CAROLINA POWER & LIGHT COMPANY

Application for Construction Permit and Operating License

General Information

1. Name of Applicant.

Carolina Power & Light Company

2. Address of Applicant.

336 Fayetteville Street

Raleigh, North Carolina

3. Description of Business and Organization of Applicant.

Applicant is an electric utility engaged exclusively in the generation, purchase, transmission, distribution and sale of electric energy. The territory served by Applicant, an area of approximately 30,000 square miles, includes a substantial portion of the Coastal Plain in North Carolina extending to the Atlantic coast between the Pamlico River and the South Carolina border, the lower Piedmont section in North Carolina and in South Carolina and an area in western North Carolina in and around the City of Asheville. The estimated total population of the service area is in excess of 2,800,000. As of December 31, 1974, the Applicant furnished electric service to approximately 648,000 customers.

Applicant's facilities in Asheville and vicinity are connected with the Applicant's system in other areas served by the Applicant through the facilities of Appalachian Power Company and of Duke Power Company, so that power may be transferred from or to the Asheville area through interconnections with such companies. There are also interconnections with the facilities of Tennessee Valley Authority, Virginia Electric and Power Company, South Carolina Electric & Gas Company, and Yadkin, Inc.

As of December 31, 1974, Applicant owned and operated seven steam electric generating plants with a net capability of 4,578,000 KW, four hydro-electric plants with a net capability of 211,500 KW and internal combustion generating units with a net capability of 1,136,000 KW. Including net purchased power available on a firm commitment basis, the total system capability as of December 31, 1974, was 6,045,500 KW. Applicant currently has under construction two internal combustion generating units with a combined winter capability of 128,000 KW to be completed in 1975, two 821,000 KW nuclear fueled steam electric generating units to be completed in 1975 and 1976, and a 720,000 KW fossil fuel steam electric generating unit to be completed in 1978.

4. Legal Status.

Applicant is a public service corporation formed under the laws of North Carolina in 1926.

The names and addresses of Applicant's directors and principal officers, all of whom are citizens of the United States, are as follows:

Directors:

Shearon Harris, Chairman, Raleigh, North Carolina

Raymond A. Bryan, Goldsboro, North Carolina

Daniel D. Cameron, Sr., Wilmington, North Carolina

Felton J. Capel, Southern Pines, North Carolina

Fulton B. Creech, Sumter, South Carolina

E. Hervey Evans, Laurinburg, North Carolina

L. H. Harvin, Jr., Henderson, North Carolina

Karl G. Hudson, Jr., Raleigh, North Carolina

J. A. Jones, Raleigh, North Carolina

E. G. Lilly, Jr., Raleigh, North Carolina

Sherwood H. Smith, Jr., Raleigh, North Carolina

H. L. Tilghman, Jr., Marion, South Carolina

John B. Veach, Asheville, North Carolina

John F. Watlington, Jr., Winston-Salem, North Carolina

Principal Officers:

Shearon Harris, President, Raleigh, North Carolina

J. A. Jones, Executive Vice President - Engineering, Construction & Operation, Raleigh, North Carolina

Sherwood H. Smith, Jr., Executive Vice President - Administration

Edward G. Lilly, Jr., Senior Vice President and Group Executive, Raleigh, North Carolina

W. J. Ridout, Jr., Senior Vice President and Group Executive, Raleigh, North Carolina

Samuel Behrends, Jr., Vice President, Raleigh, North Carolina

E. M. Geddie, Vice President, Raleigh, North Carolina

W. E. Graham, Jr., Vice President and General Counsel, Raleigh, North Carolina

W. B. Kincaid, Vice President, Raleigh, North Carolina

M. A. McDuffie, Vice President, Raleigh, North Carolina

D. V. Menscer, Vice President, Raleigh, North Carolina

A. L. Morris, Vice President, Raleigh, North Carolina

J. R. Riley, Vice President, Raleigh, North Carolina

R. S. Talton, Vice President, Raleigh, North Carolina

E. E. Utley, Vice President, Raleigh, North Carolina

J. L. Lancaster, Jr., Secretary, Raleigh, North Carolina

James S. Currie, Treasurer, Raleigh, North Carolina

Applicant is not owned, controlled or dominated by an alien, foreign corporation or foreign government. Applicant makes this application on its own behalf and is not acting as agent or representative of any other person.

5. Class and Period of License Applied For.

Applicant requests a class 103 construction permit and operating license for period of 40 years.

6. Description of Facility and Use to Which Facility Will be Put.

Applicant proposes to build and operate four pressurized water nuclear reactors as an integral part of a four-unit nuclear fueled steam electric generating plant to be constructed on an approximately 14,000-acre site in Wake and Chatham Counties, North Carolina. Each unit is designed for operation at a net electrical output of approximately 900 MWe. The corresponding thermal rating of each reactor is 2785 MWt. The first unit constructed is scheduled for commercial operation in March, 1981; the second unit in March, 1982; the third unit in March, 1983; and the fourth unit in March, 1984. Details concerning the plant and its site are contained in the Preliminary Safety Analysis Report (PSAR) constituting a part of this Application. The plant will be used for the commercial generation of electrical energy.

7. Additional Licenses Applied For.

Applicant requests such additional source, special nuclear and byproduct material licenses as may be necessary or appropriate to the construction and operation of the plant.

8. Financial Qualifications.

Applicant's annual report for the year ended December 31, 1973, is attached as Exhibit A. Exhibit A contains a statistical summary of financial statements and energy sales for the years 1963, 1968, 1969, 1970, 1971, 1972, and 1973. Applicant's response to Dr. Lyall Johnson's letter of September 10, 1971, is attached as Exhibit B. Applicant's interim financial statements for the three-month period ended December 31, 1974 is attached as Exhibit C. Attached as Exhibit D is the Prospectus for the Applicant's latest public sale of securities. Attached as Exhibit E is the most recent Officer's Certificate prepared by CP&L

in connection with the issuance of mortgage bonds. Information showing interest coverage is found in Exhibit E. Information showing debt ratio calculations pursuant to the applicable indenture is found in attachments to Exhibit F. Attached as Exhibit F is the applicant's responses to Mr. Walter Butler's letter of December 5, 1974.

Construction of the nuclear plant will be financed as an integral part of Applicant's total construction program. Applicant's program, subject to continuing review and adjustments, is estimated for each of the years 1975-1984 to be as follows:

1975	$342,586,000
1976	365,107,000
1977	434,999,000
1978	513,793,000
1979	460,849,000
1980	488,878,000
1981	615,544,000
1982	748,487,000
1983	852,145,000
1984	946,061,000
TOTAL	$5,768,449,000

Table 1 shows construction costs for planned generating units for the years 1975 through 1984. This table reflects costs associated with construction only, and does not include the additional budgeted costs for transmission, distribution, and general plant facilities.

Applicant's present plans for financing the overall construction program from 1975 to 1984 are outlined in Table 2. The timing, amounts, and types of securities issued may vary depending upon market conditions.

Applicant is able to borrow on a short-term basis at the prime rate of interest. Bond issues sold in recent years have been rated A or Double-A. None of Applicant's outstanding bonds mature prior to 1979. On February 24, 1975, Moody's Investors Service, Inc. downgraded the bond rating to Baa. The Company's commercial paper rating was changed from Prime 1 to Prime 2.

TABLE 1

CAROLINA POWER & LIGHT COMPANY
COMMITMENTS OVER THE LIFE OF THE CONSTRUCTION
OF THE SHEARON HARRIS NUCLEAR POWER PLANT
(000's of Dollars)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	10-Year Total
PRODUCTION PLANT											
Purchase Land for Plants	7,125	5,100	6,100	7,000	7,200	4,300	4,000	4,000	10,000	10,000	64,825
Construct Unit No. 2 - Brunswick-N 821 MW 1975	17,622	-	-	-	-	-	-	-	-	-	17,622
Construct Unit No. 1 - Brunswick-N 821 MW 1976	56,557	11,303	-	-	-	-	-	-	-	-	67,860
Construct Unit No. 4 - Roxboro-F 780 MW 1978	28,455	27,799	34,210	8,924	-	-	-	-	-	-	99,388
Construct Unit No. 1 - Harris-N 900 MW 1981	65,133	103,186	109,582	107,509	99,296	92,910	49,548	-	-	-	627,164
Construct Unit No. 2 - Harris-N 900 MW 1982	29,933	61,115	54,288	52,904	56,119	54,032	52,049	32,865	-	-	393,305
Construct Unit No. 4 - Harris-N 900 MW 1983	2,320	12,848	57,936	94,528	80,094	66,508	63,104	60,270	33,626	-	471,234
Construct Unit No.3 - Harris-N 900 MW 1984	680	8,500	38,220	96,792	73,100	67,600	70,534	59,936	60,152	34,424	509,938
Construct Generating Units - 1985-1991	-	-	-	-	7,344	51,487	199,700	385,473	514,109	640,300	1,798,413
Air & Water Quality Control Devices	26,186	32,312	29,179	10,055	-	-	-	-	-	-	97,732
Additions & Replacements of Generating Plants - System	6,520	2,664	2,694	2,963	3,260	3,586	3,944	4,337	4,772	5,249	39,989
Total Production Plant	240,531	264,827	332,209	380,675	326,413	340,423	442,879	546,881	662,659	689,973	4,187,470

Amendment No. 40

Applicant's estimate of the cost of design and construction of the nuclear plant, including related items, and for procurement of the initial reactor cores for the four units is as follows:

FPC Account No.			
	(a) Nuclear Production Plant Costs	$2,050,757,000	
320	- Land & Land Rights		$ 47,775,000
321	- Structures & Improvements		537,369,000
322	- Reactor Plant Equipment		524,565,000
323	- Turbine Generator Equipment		343,465,000
324	- Accessory Electrical Equipment		119,166,000
325	- Misc. Power Plant Equipment		12,468,000
	- Interest		465,949,000
	(b) Transmission, Distribution & General Plant Cost	$ 62,192,000	
353	- Transmission Plant Sta. Equipment		47,968,000
	Interest		14,224,000
	(c) Nuclear Fuel Inventory Costs	140,867,000	
	Nuclear Fuel		125,693,000
	Interest		15,174,000
	TOTALS	$2,253,816,000	$2,253,816,000

TABLE 2

Applicant: Carolina Power & Light Company Nuclear Plant: Harris

Sources of Funds for System-Wide Construction Expenditures During Period of Construction of Subject Nuclear Power Plant
(millions of dollars)

Security issues and other funds	Construction Years of Subject Nuclear Power Plant									
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Common stock	$105	$100	$ 79	$181	$ 0	$111	$110	$208	$221	$178
Preferred stock	0	50	0	100	50	50	50	50	150	150
Long-term debt	125	125	150	150	300	150	300	300	300	300
Notes payable	29	(27)	88	(9)	(33)	26	16	10	(16)	79
Total	259	248	317	422	317	337	476	568	655	707
Internal Funds										
Net income	82	100	148	168	183	200	200	253	262	305
Less:										
preferred dividends	22	23	27	31	38	40	46	53	61	66
common dividends	47	66	78	93	103	118	134	157	188	229
Retained earnings	13	11	43	44	42	42	20	43	14	10
Deferred taxes	21	29	32	33	37	40	51	63	72	82
Investment tax credit-net	(1)	4	5	10	8	1	(2)	10	0	3
Depreciation & amortization	50	63	67	73	83	94	113	137	159	180
Less: AFDC	51	39	54	72	89	112	107	116	133	145
Total Internal Funds	32	68	93	88	81	65	75	137	112	130
TOTAL FUNDS	$291	$316	$410	$510	$398	$402	$551	$705	$767	$837
Construction Expenditures *										
Nuclear power plants	$139	$172	$224	$295	$231	$187	$159	$ 96	$ 59	$ 27
Other	160	156	160	152	149	202	364	556	685	797
Total Const. Exp's.	$298	$328	$384	$447	$380	$389	$523	$652	$744	$824
Subject nuclear plant	$ 87	$165	$224	$295	$231	$187	$159	$ 96	$ 59	$ 27

* Exclusive of AFDC (Allowance for Funds Used During Construction)

The estimated cost by units is as follows: (All figures in thousands)

(a) Nuclear Production Plant Costs

FPC Account No.	Unit 1	Unit 2	Unit 3	Unit 4	Land	Total
320	33,775	-	-	-	14,000	47,775
321	254,947	84,482	100,983	96,957	-	537,369
322	131,831	116,829	142,312	133,593	-	524,565
323	81,169	74,117	98,253	89,926	-	343,465
324	25,604	28,265	32,361	32,936	-	119,166
325	8,171	1,256	1,561	1,480	-	12,468
Interest	152,597	91,576	118,694	100,347	2,735	465,949

(b) Transmission, Distribution and General Plant Cost

353	9,261	9,108	14,426	15,173	-	47,968
Interest	2,639	2,735	4,560	4,290	-	14,224

(c) Nuclear Fuel Inventory Cost

Fuel	29,991	30,939	33,324	31,439	-	125,693
Interest	3,614	3,733	4,040	3,787	-	15,174
Totals	733,599	443,040	550,514	509,928	16,735	2,253,816

The estimated cash flow or cost by unit by years is as follows:

	Unit 1	Unit 2	Unit 3	Unit 4	Land	Total
Prior to 1975	72,830	15,063	3,212	3,468	14,983	109,556
1975	65,133	29,933	680	2,320	1,752	99,818
1976	103,186	61,115	8,500	12,848	-	185,649
1977	109,582	54,288	38,220	57,936	-	260,026
1978	107,509	52,904	96,792	94,528	-	351,733
1979	99,296	56,119	73,100	80,094	-	308,609
1980	92,910	54,032	67,600	66,508	-	281,050
1981	49,548	52,049	70,534	63,104	-	235,235
1982	-	32,865	59,936	60,270	-	153,071
1983	-	-	60,152	33,626	-	93,778
1984	-	-	34,424	-	-	34,424
Subtotal	699,994	408,368	513,150	474,702	16,735	2,112,949
Fuel Costs	33,605	34,672	37,364	35,226	-	140,867
Totals	733,599	443,040	550,514	509,928	16,735	2,253,816

TABLE 3

PLANT CAPITAL INVESTMENT

SUMMARY - UNIT NO. 1

BASIC DATA

Name of plant	Shearon Harris	Cost basis:	at start of construction
Net capacity	900 MW(e)	(1973 Dollars)	$403,735
Reactor type	PWR		
Location	Wake County	Type of cooling	
Design and construction period		Run of river	
		Natural draft cooling towers	X
Month, year NSSS order placed	4/71	Mechanical draft cooling towers	
Month, year of commerical operation	3/81	Other (describe)	
Length of workweek	40 hrs.		
Interest rate, interest during construction	8%		

COST SUMMARY

Account Number	Account Title	Total Cost (thousand dollars)
	DIRECT COSTS	
20	Land and land rights	$ 33,278
	PHYSICAL PLANT	
21	Structures and site facilities	143,513
22	Reactor plant equipment	103,886
23	Turbine plant equipment	58,905
24	Electric plant equipment	18,742
25	Misc. plant equipment	6,961
	Subtotal	$ 332,007
	Spare parts allowance	*
	Contingency allowance	63,189
	Subtotal	$ 395,196
	INDIRECT COSTS	
91	Construction facilities, equip't, and services	$ 23,026
92	Engineering and const. mg't. services ...	31,060
93	Other costs	66,937
94	Interest during construction	155,332
	Subtotal	$ 276,355
	Start of construction cost	$ 704,829
	Escalation during construction (7 % yr.)	*
	Total plant capital investment $783/KW)	$ 704,829

*Included Above

TABLE 4

PLANT CAPITAL INVESTMENT

SUMMARY - UNIT NO. 2

BASIC DATA

Name of plant	Shearon Harris	Cost basis:	at start of construction
Net capacity	900 MW(e)		(1973 Dollars) 220,179
Reactor type	PWR		
Location	Wake County	Type of cooling	

Design and construction period

Month, year NSSS order placed	4/71	Run of river	
		Natural draft cooling towers	X
Month, year of commerical operation	3/82	Mechanical draft cooling towers	
		Other (describe)	
Length of workweek	40 hrs.		
Interest rate, interest during construction	8%		

COST SUMMARY

Account Number	Account Title	Total Cost (thousand dollars)
	DIRECT COSTS	
20	Land and land rights	$ 0
	PHYSICAL PLANT	
21	Structures and site facilities	49,097
22	Reactor plant equipment	86,910
23	Turbine plant equipment	53,366
24	Electric plant equipment	18,907
25	Misc. plant equipment	915
	Subtotal	$ 209,195
	Spare parts allowance	*
	Contingency allowance	37,814
	Subtotal	$ 247,009
	INDIRECT COSTS	
91	Construction facilities, equip't, and services	$ 10,978
92	Engineering and const. mg't. services ...	9,758
93	Other costs	37,204
94	Interest during construction	91,576
	Subtotal	$ 149,516
	Start of construction cost	$ 396,525
	Escalation during construction (7 % yr.)	*
	Total plant capital investment $441/KW)	$ 396,525

*Included Above

TABLE 5

PLANT CAPITAL INVESTMENT

SUMMARY - UNIT NO. 4

BASIC DATA

Name of plant	Shearon Harris	Cost basis:	at start of construction
Net capacity	900 MW(e)	(1973) Dollars	$227,202
Reactor type	PWR		
Location	Wake County	Type of cooling	

Design and construction period		Run of river	
		Natural draft cooling towers	X
Month, year NSSS order placed	4/71	Mechanical draft cooling towers	
Month, year of commerical operation	3/83	Other (describe)	
Length of workweek	40 hrs.		
Interest rate, interest during construction	8%		

COST SUMMARY

Account Number	Account Title	Total Cost (thousand dollars)
	DIRECT COSTS	
20	Land and land rights	$ 0
	PHYSICAL PLANT	
21	Structures and site facilities	58,557
22	Reactor plant equipment	102,209
23	Turbine plant equipment	66,720
24	Electric plant equipment	22,358
25	Misc. plant equipment	1,065
	Subtotal	$ 250,909
	Spare parts allowance	*
	Contingency allowance	45,071
	Subtotal	$ 295,980
	INDIRECT COSTS	
91	Construction facilities, equip't, and services	$ 12,421
92	Engineering and const. mg't. services ...	8,163
93	Other costs	38,328
94	Interest during construction	100,347
	Subtotal	$ 159,259
	Start of construction cost	$ 455,239
	Escalation during construction (7 % yr.)	*
	Total plant capital investment $506/KW)	$ 455,239

*Included Above

TABLE 6

PLANT CAPITAL INVESTMENT

SUMMARY - UNIT NO. 3

BASIC DATA

Name of plant	Shearon Harris	Cost basis:	at start of construction
Net capacity	900 MW(e)	(1973 Dollars)	$225,385
Reactor type	PWR		
Location	Wake County	Type of cooling	

Design and construction period

Month, year NSSS order placed	4/71	Run of river	
		Natural draft cooling towers	X
Month, year of commerical operation	3/84	Mechanical draft cooling towers	
Length of workweek	40 hrs.	Other (describe)	
Interest rate, interest during construction	8%		

COST SUMMARY

Account Number	Account Title	Total Cost (thousand dollars)
	DIRECT COSTS	
20	Land and land rights	$ 0
	PHYSICAL PLANT	
21	Structures and site facilities	62,703
22	Reactor plant equipment	110,013
23	Turbine plant equipment	72,466
24	Electric plant equipment	22,528
25	Misc. plant equipment	1,126
	Subtotal	$ 268,836
	Spare parts allowance	*
	Contingency allowance	46,558
	Subtotal	$ 315,394
	INDIRECT COSTS	
91	Construction facilities, equip't, and services	$ 12,015
92	Engineering and const. mg't. services ...	10,889
93	Other costs	37,172
94	Interest during construction	118,694
	Subtotal	$ 178,770
	Start of construction cost	$ 494,164
	Escalation during construction (7 % yr.)	*
	Total plant capital investment $549/KW)	$ 494,164

*Included Above

9. Completion Dates.

Applicant contemplates that a construction permit for the four units will be issued on or before November 1, 1975, that Unit No. 1 will be completed and ready for fuel loading on or about September 1, 1980; Unit No. 2 on or about September 1, 1981; Unit No. 4 on or about September 1, 1982; and Unit No. 3 on or about September 1, 1983; and that commercial operation of Unit No. 1 will commence in March, 1981; Unit No. 2 in March, 1982; Unit No. 4 in March, 1983; and Unit No. 3 in March, 1984. The earliest estimated completion dates for the four units are September 1, 1979 for Unit No. 1; September 1, 1980 for Unit No. 2; September 1, 1981 for Unit No. 4, and September 1, 1982 for Unit No. 3. The latest estimated completion dates for the four units are September 1, 1980 for Unit No. 1; September 1, 1981 for Unit No. 2; September 1, 1982 for Unit No. 4, and September 1, 1983 for Unit No. 3.

10. Regulatory Agencies and Media.

Applicant's retail rates and services in North Carolina are subject to the regulatory jurisdiction of the North Carolina Utilities Commission, One West Morgan Street, Raleigh, North Carolina 27601. Applicant's retail rates and services in South Carolina are subject to the regulatory jurisdiction of the South Carolina Public Service Commission, P. O. Drawer 11649, Columbia, South Carolina 29211.

Applicant's wholesale rates and services are subject to the regulatory jurisdiction of the Federal Power Commission, Washington, D. C. 20426.

The following is a listing of the newspapers of general circulation in the Applicant's service area which are considered appropriate to give reasonable notice of the application to those persons who might have a potential interest in the facilities to be constructed by the Applicant: