load Shifting, Strategic Conservation

Criteria for Measuring Progress

Assumed to be part of technology transfer to market. Results reflected in forecast for population.

Progress to Date

46.4 MW of peak load reduction through December 1995

Short-Term Action Plan

Commercial Time-of-Use

Objective

Provide price signals which encourage customers to shift load and energy use to off-peak periods.

Description

The commercial time-of-use rate provides an incentive for customers to reduce on-peak load and shift usage to off-peak hours. Customers have found various ways to reduce on-peak load, including the use of timers, energy management systems, cool storage systems and changes in work schedules.

Load Shape Objective

Load Shifting

Criteria for Measuring Progress

Megawatts of load reduction due to customer shifting of load to off-peak periods.

Implementation Schedule

Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>
Incremental MW:	1.3	.7	.7

There is no impact on annual megawatt-hours because usage is shifted from on-peak hours to off-peak hours.

Progress to Date

6.8 MW of peak load reduction through December 1996

Short-Term Action Plan

Industrial Audit/Energy-Efficient Plants Program

Objective:

Influence the specification and installation of state-of-the-art energy-efficient technologies to improve the Company's load shape and maximize the efficiency of the customer's facility and/or process.

Description

CP&L energy engineers and power engineers have been conducting detailed energy studies and "walk-through" audits for industrial customers system-wide since 1983. Applications addressed include energy-efficient lighting, motors and motor drives, HVAC design and optimization, and energy management systems. Actual on-site measurement supports engineering analyses and conclusions.

The same engineers work during the facility design phase as part of the Industrial Energy-Efficient Plants component of this program. Objectives from both components include reducing peak load, load shifting, and strategic conservation. The Power Quality component was a 1990 program enhancement. Power Quality is an area of major importance to all our customers, especially our industrial customers. The goal of this program is to provide technical expertise to enable the power engineers to better serve our customers.

Load Shape Objective

Peak Clipping, Strategic Conservation, Load Shifting

Criteria for Measuring Progress

Assumed to be a part of technology transfer to market. Results reflected in forecast for population.

Progress to Date

239.3 MW of peak load reduction through December 1995

Short-Term Action Plan

Industrial Time-Of-Use

Objective

Provide price signals which encourage customers to shift load and energy use to off-peak periods.

Description

Optional time-of-use rates are available to all industrial customers. Demand and energy charges are lower during specified off-peak hours. When feasible, time-of-use rates are used as tools by CP&L's energy engineers and power engineers in conjunction with the industrial Audit/Energy-Efficient Plants Program to reduce peak load and improve load factor and increase the economic efficiency of our customers.

Load Shape Objective

Load Shifting

Criteria for Measuring Progress

Megawatts of load reduction due to customer shifting of load to off-peak periods.

Implementation Schedule

Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>
Incremental MW:	3.6	2.3	1.8

There is no impact on annual megawatt-hours because usage is shifted from the on-peak hours to the off-peak hours.

Progress to Date

113.4 MW of peak load reduction through December 1996

Short-Term Action Plan

Large Load Curtailment Program

Objective

Reduce peak load at times when available generating capacity is low relative to system load or when capacity is available, but at a relatively high generation cost.

Description

Customers are provided an economic incentive based upon the avoided peaking capacity cost, to participate in the program. The customer receives a discount monthly for each kilowatt subject to curtailment. For capacity type curtailments, customers are expected to reduce load or "pay" back to the Company a significant portion of discounts previously received. If the curtailment is economic in nature, customers decide whether to curtail or continue to operate at their contract demand level and pay a cents-per-kWh premium. This program is popular with customers who have the ability to increase and decrease significant loads in a short period of time.

Load Shape Objective

Peak Clipping

Criteria for Measuring Progress

The criterion for measuring progress is the difference between the contractual firm demand during a curtailment and the average peak demand for summer and winter.

Implementation Schedule

Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>
Incremental MW:	1	2.5	0

There is no impact on annual megawatt-hours because the reduction in megawatt hours occurring during curtailments is offset by increased megawatt hours during non-curtailed periods.

Progress to date

400 MW peak load reduction through December 1996

Short-Term Action Plan

Potential DSM Programs

CP&L is considering several potential demand-side management programs. The table below provides a listing of the programs for which actions are planned over the next three years. The following pages provide an objective, description, and status of each program.

Residential

Home Comfort Analysis
Performance Home Program

Commercial/ Industrial

Small Load Curtailment

Short-Term Action Plan

Potential DSM Programs

The following table provides a listing of potential DSM programs under consideration by CP&L.

Residential Page No.	Program	Load Shape Objective
30	Home Comfort Analysis	Strategic Conservation
31	Performance Home Program	Strategic Conservation
Commercial/ Industrial		
32	Small Load Curtailment (currently experimental)	Peak Clipping

Short-Term Action Plan

Home Comfort Analysis

Objective

Strategic conservation and increased comfort for the customer.

Description

A formal program utilizing CP&L's Quality Heat Pump dealers to address the areas of performance testing and duct system sealing for existing and new homes. The training is provided by the North Carolina Alternative Energy Corporation or other equivalent agency. The Company currently encourages performance testing and duct sealing in conjunction with other programs.

Load Shape Objective

Strategic Conservation

Status

The Company is continuing to train CP&L personnel on the use and benefits of performance testing and duct sealing. CP&L is allowing any Quality Heat Pump dealer who completes the North Carolina Alternative Energy Corporation duct diagnostic and repair training to utilize CP&L's Home Energy Loan Program to finance performance testing and duct sealing. Dealers will be receiving promotional materials and advertising support. Changes to the residential high efficiency heat pump program were approved in early 1996 and include provisions for improving installation quality through the availability of duct testing and sealing.

Short-Term Action Plan

Performance Home Program

Objective

The objective of this program is to encourage energy-efficiency and environmental awareness among our residential customers. The program will result in better utilization of CP&L facilities, improved load factor, reduction in summer peak load, and improved customer satisfaction.

Description

The proposed Performance Home Program will encourage builders to incorporate features which improve energy-efficiency and provide comfort. As with Common Sense, the homes incorporate features which increase thermal and equipment efficiencies. In addition, the Performance Home Program option includes indoor air quality, water quality, home waste management, high efficiency lighting, and safety features. Once certified, homes qualify for a Comfort guarantee and a Maximum Energy Bill guarantee.

Load Shape Objective

Strategic Conservation

Status

Program is being developed. Performance Home is planned to replace Common Sense and Common Sense Plus.

Short-Term Action Plan

Small Load Curtailment

Objective

This is an experimental program that was developed to achieve the same peak load reduction objectives as the Large Load Curtailment Program. The experiment measures customer response, peak load reduction, and cost savings for curtailable loads characteristic of smaller commercial and industrial customers. An alternative incentive mechanism is also being evaluated.

Description

Customers are provided an economic incentive to reduce load during periods when available capacity is low relative to load. Administration of the program closely parallels that of the Large Load Curtailment Program. This experimental program includes a different incentive (discount) structure which may more appropriately address actual loads curtailed. More incentive is provided for available curtailable load when the Company is most likely to need it, such as the summer and winter peak seasons.

Load Shape Objective

Peak Clipping

Status

The program is currently available on an experimental basis.

Short-Term Action Plan

Supply-Side Resources

Summary of Supply-Side Additions

During the period 1997-1999, CP&L will continue to evaluate options for meeting the need for additional supply-side resources. The table below provides a listing of the supply-side resource additions included in the Company's Integrated Resource Plan and for which actions must be taken over the next three years. A summary discussion of each planned supply-side addition is included on the following pages.

Planned Supply-Side Resource Additions

<u>Peaking Resource Additions</u>	<u>Capacity</u>	<u>Year</u>
Darlington County Addition	240 MW	1997
Wayne County	522 MW	1999
Asheville Combustion Turbine	160 MW	1999
<u>Non-Utility Generators</u>		
United Supply of America	5 MW	1997
Carolina Energy	7 MW	1997
Jordan Hydro Electric	8 MW	1998
<u>Other</u>		
PECO Purchase	200 MW	1998

Short-Term Action Plan

Darlington County Electric Plant Combustion Turbine Addition

The Combustion Turbine Addition will be installed adjacent to eleven existing combustion turbine generating units and will supply approximately 240 megawatts of peaking generating capacity.

Objective

Provide the necessary generating capacity to insure reliable electric service to our customers while maintaining the flexibility to defer generation additions in order to accommodate and respond to future uncertainty.

Criteria for Measuring Progress

Achievement of milestones necessary to have the capacity on-line when needed.

Implementation Schedule

Figure 1 on a following page shows the schedule for placing the Combustion Turbine Addition in-service on June 1, 1997.

Progress To Date

On July 16, 1990, the Company announced plans to add combustion turbine generating units at the Darlington County Electric Plant near Hartsville, South Carolina. An application for a Certificate of Environmental Compatibility and Public Convenience and Necessity was filed with the South Carolina Public Service Commission (SCPSC) on November 30, 1990. The public hearing was held before the Commission on February 7, 1991. The Certificate was issued by order of the South Carolina Public Service Commission on July 16, 1991. The Air Permit Application was submitted to the South Carolina Department of Health and Environmental Control on February 7, 1991. The Air Permit was issued on September 25, 1991. The initial Air Permit was to expire on March 23, 1993. On January 15, 1993, CP&L applied for an extension of the Air Permit with a new expiration date of September 23, 1994, to accommodate the two-year delay of the in-service date to June 1, 1996. The Air Permit was extended on March 23, 1993. On June 6, 1994, CP&L applied for a revision to the Air Permit to allow use of a different CT model. A new revised Air Permit was issued on August 31, 1994 with an expiration date of February 28, 1996. In December 1994, CP&L revised the in-service date to June 1, 1997. On December 9, 1994 CP&L executed a purchase agreement with Westinghouse Electric Corporation to provide and install the combustion turbines for this project. Ground breaking was held on October 17, 1995. Civil site work and foundations installation proceeded during 1996. The first combustion turbine unit arrived on site on November 24, 1996. The second unit arrived January 3, 1997. Installation is proceeding on schedule.

Short-Term Action Plan

Darlington County Electric Plant Combustion Turbine Addition (continued)

Implementation Costs

Project cost information is considered to be confidential data.

Problems Incurred and Resolution

None.

**Figure No. 1
Darlington County Combustion Turbines
Project Milestone Schedule**

Task Name	Start	Finish	1990	1991	1992	1993	1994	1995	1996	1997	
Site Selection	Sun 7/1/90	Sun 7/1/90	◆ 7/1								
Budget: Prod/Trans	Mon 1/1/90	Thu 5/1/97									
Certificate to Construct	Mon 1/1/90	Mon 7/1/91									
Original Air Quality Permit	Mon 1/1/90	Fri 8/30/91									
Revised Air Quality Permit	Fri 4/1/94	Thu 9/1/94									
Turnkey Contract	Fri 12/9/94	Fri 12/9/94								◆ 12/9	
Engineer/Procure/Construct	Wed 3/1/95	Fri 5/30/97									
Startup/Testing	Tue 4/1/97	Fri 5/30/97									
Commercial Operation	Sun 6/1/97	Sun 6/1/97								◆ 6/1	

Short-Term Action Plan

Lee Steam Electric Plant (Wayne County) Combustion Turbine Addition

CP&L has announced plans to add approximately 522 MW (summer rating) of combustion turbine (CT) generating units at a site in Wayne County adjacent to the Lee Steam Electric Plant near Goldsboro, NC.

Objective

Provide the necessary generating capacity to insure reliable electric service to our customers while maintaining the flexibility to defer generation additions in order to accommodate and respond to future uncertainty.

Criteria for Measuring Progress

Achievement of milestones necessary to have the capacity on-line when needed.

Implementation Schedule

Figure 2 on a following page shows a schedule for placing 522 MW in-service on June 1, 1999.

Progress To Date

On December 14, 1994 the Company announced plans to add combustion turbine generating units at the Wayne County site adjacent to the Lee Steam Electric Plant near Goldsboro, NC. On December 19, 1994 the Company filed Preliminary Plans (R8-61 information) with the N.C. Utilities Commission, and the Air Permit Application was submitted to the N.C. Division of Environmental Management. In September 1995, CP&L applied for a Certificate of Public Convenience and Necessity; the Certificate was granted on March 21, 1996 by the North Carolina Utilities Commission. The Air Permit was issued on April 11, 1996. On July 12, 1996 the scheduled in-service date was deferred to June 1, 1999.

Implementation Costs

Project cost information is considered to be confidential data.

Problems Incurred and Resolution

None.

Short-Term Action Plan

Asheville Steam Electric Plant Combustion Turbine Addition

CP&L has announced plans to add a combustion turbine (CT) generating unit (approximately 160 MW, summer rating) at the Asheville Steam Electric Plant in Buncombe County.

Objective

Provide the necessary generating capacity to insure reliable electric service to our customers while maintaining the flexibility to defer generation additions in order to accommodate and respond to future uncertainty.

Criteria for Measuring Progress

Achievement of milestones necessary to have the capacity on-line when needed.

Implementation Schedule

Figure 3 on a following page shows a schedule for placing 160 MW in-service on June 1, 1999.

Progress To Date

On May 9, 1996, CP&L submitted an Air Permit Application with the Western N.C. Regional Air Pollution Control Agency; on August 13, 1996, CP&L received an approved Air Permit from the Agency. On September 4, 1996, the Company filed Preliminary Plans (R8-61 information) with the N.C. Utilities Commission. On January 31, 1997, CP&L applied for a Certificate of Public Convenience and Necessity; hearings have been scheduled by the NCUC for April 22 and June 10, 1997.

Implementation Costs

Project cost information is considered to be confidential data.

Problems Incurred and Resolution

None.

Short-Term Action Plan

Undesignated Peaking Capacity

CP&L's Integrated Resource Plan includes the addition of undesignated peaking capacity beginning in 1999 with additions each year thereafter through 2004. The Company's Integrated Resource Plan indicates that these peaking capacity resources will result in the best capacity mix and that combustion turbines are the best option for meeting the peaking capacity need. No commitments have been made for capacity.

Objective

The objective of these peaking capacity additions is to acquire the additional resources needed to serve our customers' demands with reliable, low cost and efficient sources of capacity while maintaining maximum flexibility to defer generation additions in order to deal with future uncertainty.

Criteria for Measuring Progress

Achievement of milestones necessary to maintain options.

Implementation Schedule

During the period 1997-1999, CP&L will continue to evaluate peak load growth and the need and timing for additional peaking resources. We plan to pursue those activities necessary to maintain the option to install new combustion turbines, including performing site assessments, securing contract options from vendors, and conducting RFP bid solicitations. Should combustion turbines continue to be the best means of meeting the need for additional peaking resources in the late 1990s, firm decisions to proceed or other commitments could be required during the 1997-1999 time period.

Progress to Date

CP&L issued an RFP for 1999 Power Supply Resources on June 12, 1996 and received bids on September 4, 1996, totaling 2,475 MW. Self-build alternatives at Wayne County and Asheville were also evaluated. In January 1997, CP&L selected a 300 MW option proposal for 1999-2003 for contract negotiation, and announced that the Wayne County CT Addition would be scheduled for 1999, and that CP&L would seek a Certificate for a one-unit CT addition at the Asheville Plant for 1999.

CP&L plans to issue an RFP for Power Supply Resources in April 1997 for the year 2000.

Short-Term Action Plan

Undesignated Peaking Capacity (continued)

Implementation Costs

Project cost information is considered to be confidential data.

Problems Incurred and Resolution

None.

Short-Term Action Plan

Purchased Capacity from Non-Utility Generators

Non-Utility Generation Project - Carolina Energy, L.P. Energy

Carolina Energy, L.P. will construct a waste to energy facility on the property of The City of Wilson in Wilson, NC. The surrounding area will supply trash/garbage to a facility in which the waste would be prepared for fueling a local boiler that will drive a 7.3 MW back pressure turbine generator. Additional waste fuel will be trucked to fuel a steam production boiler at the DuPont-Kinston Plant. Due to financial difficulties, the construction of these sites has been interrupted and no firm date is available for completion. For the purposes of this document CP&L assumes an in-service date of September 1997.

Objective

NA

Criteria for Measuring Progress

NA

Implementation Schedule

On July 10, 1995, Carolina Energy and CP&L signed an Electric Power Purchase Agreement for delivery of up to 7.3 MW output to CP&L. The initial term of the agreement is 25 years.

Progress to Date

The facility has been under construction but was halted due to financial difficulties.

Implementation Costs

The contract with Carolina Energy provides for a purchase of up to 7.3 MW at a negotiated rate.

Problems Incurred and Resolution

Developer has experienced financial problems that have not been resolved at this time.

Short-Term Action Plan

Purchased Capacity from Non-Utility Generators - continued

Non-Utility Generation Project - Hydro Matrix - B. E. Jordan Dam

Hydro Matrix will construct an 8 MW hydro generating facility at the B. E. Jordan Dam. The generators will be located in the dam water release tower. The original in-service date was estimated to be January 1998.

Objective

NA

Criteria for Measuring Progress

NA

Implementation Schedule

On February 17, 1995, CP&L signed an Electric Power Purchase Agreement for delivery of up to 8 MW output to CP&L. The initial term of the agreement is for 15 years.

Progress to Date

None known.

Implementation Costs

The contract with Hydro Matrix provides for the purchase of up to 8 MW at CSP-15A 15 year levelized rates.

Problems Incurred and Resolution

Developer has not communicated any construction activities or schedule changes.

Short-Term Action Plan

Purchased Capacity from Non-Utility Generators - continued

Non-Utility Generation Project - United Supply of America/Nashville NUG

United Supply of America will construct a 4.95 MW natural gas fueled, combined cycle combustion turbine adjacent to the Perdue Plant in Nashville, N.C. They will extract process steam for delivery to the Perdue Plant and will sell the electric power that is produced to CP&L. The original in-service date was to be April 1997.

Objective

NA

Criteria for Measuring Progress

NA

Implementation Schedule

On May 28, 1996, CP&L signed an Electric Power Purchase Agreement for delivery of up to 4.95 MW output to CP&L. The initial term of the agreement is for 15 years.

Progress to Date

None known.

Implementation Costs

The contract with United Supply of America provides for purchase of up to 4.95 MW at CSP-16B 15 year levelized rates.

Problems Incurred and Resolution

Developer has not communicated any construction activities or schedule changes.

Short-Term Action Plan

Other PECO Purchase

CP&L has entered into a contract for the purchase of 200 MW from Philadelphia Electric Company (PECO) for the months of June through September of 1998.

Objective

Provide the necessary generating capacity to insure reliable electric service to our customers while maintaining the flexibility to defer generation additions in order to accommodate and respond to future uncertainty.

Criteria for Measuring Progress

Achievement of milestones necessary to have capacity available when needed.

Implementation Schedule

Contract executed October 10, 1996.

Progress To Date

CP&L issued a Notice of Inquiry for peaking capacity in January 1996. The 200 MW proposal from PECO was selected and a contract was executed on October 10, 1996.

Implementation Costs

Estimated purchase information is considered to be confidential data.

Problems Incurred and Resolution

None.