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50-402 Shearon Harris Nuclear Power Plant, Unit 3, Carolina 05000402
50-403 Shearon Harris Nuclear Power Plant, Unit 4, Carolina 05000403

AUTH.NAME AUTHOR AFFILIATION
JONES,J.A. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards FSAR,Vols 1-20,amended OL application & environ rept for OL stage, Acceptance Review Vols 1-3

10 APPLIC
15 FSAR
20 ER

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CP&L

Carolina Power & Light Company

June 26, 1980

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, D. C. 20555

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NOS. 1, 2, 3, AND 4
DOCKET NOS. 50-400, 50-401, 50-402, AND 50-403
SUBMITTAL OF FINAL SAFETY ANALYSIS REPORT
AND ENVIRONMENTAL REPORT-OPERATING LICENSE STAGE

Dear Mr. Denton:

By application dated June 3, 1971, Carolina Power & Light Company (CP&L) applied for Construction Permits and 40-year Operating Licenses pursuant to Section 103 of the Atomic Energy Act of 1954 as amended, to construct and operate four nuclear power reactors at the Shearon Harris Nuclear Power Plant (SHNPP) located at New Hill, North Carolina. On January 27, 1978, Construction Permits for these four units were issued.

In accordance with the Atomic Energy Act and the rules and regulations issued thereunder, including 10CFR50.30, 10CFR50.34(b), 10CFR50.36, 10CFR50.36a, and 10CFR50.51, CP&L hereby submits the following additional information in support of the issuance of operating licenses for each of the four units:

1. Three originals and ten (10) copies of the amended Application for Operating Licenses,

2. Fifteen (15) copies of the Final Safety Analysis Report, and

3. Twenty (20) copies of the Environmental Report - Operating License Stage.

Based on discussions with your staff in December 1978, and our letters of December 21, 1978 and December 19, 1979, the filing date for the SHNPP Final Safety Analysis Report (FSAR) and Environmental Report (ER)-Operating License Stage was established to be June, 1980. That date was based on receiving Operating Licenses in June 1983, June 1986, June 1990, and June 1988 for Units 1, 2, 3, and 4 respectively.

NONE
5 1/10 APPLIC
15 FSAR
20 ER

SEE LIST

411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

8007170366

Very recently, on June 18, 1980, and after the FSAR and ER-Operating License Stage had been completed, CP&L announced a revised schedule for commercial operation of March 1985, March 1988, March 1994, and March 1992 for Units 1, 2, 3, and 4 respectively. This schedule, which is not reflected in the enclosed operating license application amendment (except where operational dates are specified), requires that an Operating License be issued for fuel loading by June 1984, June 1987, June 1993, and June 1991 for Units 1, 2, 3, and 4 respectively. Based on recent discussions with you and on recent industry experience concerning review time, CP&L believes it is necessary to provide the FSAR, ER and amended Application at this time and for review to begin immediately, notwithstanding these changes in the construction schedule. Appropriate changes necessitated by the recent change in in-service dates for the SHNPP units will be incorporated in the first amendment of the FSAR and ER-Operating License Stage. We do not believe that these technical changes affect the acceptability of the documents and request that the acceptability review under 10CFR2.101 be undertaken promptly.

The Final Safety Analysis Report is written in accordance with the guidance of Regulatory Guide 1.70, Revision 3. The Environmental Report-Operating License Stage is written to the guidance of Regulatory Guide 4.2, Revision 2 and updates the Environmental Report submitted at the Construction Permit phase. The FSAR and ER are written to encompass all four units at SHNPP.

Contained within the FSAR is an appendix which details SHNPP's compliance and commitments to the requirements of TMI Short Term Lessons Learned. Information contained in that appendix, located in Volume 20 of the FSAR, takes precedence over information contained in other sections of the FSAR. Sections which are affected by the appendix are footnoted and the reader is instructed to refer to the TMI Appendix for further information. It is CP&L's intention to incorporate the information contained in the appendix into the affected sections by amendment to the FSAR.

Section 1.7 of Regulatory Guide 1.70, Revision 3, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants," requests that copies of all electrical, instrumentation, and control (EI&C) drawings be forwarded with the Final Safety Analysis Report. Due to sheer bulk, CP&L is not providing those drawings at this time. They are available upon request, when they are needed for your review.

In the appropriate sections of the FSAR, information is provided to describe the capability for storage of spent fuel from CP&L's H. B. Robinson and Brunswick facilities at SHNPP. Consistent with this, the attached Application for Operating License encompasses application to store spent fuel from the Robinson and Brunswick facilities at SHNPP, should the need arise to do so.

Under separate cover, a computer magnetic tape containing two years of meteorological data and five (5) copies of the Physical Security Plan are also being forwarded as part of the application.

As stated in the Application for Operating License, CP&L will comply with the indemnity requirements of 10CFR140.

It is, therefore, requested that Operating Licenses as described in 10CFR50.22 for the SHNPP Units be issued in accordance with the schedule indicated above and Commission rules and regulations.

If you have any questions or if there will be any delays in your beginning your initial acceptability review, we would appreciate you contacting our staff immediately.

Yours very truly,

J. A. Jones
Senior Executive Vice President
Chief Operating Officer

JAJ/mf

Sworn to and subscribed before me this 26th day of June, 1980.

Franklin Murray
Notary Public

My Commission Expires: October 4, 1981

FRANKLIN MURRAY
NOTARY PUBLIC
WAKE COUNTY, N. C.

BEFORE THE

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-400

50-401

50-402

50-403

In the Matter of

Carolina Power & Light Company

APPLICATION FOR LICENSES

UNDER THE ATOMIC ENERGY ACT OF 1954

AS AMENDED

---

for

SHEARON HARRIS NUCLEAR POWER PLANT

(OPERATING LICENSE STAGE AMENDMENT)

CAROLINA POWER & LIGHT COMPANY

APPLICATION FOR OPERATING LICENSE

General Information

1. NAME OF APPLICANT

Carolina Power & Light Company (CP&L)

2. ADDRESS OF APPLICANT

411 Fayetteville Street Mall

Raleigh, North Carolina 27602

3. DESCRIPTION OF BUSINESS 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 an around the City of Asheville. The estimated total population of the service area is in excess of

2,800,000. As of December 31, 1979, the Applicant furnished electric service to approximately 725,000 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, 1979, Applicant owned and operated eight steam electric generating plants with a net summer capability of 5,672,000 KW, four hydroelectric plants with a net capability of 214,000 KW and internal combustion generating units with a net capability of 1,265,500 KW. Three 720,000 KW fossil fueled steam electric generating units are scheduled for completion in 1980, 1983, and 1990, respectively.

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:

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

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

Felton J. Capel, Southern Pines, North Carolina

George H. V. Cecil, Asheville, North Carolina

Charles W. Coker, Jr., Hartsville, South Carolina

Margaret T. Harper, Southport, North Carolina

Shearon Harris, Raleigh, North Carolina

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

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

J. A. Jones, Raleigh, North Carolina

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

A. C. Monk, Jr., Farmville, North Carolina

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

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

Principal Officers:

Name	Position
Sherwood H. Smith, Jr.	President, Chief Executive Officer & Chairman of the Board

J. A. Jones	Senior Executive Vice President and Chief Operating Officer
E. E. Utley	Executive Vice President
Edward G. Lilly, Jr.	Senior Vice President and Chief Financial Officer (Group Executive)
William E. Graham, Jr.	Senior Vice President and General Counsel (Group Executive)
M. A. McDuffie	Senior Vice President (Group Executive)
Wilson W. Morgan	Senior Vice President (Group Executive)
W. J. Ridout, Jr.	Senior Vice President (Group Executive)
James M. Davis, Jr.	Vice President (Group Executive)
Lynn W. Eury	Vice President (Group Executive)
J. L. Lancaster, Jr.	Secretary
L. T. Quarles	Treasurer
Paul S. Bradshaw	Vice President, Controller and Chief Accounting Officer

The address of the foregoing principal officers of CP&L is:

P.O. Box 1551
Raleigh, North Carolina 27602

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 AND USE TO WHICH FACILITIES WILL BE PUT

The license applied for is a Class 103 Operating License pursuant to Section 103 of the Atomic Energy Act of 1954, as amended (the Act) and as defined by 10CFR50.22 for the operation of Units 1, 2, 3, and 4 for a period of forty (40) years.

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 10,800-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, 1985; Unit 2 in March 1988; Unit 4 in March, 1992; and Unit 3 in March 1994. Details concerning the plant and its site are contained in the Final Safety Analysis Report (FSAR) constituting a part of this Application. The plant will be used for the commercial generation of electrical energy.

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.

The Applicant also applies pursuant to applicable regulations, including 10CFR Parts 30, 40, and 70, for such additional source, byproduct and special

nuclear material and other licenses and authorization as may be necessary or appropriate to the possession, use and operation of the facilities licensed pursuant to Section 103 of the Act, and authorization to store source, special nuclear, and byproduct material irradiated in the nuclear reactors licensed under DPR-23, DPR-62, and DPR-71 and subsequently transported to the Shearon Harris Nuclear Power Plant site.

6. FINANCIAL QUALIFICATION OF APPLICANT

Applicant is an established New York Stock Exchange listed corporation with capital stock and retained earnings which totaled $1,431,168,198 at December 31, 1979. Quarterly dividends on Common Stock have been paid in each year since 1946, the year Applicant's Common Stock became publicly held. All applicable dividends on Preferred and Preference stocks accruing since Applicant's incorporation in 1926 have been paid.

Applicant's annual report for the year ended December 31, 1979, is attached as Appendix A. A copy of a recent securities prospectus is included as Appendix B.

The estimated annual costs of operation for the Shearon Harris Nuclear Power Plant (all four units) are as follows:

Fixed Charges[2]	Mills/Killowatthour[1]
Return on Investment (Cost of Money)	12.8
Depreciation	7.8
Income Taxes	7.8
Property Insurance & Tax, A&G	4.5
Subtotal	32.9
Fuel Cycle Costs[3]	
Uranium/Conversion/Enrichment	10.9
Fabrication	1.5
Spent Fuel Storage/Disposal	1.2
Carrying Charges	3.9
Subtotal	17.5
Operation & Maintenance Costs[4]	
Fixed Component	6.8
Variable Component	0.9
Subtotal	7.7
Nuclear Liability Insurance	.1

[1] Levelized 1984-2015; Escalation varies, approximately 9 percent

[2] Using 70 percent capacity factor

[3] Using 10,930 Btu/Kwh

[4] Escalation at 10 percent

[illegible]

The estimated cost of decommissioning each unit in 1978 dollars is estimated to fall within the range of $42.1 million for immediate dismantlement to $51.8 million for safe storage with deferred dismantling, depending on the method selected at the end of the useful life of each unit.

The funds necessary to operate and shut down the facility will be derived from operating revenues associated with the sale of electricity produced by the plant. As a regulated public utility, applicant has reasonable assurance that rates established to cover its costs of producing electricity will be sufficient to cover the above operating and decommissioning costs.

7. 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, Dobbs Building, 430 N. Salisbury Street, Raleigh, North Carolina 27602. 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 Energy Regulatory Commission, Washington, D. C.

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 operated by the Applicant:

Citizen Times	Asheville, North Carolina
Courier Tribune	Asheboro, North Carolina
Daily Record	Dunn, North Carolina
Fayetteville Observer	Fayetteville, North Carolina
Federal Times	Fayetteville, North Carolina
News-Argus	Goldsboro, North Carolina
Henderson Dispatch	Henderson, North Carolina
Daily News	Jacksonville, North Carolina
Kinston Daily Free Press	Kinston, North Carolina
Robesonian	Lumberton, North Carolina
Sun Journal	New Bern, North Carolina
News and Observer	Raleigh, North Carolina
Raleigh Times	Raleigh, North Carolina
Richmond County Journal	Rockingham, North Carolina
Evening Telegram	Rocky Mount, North Carolina
Sanford Herald	Sanford, North Carolina
Daily News	Washington, North Carolina
Star-News	Wilmington, North Carolina
Daily Times	Wilson, North Carolina
Florence Morning News	Florence, South Carolina
Sumter Daily Item	Sumter, South Carolina

8. COMMUNICATIONS

All communications to Applicant pertaining to this Application shall be sent to:

J. A. Jones, Senior Executive Vice President
Chief Operating Officer
Carolina Power & Light Company
411 Fayetteville Street Mall
Raleigh, North Carolina 27602

In addition, it is requested that one copy of each communication be sent to Applicant's counsel:

Shaw, Pittman, Potts, and Trowbridge
1800 M Street NW
Washington, D. C. 20036
Attention: George F. Trowbridge, Esq.

CAROLINA POWER & LIGHT COMPANY

By _____
J. A. Jones, Senior Executive Vice President
Chief Operating Officer

_____
Robert M. Williams
Assistant Secretary

Sworn to and subscribed before me this 26th day of June, 1980.

_____
Notary Public

FRANKLIN MURRAY
NOTARY PUBLIC
WAKE COUNTY, N. C.

My commission expires: October 4, 1981