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		D. Skovholt	ACRS (16)

Docket Nos. 50-400, 50-401,  
50-402 and 50-403

JAN 27 1978

Carolina Power & Light Company  
ATTN: Mr. J. A. Jones, Executive  
Vice President - Engineering  
Construction and Operations  
336 Fayetteville Street  
Raleigh, North Carolina 27602

Gentlemen:

SUBJECT: ISSUANCE OF CONSTRUCTION PERMITS -  
SHEARON HARRIS NUCLEAR POWER PLANT, UNITS 1, 2, 3 AND 4

Pursuant to the Initial Decision, dated January 23, 1978, by the Atomic Safety and Licensing Board, the Nuclear Regulatory Commission has issued Construction Permits CPPR-158, CPPR-159, CPPR-160, and CPPR-161 to the Carolina Power & Light Company. These permits authorize the construction of the Shearon Harris Nuclear Power Plant, Units 1, 2, 3 and 4 to be located near Raleigh, North Carolina in Wake and Chatham Counties.

A copy of Construction Permits CPPR-158, CPPR-159, CPPR-160, and CPPR-161 and a related notice which has been forwarded to the Office of the Federal Register for publication, are enclosed.

Sincerely,

*RS*  
Roger S. Boyd, Director  
Division of Project Management  
Office of Nuclear Reactor Regulation

Enclosures:

1. Construction Permits (4)
2. Federal Register Notice

cc w/enclosures:  
See next page

OFFICE >	LWR #3:LA	LWR #3:LPM	LWR #3:BC	LWR:AD	DD:DPM	D:DPM
SURNAME >	MRushbrook/LM	SMiner <i>SM</i>	ODParr	DBVassallo	RCDeYoung	RSBoyd
DATE >	1/27/78	1/26/78	1/27/78	1/27/78	1/ / 78	1/27/78

Carolina Power & Light Company

- 2 -

JAN 27 1978

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P. O. Box 550  
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Raleigh, North Carolina 27603

Mr. Ben Wimberly, Chairman  
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Aerospace Center (ADL)  
St. Louis Air Force Station, Missouri 63125

Chief, Energy Systems  
Analyses Branch (AW-459)  
Office of Radiation Programs  
U. S. Environmental Protection Agency  
Room 645, East Tower  
401 M Street, S. W.  
Washington, D. C. 20460

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-400

SHEARON HARRIS NUCLEAR POWER PLANT

UNIT NO. 1

CONSTRUCTION PERMIT

Construction Permit No. CPPR-158

1. The Nuclear Regulatory Commission (the Commission) having found that:

- A. The application for construction permits complies with the requirements of the Atomic Energy Act of 1954, as amended, and the rules and regulations of the Commission, there is reasonable assurance that the activities authorized by the permit will be conducted in compliance with the rules and regulations of the Commission, and all required notifications to other agencies or bodies have been duly made;
- B. The Carolina Power & Light Company (the applicant) has described the proposed design of the Shearon Harris Nuclear Power Plant, Unit No. 1 (the facility), including, but not limited to, the principal architectural and engineering criteria for the design and has identified the major features or components incorporated therein for the protection of the health and safety of the public;
- C. Such further technical or design information as may be required to complete the safety analysis, and which can reasonably be left for later consideration, will be supplied in the Final Safety Analysis Report;
- D. Safety features or components, if any, which require research and development have been described by the applicant and the applicant has identified, and there will be conducted, a research and development program reasonably designed to resolve any safety questions associated with such features or components;

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- E. On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facility and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public;
  - F. The applicant is technically qualified to design and construct the proposed facility;
  - G. The applicant is financially qualified to design and construct the proposed facility;
  - H. The issuance of a permit for the construction of the facility will not be inimical to the common defense and security or to the health and safety of the public; and
  - I. After weighing the environmental, economic, technical and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of a construction permit subject to the conditions for protection of the environment set forth herein is in accordance with Appendix D to 10 CFR Part 50 (currently known as 10 CFR Part 51) of the Commission's regulations and all applicable requirements have been satisfied.
2. Pursuant to Section 103 of the Atomic Energy Act of 1954, as amended (the Act), and Title 10, Chapter I, Code of Federal Regulations, Part 50, "Licensing of Production and Utilization Facilities," and pursuant to the Initial Decision of the Atomic Safety and Licensing Board, dated January 23, 1978, the Nuclear Regulatory Commission hereby issues a construction permit to the applicant for a utilization facility designed to operate at a core power level of 2775 megawatts thermal as described in the application and amendments thereto (the application) filed in this matter by the applicant and as more fully described in the evidence received at the public hearing upon that application. The facility, known as the Shearon Harris Nuclear Power Plant, Unit No. 1 will be located on the applicant's site about 16 miles southwest of the nearest boundary of Raleigh in Wake and Chatham Counties, North Carolina.

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3. This permit shall be deemed to contain and be subject to the conditions specified in Sections 50.54 and 50.55, of said regulations; is subject to all applicable provisions of the Act, and rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the conditions specified or incorporated below:
- A. The earliest date for the completion of the facility is June 1, 1983, and the latest date for completion is June 1, 1984.
  - B. The facility shall be constructed and located at the site as described in the application, in Wake and Chatham Counties, North Carolina.
  - C. This construction permit authorizes the applicant to construct the facility described in the application and the hearing record, in accordance with the principal architectural and engineering criteria and commitments set forth therein.
  - D. The applicant is subject to the following antitrust conditions:

Commitment No. 1

Applicant recognizes that it is generally in the public interest for electric utilities to interconnect, coordinate reserves, and engage in bulk power supply transactions, in order to increase electric system reliability and reduce the costs of electric power. Bulk power supply arrangements should be such as to provide benefits, on balance, each to applicant and to other participant(s), respectively. The benefits to participants in such arrangements need not be equal and the benefits realized by a small system may be proportionately greater than those realized by a larger system. In implementing the commitments which it makes in the succeeding paragraphs, applicant will act in accordance with the foregoing principles.

Explanatory Note\*

(a) Neither applicant nor any other participant shall be obligated to enter into such arrangements (1) if to do so would violate, incapacitate, or limit its ability to perform any other existing contractual arrangement, or (2) to do so would adversely affect its system operations or the reliability of power supply to its customers, or (3) if to do so would jeopardize the applicant's ability to finance or construct on reasonable terms facilities needed to meet its own anticipated system requirements.

\* In order to clarify the commitments, certain explanatory notes have been added.

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Commitment No. 2

Applicant will interconnect with and coordinate reserves by means of the sale and exchange of emergency bulk power with any entity or entities in its service area\*\* engaging in or proposing to engage in electric bulk power supply on terms that will provide for applicant's costs (including a reasonable return) in connection therewith; and allow the other participant(s), as well as applicant, full access on a proportionate basis to the benefits of reserve coordination. ("Proportionate basis" refers to the equalized percentage of reserves concept rather than the largest single-unit concept, unless all participants otherwise agree.)

Explanatory Notes

- (a) Interconnections will not be limited to low voltages when higher voltages are available from applicant's installed facilities in the area where interconnection is desired, when the proposed arrangement is found to be technically and economically feasible.
- (b) Emergency service agreements will not be limited to a fixed amount, but emergency service provided under such agreements will be furnished if and when available and desired where such supply does not impair or threaten to impair service to the supplier's customers due to capacity availability, fuel supply, system reliability or other good cause. Applicant, however, shall not be obligated to provide emergency service to another entity in lieu of such entity's maintaining its own adequate system reserves or fuel supply.
- (c) An example of the type of reserve sharing arrangement available to any participant and which would provide "full access on a proportional basis to the benefits of reserve coordination" would be one in which the following conditions would obtain:

\*\*The use of the term "service area" as found in this commitment or in any other section of the commitments is intended to describe those areas in North Carolina and South Carolina where applicant provides some class of electric service, but in no way indicates an assignment or allocation of wholesale market areas.

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- (i) The applicant and each participant(s) shall provide to the other emergency power if and when available from its own generation, or through its transmission from the generation of others to the extent it can do so without disrupting or threatening to impair service to its own customers due to capacity availability, fuel supply, system reliability or other good cause.
- (ii) The participants to the reserve sharing agreement, including applicant, shall, consistent with applicant's reserve policy as established from time to time by applicant, determine a minimum percentage reserve to be installed and/or purchased by the participants, including applicant, as necessary to maintain in total an adequate and reliable power supply on the interconnected system of applicant and participant(s).

Commitment No. 3

Applicant will purchase from or sell "bulk power" to any other entity in its service area engaging in or proposing to engage in the generation of electric power in bulk at the seller's cost (including a reasonable return) whenever such transactions would serve to reduce the overall costs of new bulk power supply, each, for itself and other participant(s) to the transaction, respectively. ("Costs" refers to costs of bulk power supply determined in accordance with the seller's normal practices, without regard to the purchaser's intended use of the power or the status of the purchaser.) This paragraph refers specifically to the opportunity to coordinate in the planning of new generation, transmission and associated facilities. If applicant questions the desirability of a proposed transaction on the ground that it would not reduce its overall bulk power costs, it will make available upon request to the entity proposing the transaction such information as is relevant and reasonably necessary to establish its bulk power costs.

Explanatory Notes

- (a) It is not to be considered that this condition requires applicant to purchase or sell bulk power if such purchase or sale is technically infeasible or that the benefits therefrom do not exceed the costs in connection with such purchase or sale.

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Commitment No. 4

Applicant will facilitate the exchange of bulk power by transmission over its system between or among two or more entities with which it is interconnected on terms which will fully compensate it for the service performed, to the extent that such arrangements reasonably can be accommodated from a functional and technical standpoint.

Explanatory Notes

- (a) This condition applies to entities with which applicant is interconnected in the future as well as those to which it is now interconnected.

Commitment No. 5

Applicant will sell power in bulk to any entity in the aforesaid area now engaging in or proposing to engage in the retail distribution of electric power.

Explanatory Notes

- (a) This is provided that applicant has such power available for sale after making adequate provision for the capacity, fuel and other requirements of its service area customers.

Commitment No. 6

The implementation of these numbered paragraphs shall be in all respects on reasonable terms and conditions as consistent with the Federal Power Act and all other lawful regulation and authority, and shall be subject to engineering and technical feasibility for applicant's system. Applicant will negotiate (including the execution of a contingent statement of intent) with respect to the foregoing commitments with any entity in its service area engaging in or proposing to engage in bulk power supply transactions, but applicant shall not be required to enter into any final arrangements prior to resolution of any substantial questions as to the lawful authority of an entity to engage in the transactions.

Commitment No. 7

In contracts between applicant and its wholesale customers, applicant will not attempt to restrict such customers from electrically connecting with other sources of power if reasonable written notice to applicant has been made and agreement reached by the parties on such measures or conditions, if any, as may be required for the protection and reliability of both systems.

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- E. In accordance with the requirement imposed by the October 8, 1976, order of the United States Court of Appeals for the District of Columbia Circuit in Natural Resources Defense Council vs. Nuclear Regulatory Commission, No. 74-1385 and 74-1586 (cert. granted sub nom Vermont Yankee Nuclear Power Corp. vs. Natural Resources Defense Council, 45 U.S.L.W. 3570, February 22, 1977) that the Nuclear Regulatory Commission "shall make any licenses granted between July 21, 1976 and such time when the mandate is issued subject to the outcome of the proceedings herein," the construction permit issued herein shall be subject to the outcome of such proceedings.
- F. This permit is subject to the following conditions for the protection of the environment:
- (1) The applicant will not dispose of morpholine to the makeup reservoir. Alternative disposal methods or use of a different chemical acceptable to the Staff will be adopted prior to the operation of the facility.
  - (2) The applicant will conduct a comprehensive environmental sampling, monitoring, and surveillance program (biological, chemical, thermal, and radiological) adequate to determine an ecological baseline for measuring the operational impact of the station on land and water ecosystems. The program, (which has been initiated,) shall be continued throughout the construction period and for at least one full year after the last facility is in operation.
  - (3) The applicant will continue its onsite meteorological program and collect weather data with a minimum of 90% recovery. Prior to operation of the facility, at least one full year of data (covering all seasons) will be collected and analyzed to enable a complete description of the site weather so that accurate predictions of the impact of gaseous releases to the surrounding area can be made for both normal and accident conditions of facility operation.
  - (4) The applicant will, as a design objective, provide for the control of the use of chlorine such that average total residual chlorine concentrations in water discharged to the makeup reservoir will not exceed 0.2 ppm.

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- (5) The applicant shall take the necessary mitigating action, including those summarized in Section 4.6 of the Revised Final Environmental Statement, during construction of the station and associated transmission lines to avoid unnecessary adverse environmental impacts from construction activities.
- (6) Before engaging in a construction activity which may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than that evaluated in the Staff's Revised Final Environmental Statement, the applicant shall provide written notification to the Director of Nuclear Reactor Regulation.
- (7) A control program shall be established by the applicant to provide for a periodic review of all construction activities to assure that those activities conform to the environmental conditions set forth in the construction permit.
- (8) If unexpected harmful effects or evidence of irreversible damage are detected during facility construction, the applicant shall provide an acceptable analysis of the problem and a plan of action to eliminate or significantly reduce the harmful effects or damage.
- (9) Prior to initiation of construction of the Harris-Erwin segment of the off-site transmission line, applicant shall submit descriptions of the route and immediate environs to the Staff and obtain Staff approval on the proposed route within the corridor reviewed by the Staff.
- (10) No withdrawals of water from the Cape Fear River will be made which will reduce the stream flow at the Lillington gauge station of the U.S. Geological Survey to less than 600 cubic feet per second nor reduce the stream flow by more than 25% of the stream flow which would exist without withdrawal of water.

4. This permit is subject to the limitation that a license authorizing operation of the facility will not be issued by the Commission unless (a) the applicant submits to the Commission the complete Final Safety Analysis Report; portions of which may be submitted and evaluated from time to time; (b) the Commission finds that the final design provides reasonable assurance that the health and safety of the public

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will not be endangered by the operation of the facility in accordance with procedures approved by it in connection with the issuance of said license; (c) the Commission finds that operation of the facility will be in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements were satisfied; and (d) the applicant submits proof of financial protection and executes an indemnity agreement as required by Section 170 of the Act.

- 5. This permit is effective as of its date of issuance and shall expire on the latest completion date indicated in paragraph 3.A above.

FOR THE NUCLEAR REGULATORY COMMISSION

*15/*  
 Roger S. Boyd, Director  
 Division of Project Management  
 Office of Nuclear Reactor Regulation

Date of Issuance: **JAN 27 1978**

*P6 correction - fractional to functional*

*ATG*  
 AToalston  
 1/27/78

*DSE/EP*  
 W. Egan  
 1/27/78

*VMC*  
 VMc  
 1/27/78

OFFICE	LWR-3/IA/PM	QELD	LWR-3:PC	LWR:A/D	DPM	DPM:D
SURNAME	MRush SMiner	Barth/Rutberg	ODParr	DVassall	RCDeYoung	RSBoyd
DATE	1/27/78	1/27/78	1/27/78	1/27/78	1/ /78	1/27/78

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-401

SHEARON HARRIS NUCLEAR POWER PLANT

UNIT NO. 2

CONSTRUCTION PERMIT

Construction Permit No. CPPR-159

1. The Nuclear Regulatory Commission (the Commission) having found that:

- A. The application for construction permits complies with the requirements of the Atomic Energy Act of 1954, as amended, and the rules and regulations of the Commission, there is reasonable assurance that the activities authorized by the permit will be conducted in compliance with the rules and regulations of the Commission, and all required notifications to other agencies or bodies have been duly made;
- B. The Carolina Power & Light Company (the applicant) has described the proposed design of the Shearon Harris Nuclear Power Plant, Unit No. 2 (the facility), including, but not limited to, the principal architectural and engineering criteria for the design and has identified the major features or components incorporated therein for the protection of the health and safety of the public;
- C. Such further technical or design information as may be required to complete the safety analysis, and which can reasonably be left for later consideration, will be supplied in the Final Safety Analysis Report;
- D. Safety features or components, if any, which require research and development have been described by the applicant and the applicant has identified, and there will be conducted, a research and development program reasonably designed to resolve any safety questions associated with such features or components;

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- E. On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facility and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public;
- F. The applicant is technically qualified to design and construct the proposed facility;
- G. The applicant is financially qualified to design and construct the proposed facility;
- H. The issuance of a permit for the construction of the facility will not be inimical to the common defense and security or to the health and safety of the public; and
- I. After weighing the environmental, economic, technical and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of a construction permit subject to the conditions for protection of the environment set forth herein is in accordance with Appendix D to 10 CFR Part 50 (currently known as 10 CFR Part 51) of the Commission's regulations and all applicable requirements have been satisfied.

2. Pursuant to Section 103 of the Atomic Energy Act of 1954, as amended (the Act), and Title 10, Chapter I, Code of Federal Regulations, Part 50, "Licensing of Production and Utilization Facilities," and pursuant to the Initial Decision of the Atomic Safety and Licensing Board, dated January 23, 1978, the Nuclear Regulatory Commission hereby issues a construction permit to the applicant for a utilization facility designed to operate at a core power level of 2775 megawatts thermal as described in the application and amendments thereto (the application) filed in this matter by the applicant and as more fully described in the evidence received at the public hearing upon that application. The facility, known as the Shearon Harris Nuclear Power Plant, Unit No. 2 will be located on the applicant's site about 16 miles southwest of the nearest boundary of Raleigh in Wake and Chatham Counties, North Carolina.

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3. This permit shall be deemed to contain and be subject to the conditions specified in Sections 50.54 and 50.55, of said regulations; is subject to all applicable provisions of the Act, and rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the conditions specified or incorporated below:
- A. The earliest date for the completion of the facility is June 1, 1985, and the latest date for completion is June 1, 1986.
  - B. The facility shall be constructed and located at the site as described in the application, in Wake and Chatham Counties, North Carolina.
  - C. This construction permit authorizes the applicant to construct the facility described in the application and the hearing record, in accordance with the principal architectural and engineering criteria and commitments set forth therein.
  - D. The applicant is subject to the following antitrust conditions:

Commitment No. 1

Applicant recognizes that it is generally in the public interest for electric utilities to interconnect, coordinate reserves, and engage in bulk power supply transactions, in order to increase electric system reliability and reduce the costs of electric power. Bulk power supply arrangements should be such as to provide benefits, on balance, each to applicant and to other participant(s), respectively. The benefits to participants in such arrangements need not be equal and the benefits realized by a small system may be proportionately greater than those realized by a larger system. In implementing the commitments which it makes in the succeeding paragraphs, applicant will act in accordance with the foregoing principles.

Explanatory Note\*

(a) Neither applicant nor any other participant shall be obligated to enter into such arrangements (1) if to do so would violate, incapacitate, or limit its ability to perform any other existing contractual arrangement, or (2) to do so would adversely affect its system operations or the reliability of power supply to its customers, or (3) if to do so would jeopardize the applicant's ability to finance or construct on reasonable terms facilities needed to meet its own anticipated system requirements.

\* In order to clarify the commitments, certain explanatory notes have been added.

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Commitment No. 2

Applicant will interconnect with and coordinate reserves by means of the sale and exchange of emergency bulk power with any entity or entities in its service area\*\* engaging in or proposing to engage in electric bulk power supply on terms that will provide for applicant's costs (including a reasonable return) in connection therewith; and allow the other participant(s), as well as applicant, full access on a proportionate basis to the benefits of reserve coordination. ("Proportionate basis" refers to the equalized percentage of reserves concept rather than the largest single-unit concept, unless all participants otherwise agree.)

Explanatory Notes

- (a) Interconnections will not be limited to low voltages when higher voltages are available from applicant's installed facilities in the area where interconnection is desired, when the proposed arrangement is found to be technically and economically feasible.
- (b) Emergency service agreements will not be limited to a fixed amount, but emergency service provided under such agreements will be furnished if and when available and desired where such supply does not impair or threaten to impair service to the supplier's customers due to capacity availability, fuel supply, system reliability or other good cause. Applicant, however, shall not be obligated to provide emergency service to another entity in lieu of such entity's maintaining its own adequate system reserves or fuel supply.
- (c) An example of the type of reserve sharing arrangement available to any participant and which would provide "full access on a proportional basis to the benefits of reserve coordination" would be one in which the following conditions would obtain:

\*\*The use of the term "service area" as found in this commitment or in any other section of the commitments is intended to describe those areas in North Carolina and South Carolina where applicant provides some class of electric service, but in no way indicates an assignment or allocation of wholesale market areas.

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- (i) The applicant and each participant(s) shall provide to the other emergency power if and when available from its own generation, or through its transmission from the generation of others to the extent it can do so without disrupting or threatening to impair service to its own customers due to capacity availability, fuel supply, system reliability or other good cause.
- (ii) The participants to the reserve sharing agreement, including applicant, shall, consistent with applicant's reserve policy as established from time to time by applicant, determine a minimum percentage reserve to be installed and/or purchased by the participants, including applicant, as necessary to maintain in total an adequate and reliable power supply on the interconnected system of applicant and participant(s).

Commitment No. 3

Applicant will purchase from or sell "bulk power" to any other entity in its service area engaging in or proposing to engage in the generation of electric power in bulk at the seller's cost (including a reasonable return) whenever such transactions would serve to reduce the overall costs of new bulk power supply, each, for itself and other participant(s) to the transaction, respectively. ("Costs" refers to costs of bulk power supply determined in accordance with the seller's normal practices, without regard to the purchaser's intended use of the power or the status of the purchaser.) This paragraph refers specifically to the opportunity to coordinate in the planning of new generation, transmission and associated facilities. If applicant questions the desirability of a proposed transaction on the ground that it would not reduce its overall bulk power costs, it will make available upon request to the entity proposing the transaction such information as is relevant and reasonably necessary to establish its bulk power costs.

Explanatory Notes

- (a) It is not to be considered that this condition requires applicant to purchase or sell bulk power if such purchase or sale is technically infeasible or that the benefits therefrom do not exceed the costs in connection with such purchase or sale.

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Commitment No. 4

Applicant will facilitate the exchange of bulk power by transmission over its system between or among two or more entities with which it is interconnected on terms which will fully compensate it for the service performed, to the extent that such arrangements reasonably can be accommodated from a functional and technical standpoint.

Explanatory Notes

- (a) This condition applies to entities with which applicant is interconnected in the future as well as those to which it is now interconnected.

Commitment No. 5

Applicant will sell power in bulk to any entity in the aforesaid area now engaging in or proposing to engage in the retail distribution of electric power.

Explanatory Notes

- (a) This is provided that applicant has such power available for sale after making adequate provision for the capacity, fuel and other requirements of its service area customers.

Commitment No. 6

The implementation of these numbered paragraphs shall be in all respects on reasonable terms and conditions as consistent with the Federal Power Act and all other lawful regulation and authority, and shall be subject to engineering and technical feasibility for applicant's system. Applicant will negotiate (including the execution of a contingent statement of intent) with respect to the foregoing commitments with any entity in its service area engaging in or proposing to engage in bulk power supply transactions, but applicant shall not be required to enter into any final arrangements prior to resolution of any substantial questions as to the lawful authority of an entity to engage in the transactions.

Commitment No. 7

In contracts between applicant and its wholesale customers, applicant will not attempt to restrict such customers from electrically connecting with other sources of power if reasonable written notice to applicant has been made and agreement reached by the parties on such measures or conditions, if any, as may be required for the protection and reliability of both systems.

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E. In accordance with the requirement imposed by the October 8, 1976, order of the United States Court of Appeals for the District of Columbia Circuit in Natural Resources Defense Council vs. Nuclear Regulatory Commission, No. 74-1385 and 74-1586 (cert. granted sub nom Vermont Yankee Nuclear Power Corp. vs. Natural Resources Defense Council, 45 U.S.L.W. 3570, February 22, 1977) that the Nuclear Regulatory Commission "shall make any licenses granted between July 21, 1976 and such time when the mandate is issued subject to the outcome of the proceedings herein," the construction permit issued herein shall be subject to the outcome of such proceedings.

F. This permit is subject to the following conditions for the protection of the environment:

- (1) The applicant will not dispose of morpholine to the makeup reservoir. Alternative disposal methods or use of a different chemical acceptable to the Staff will be adopted prior to the operation of the facility.
- (2) The applicant will conduct a comprehensive environmental sampling, monitoring, and surveillance program (biological, chemical, thermal, and radiological) adequate to determine an ecological baseline for measuring the operational impact of the station on land and water ecosystems. The program, (which has been initiated,) shall be continued throughout the construction period and for at least one full year after the last facility is in operation.
- (3) The applicant will continue its onsite meteorological program and collect weather data with a minimum of 90% recovery. Prior to operation of the facility, at least one full year of data (covering all seasons) will be collected and analyzed to enable a complete description of the site weather so that accurate predictions of the impact of gaseous releases to the surrounding area can be made for both normal and accident conditions of facility operation.
- (4) The applicant will, as a design objective, provide for the control of the use of chlorine such that average total residual chlorine concentrations in water discharged to the makeup reservoir will not exceed 0.2 ppm.

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- (5) The applicant shall take the necessary mitigating action, including those summarized in Section 4.6 of the Revised Final Environmental Statement, during construction of the station and associated transmission lines to avoid unnecessary adverse environmental impacts from construction activities.
- (6) Before engaging in a construction activity which may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than that evaluated in the Staff's Revised Final Environmental Statement, the applicant shall provide written notification to the Director of Nuclear Reactor Regulation.
- (7) A control program shall be established by the applicant to provide for a periodic review of all construction activities to assure that those activities conform to the environmental conditions set forth in the construction permit.
- (8) If unexpected harmful effects or evidence of irreversible damage are detected during facility construction, the applicant shall provide an acceptable analysis of the problem and a plan of action to eliminate or significantly reduce the harmful effects or damage.
- (9) Prior to initiation of construction of the Harris-Erwin segment of the off-site transmission line, applicant shall submit descriptions of the route and immediate environs to the Staff and obtain Staff approval on the proposed route within the corridor reviewed by the Staff.
- (10) No withdrawals of water from the Cape Fear River will be made which will reduce the stream flow at the Lillington gauge station of the U.S. Geological Survey to less than 600 cubic feet per second nor reduce the stream flow by more than 25% of the stream flow which would exist without withdrawal of water.

4. This permit is subject to the limitation that a license authorizing operation of the facility will not be issued by the Commission unless (a) the applicant submits to the Commission the complete Final Safety Analysis Report; portions of which may be submitted and evaluated from time to time; (b) the Commission finds that the final design provides reasonable assurance that the health and safety of the public

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will not be endangered by the operation of the facility in accordance with procedures approved by it in connection with the issuance of said license; (c) the Commission finds that operation of the facility will be in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements were satisfied; and (d) the applicant submits proof of financial protection and executes an indemnity agreement as required by Section 170 of the Act.

- 5. This permit is effective as of its date of issuance and shall expire on the latest completion date indicated in paragraph 3.A above.

FOR THE NUCLEAR REGULATORY COMMISSION

151

Roger S. Boyd, Director  
 Division of Project Management  
 Office of Nuclear Reactor Regulation

Date of Issuance: JAN 27 1978

*AIG - P6 correction*  
 AIG  
 AToalston  
 1/27/78

DSE/EP-2  
 W. Reg  
 1/27/78

DSE  
 Moore  
 1/27/78

OFFICE	LWR #3:LA/PM	OELD	LWR #3:BC	LWR:A/D	DPM	DPM&D
SURNAME	SMiner/LM	Bar/Rutberg	ODParr	DBVassallo	RDeYoung	RSBoyd
DATE	1/27/78	1/27/78	1/27/78	1/27/78	1/27/78	1/27/78

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-402

SHEARON HARRIS NUCLEAR POWER PLANT

UNIT NO. 3

CONSTRUCTION PERMIT

Construction Permit No. CPPR-160

1. The Nuclear Regulatory Commission (the Commission) having found that:

- A. The application for construction permits complies with the requirements of the Atomic Energy Act of 1954, as amended, and the rules and regulations of the Commission, there is reasonable assurance that the activities authorized by the permit will be conducted in compliance with the rules and regulations of the Commission, and all required notifications to other agencies or bodies have been duly made;
- B. The Carolina Power & Light Company (the applicant) has described the proposed design of the Shearon Harris Nuclear Power Plant, Unit No. 3 (the facility), including, but not limited to, the principal architectural and engineering criteria for the design and has identified the major features or components incorporated therein for the protection of the health and safety of the public;
- C. Such further technical or design information as may be required to complete the safety analysis, and which can reasonably be left for later consideration, will be supplied in the Final Safety Analysis Report;
- D. Safety features or components, if any, which require research and development have been described by the applicant and the applicant has identified, and there will be conducted, a research and development program reasonably designed to resolve any safety questions associated with such features or components;

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- E. On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facility and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public;
- F. The applicant is technically qualified to design and construct the proposed facility;
- G. The applicant is financially qualified to design and construct the proposed facility;
- H. The issuance of a permit for the construction of the facility will not be inimical to the common defense and security or to the health and safety of the public; and
- I. After weighing the environmental, economic, technical and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of a construction permit subject to the conditions for protection of the environment set forth herein is in accordance with Appendix D to 10 CFR Part 50 (currently known as 10 CFR Part 51) of the Commission's regulations and all applicable requirements have been satisfied.

2. Pursuant to Section 103 of the Atomic Energy Act of 1954, as amended (the Act), and Title 10, Chapter I, Code of Federal Regulations, Part 50, "Licensing of Production and Utilization Facilities," and pursuant to the Initial Decision of the Atomic Safety and Licensing Board, dated January 23, 1978, the Nuclear Regulatory Commission hereby issues a construction permit to the applicant for a utilization facility designed to operate at a core power level of 2775 megawatts thermal as described in the application and amendments thereto (the application) filed in this matter by the applicant and as more fully described in the evidence received at the public hearing upon that application. The facility, known as the Shearon Harris Nuclear Power Plant, Unit No. 3 will be located on the applicant's site about 16 miles southwest of the nearest boundary of Raleigh in Wake and Chatham Counties, North Carolina.

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3. This permit shall be deemed to contain and be subject to the conditions specified in Sections 50.54 and 50.55, of said regulations; is subject to all applicable provisions of the Act, and rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the conditions specified or incorporated below:

- A. The earliest date for the completion of the facility is June 1, 1989, and the latest date for completion is June 1, 1990.
- B. The facility shall be constructed and located at the site as described in the application, in Wake and Chatham Counties, North Carolina.
- C. This construction permit authorizes the applicant to construct the facility described in the application and the hearing record, in accordance with the principal architectural and engineering criteria and commitments set forth therein.
- D. The applicant is subject to the following antitrust conditions:

Commitment No. 1

Applicant recognizes that it is generally in the public interest for electric utilities to interconnect, coordinate reserves, and engage in bulk power supply transactions, in order to increase electric system reliability and reduce the costs of electric power. Bulk power supply arrangements should be such as to provide benefits, on balance, each to applicant and to other participant(s), respectively. The benefits to participants in such arrangements need not be equal and the benefits realized by a small system may be proportionately greater than those realized by a larger system. In implementing the commitments which it makes in the succeeding paragraphs, applicant will act in accordance with the foregoing principles.

Explanatory Note\*

(a) Neither applicant nor any other participant shall be obligated to enter into such arrangements (1) if to do so would violate, incapacitate, or limit its ability to perform any other existing contractual arrangement, or (2) to do so would adversely affect its system operations or the reliability of power supply to its customers, or (3) if to do so would jeopardize the applicant's ability to finance or construct on reasonable terms facilities needed to meet its own anticipated system requirements.

\* In order to clarify the commitments, certain explanatory notes have been added.

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Commitment No. 2

Applicant will interconnect with and coordinate reserves by means of the sale and exchange of emergency bulk power with any entity or entities in its service area\*\* engaging in or proposing to engage in electric bulk power supply on terms that will provide for applicant's costs (including a reasonable return) in connection therewith; and allow the other participant(s), as well as applicant, full access on a proportionate basis to the benefits of reserve coordination. ("Proportionate basis" refers to the equalized percentage of reserves concept rather than the largest single-unit concept, unless all participants otherwise agree.)

Explanatory Notes

- (a) Interconnections will not be limited to low voltages when higher voltages are available from applicant's installed facilities in the area where interconnection is desired, when the proposed arrangement is found to be technically and economically feasible.
- (b) Emergency service agreements will not be limited to a fixed amount, but emergency service provided under such agreements will be furnished if and when available and desired where such supply does not impair or threaten to impair service to the supplier's customers due to capacity availability, fuel supply, system reliability or other good cause. Applicant, however, shall not be obligated to provide emergency service to another entity in lieu of such entity's maintaining its own adequate system reserves or fuel supply.
- (c) An example of the type of reserve sharing arrangement available to any participant and which would provide "full access on a proportional basis to the benefits of reserve coordination" would be one in which the following conditions would obtain:

\*\*The use of the term "service area" as found in this commitment or in any other section of the commitments is intended to describe those areas in North Carolina and South Carolina where applicant provides some class of electric service, but in no way indicates an assignment or allocation of wholesale market areas.

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- (i) The applicant and each participant(s) shall provide to the other emergency power if and when available from its own generation, or through its transmission from the generation of others to the extent it can do so without disrupting or threatening to impair service to its own customers due to capacity availability, fuel supply, system reliability or other good cause.
- (ii) The participants to the reserve sharing agreement, including applicant, shall, consistent with applicant's reserve policy as established from time to time by applicant, determine a minimum percentage reserve to be installed and/or purchased by the participants, including applicant, as necessary to maintain in total an adequate and reliable power supply on the interconnected system of applicant and participant(s).

Commitment No. 3

Applicant will purchase from or sell "bulk power" to any other entity in its service area engaging in or proposing to engage in the generation of electric power in bulk at the seller's cost (including a reasonable return) whenever such transactions would serve to reduce the overall costs of new bulk power supply, each, for itself and other participant(s) to the transaction, respectively. ("Costs" refers to costs of bulk power supply determined in accordance with the seller's normal practices, without regard to the purchaser's intended use of the power or the status of the purchaser.) This paragraph refers specifically to the opportunity to coordinate in the planning of new generation, transmission and associated facilities. If applicant questions the desirability of a proposed transaction on the ground that it would not reduce its overall bulk power costs, it will make available upon request to the entity proposing the transaction such information as is relevant and reasonably necessary to establish its bulk power costs.

Explanatory Notes

- (a) It is not to be considered that this condition requires applicant to purchase or sell bulk power if such purchase or sale is technically infeasible or that the benefits therefrom do not exceed the costs in connection with such purchase or sale.

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Commitment No. 4

Applicant will facilitate the exchange of bulk power by transmission over its system between or among two or more entities with which it is interconnected on terms which will fully compensate it for the service performed, to the extent that such arrangements reasonably can be accommodated from a functional and technical standpoint.

Explanatory Notes

- (a) This condition applies to entities with which applicant is interconnected in the future as well as those to which it is now interconnected.

Commitment No. 5

Applicant will sell power in bulk to any entity in the aforesaid area now engaging in or proposing to engage in the retail distribution of electric power.

Explanatory Notes

- (a) This is provided that applicant has such power available for sale after making adequate provision for the capacity, fuel and other requirements of its service area customers.

Commitment No. 6

The implementation of these numbered paragraphs shall be in all respects on reasonable terms and conditions as consistent with the Federal Power Act and all other lawful regulation and authority, and shall be subject to engineering and technical feasibility for applicant's system. Applicant will negotiate (including the execution of a contingent statement of intent) with respect to the foregoing commitments with any entity in its service area engaging in or proposing to engage in bulk power supply transactions, but applicant shall not be required to enter into any final arrangements prior to resolution of any substantial questions as to the lawful authority of an entity to engage in the transactions.

Commitment No. 7

In contracts between applicant and its wholesale customers, applicant will not attempt to restrict such customers from electrically connecting with other sources of power if reasonable written notice to applicant has been made and agreement reached by the parties on such measures or conditions, if any, as may be required for the protection and reliability of both systems.

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E. In accordance with the requirement imposed by the October 8, 1976, order of the United States Court of Appeals for the District of Columbia Circuit in Natural Resources Defense Council vs. Nuclear Regulatory Commission, No. 74-1385 and 74-1586 (cert. granted sub nom Vermont Yankee Nuclear Power Corp. vs. Natural Resources Defense Council, 45 U.S.L.W. 3570, February 22, 1977) that the Nuclear Regulatory Commission "shall make any licenses granted between July 21, 1976 and such time when the mandate is issued subject to the outcome of the proceedings herein," the construction permit issued herein shall be subject to the outcome of such proceedings.

F. This permit is subject to the following conditions for the protection of the environment:

- (1) The applicant will not dispose of morpholine to the makeup reservoir. Alternative disposal methods or use of a different chemical acceptable to the Staff will be adopted prior to the operation of the facility.
- (2) The applicant will conduct a comprehensive environmental sampling, monitoring, and surveillance program (biological, chemical, thermal, and radiological) adequate to determine an ecological baseline for measuring the operational impact of the station on land and water ecosystems. The program, (which has been initiated,) shall be continued throughout the construction period and for at least one full year after the last facility is in operation.
- (3) The applicant will continue its onsite meteorological program and collect weather data with a minimum of 90% recovery. Prior to operation of the facility, at least one full year of data (covering all seasons) will be collected and analyzed to enable a complete description of the site weather so that accurate predictions of the impact of gaseous releases to the surrounding area can be made for both normal and accident conditions of facility operation.
- (4) The applicant will, as a design objective, provide for the control of the use of chlorine such that average total residual chlorine concentrations in water discharged to the makeup reservoir will not exceed 0.2 ppm.

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- (5) The applicant shall take the necessary mitigating action, including those summarized in Section 4.6 of the Revised Final Environmental Statement, during construction of the station and associated transmission lines to avoid unnecessary adverse environmental impacts from construction activities.
- (6) Before engaging in a construction activity which may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than that evaluated in the Staff's Revised Final Environmental Statement, the applicant shall provide written notification to the Director of Nuclear Reactor Regulation.
- (7) A control program shall be established by the applicant to provide for a periodic review of all construction activities to assure that those activities conform to the environmental conditions set forth in the construction permit.
- (8) If unexpected harmful effects or evidence of irreversible damage are detected during facility construction, the applicant shall provide an acceptable analysis of the problem and a plan of action to eliminate or significantly reduce the harmful effects or damage.
- (9) Prior to initiation of construction of the Harris-Erwin segment of the off-site transmission line, applicant shall submit descriptions of the route and immediate environs to the Staff and obtain Staff approval on the proposed route within the corridor reviewed by the Staff.
- (10) No withdrawals of water from the Cape Fear River will be made which will reduce the stream flow at the Lillington gauge station of the U.S. Geological Survey to less than 600 cubic feet per second nor reduce the stream flow by more than 25% of the stream flow which would exist without withdrawal of water.

4. This permit is subject to the limitation that a license authorizing operation of the facility will not be issued by the Commission unless (a) the applicant submits to the Commission the complete Final Safety Analysis Report; portions of which may be submitted and evaluated from time to time; (b) the Commission finds that the final design provides reasonable assurance that the health and safety of the public

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will not be endangered by the operation of the facility in accordance with procedures approved by it in connection with the issuance of said license; (c) the Commission finds that operation of the facility will be in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements were satisfied; and (d) the applicant submits proof of financial protection and executes an indemnity agreement as required by Section 170 of the Act.

- 5. This permit is effective as of its date of issuance and shall expire on the latest completion date indicated in paragraph 3.A above.

FOR THE NUCLEAR REGULATORY COMMISSION

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Roger S. Boyd, Director  
 Division of Project Management  
 Office of Nuclear Reactor Regulation

Date of Issuance: **JAN 27 1978**

*alt - P6 correction*

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 AToalston  
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 Moore  
 1/27/78

OFFICE	LWR #3:LA/PM	OELD	LWR #3:BC	LWR:A/D	DPM	DPM:D
SURNAME	SMenner	Bart Rutberg	ODParr	DBVassallo	RDeYoung	RSBoyd
DATE	1/27/78	1/27/78	1/27/78	1/27/78	1/ /78	1/27/78

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-403

SHEARON HARRIS NUCLEAR POWER PLANT

UNIT NO. 4

CONSTRUCTION PERMIT

Construction Permit No. CPPR-161

1. The Nuclear Regulatory Commission (the Commission) having found that:

- A. The application for construction permits complies with the requirements of the Atomic Energy Act of 1954, as amended, and the rules and regulations of the Commission, there is reasonable assurance that the activities authorized by the permit will be conducted in compliance with the rules and regulations of the Commission, and all required notifications to other agencies or bodies have been duly made;
- B. The Carolina Power & Light Company (the applicant) has described the proposed design of the Shearon Harris Nuclear Power Plant, Unit No. 4 (the facility), including, but not limited to, the principal architectural and engineering criteria for the design and has identified the major features or components incorporated therein for the protection of the health and safety of the public;
- C. Such further technical or design information as may be required to complete the safety analysis, and which can reasonably be left for later consideration, will be supplied in the Final Safety Analysis Report;
- D. Safety features or components, if any, which require research and development have been described by the applicant and the applicant has identified, and there will be conducted, a research and development program reasonably designed to resolve any safety questions associated with such features or components;

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- E. On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facility and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public;
  - F. The applicant is technically qualified to design and construct the proposed facility;
  - G. The applicant is financially qualified to design and construct the proposed facility;
  - H. The issuance of a permit for the construction of the facility will not be inimical to the common defense and security or to the health and safety of the public; and
  - I. After weighing the environmental, economic, technical and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of a construction permit subject to the conditions for protection of the environment set forth herein is in accordance with Appendix D to 10 CFR Part 50 (currently known as 10 CFR Part 51) of the Commission's regulations and all applicable requirements have been satisfied.
2. Pursuant to Section 103 of the Atomic Energy Act of 1954, as amended (the Act), and Title 10, Chapter I, Code of Federal Regulations, Part 50, "Licensing of Production and Utilization Facilities," and pursuant to the Initial Decision of the Atomic Safety and Licensing Board, dated January 23, 1978, the Nuclear Regulatory Commission hereby issues a construction permit to the applicant for a utilization facility designed to operate at a core power level of 2775 megawatts thermal as described in the application and amendments thereto (the application) filed in this matter by the applicant and as more fully described in the evidence received at the public hearing upon that application. The facility, known as the Shearon Harris Nuclear Power Plant, Unit No. 4 will be located on the applicant's site about 16 miles southwest of the nearest boundary of Raleigh in Wake and Chatham Counties, North Carolina.

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3. This permit shall be deemed to contain and be subject to the conditions specified in Sections 50.54 and 50.55, of said regulations; is subject to all applicable provisions of the Act, and rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the conditions specified or incorporated below:

- A. The earliest date for the completion of the facility is June 1, 1987, and the latest date for completion is June 1, 1988.
- B. The facility shall be constructed and located at the site as described in the application, in Wake and Chatham Counties, North Carolina.
- C. This construction permit authorizes the applicant to construct the facility described in the application and the hearing record, in accordance with the principal architectural and engineering criteria and commitments set forth therein.
- D. The applicant is subject to the following antitrust conditions:

Commitment No. 1

Applicant recognizes that it is generally in the public interest for electric utilities to interconnect, coordinate reserves, and engage in bulk power supply transactions, in order to increase electric system reliability and reduce the costs of electric power. Bulk power supply arrangements should be such as to provide benefits, on balance, each to applicant and to other participant(s), respectively. The benefits to participants in such arrangements need not be equal and the benefits realized by a small system may be proportionately greater than those realized by a larger system. In implementing the commitments which it makes in the succeeding paragraphs, applicant will act in accordance with the foregoing principles.

Explanatory Note\*

(a) Neither applicant nor any other participant shall be obligated to enter into such arrangements (1) if to do so would violate, incapacitate, or limit its ability to perform any other existing contractual arrangement, or (2) to do so would adversely affect its system operations or the reliability of power supply to its customers, or (3) if to do so would jeopardize the applicant's ability to finance or construct on reasonable terms facilities needed to meet its own anticipated system requirements.

\* In order to clarify the commitments, certain explanatory notes have been added.

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Commitment No. 2

Applicant will interconnect with and coordinate reserves by means of the sale and exchange of emergency bulk power with any entity or entities in its service area\*\* engaging in or proposing to engage in electric bulk power supply on terms that will provide for applicant's costs (including a reasonable return) in connection therewith; and allow the other participant(s), as well as applicant, full access on a proportionate basis to the benefits of reserve coordination. ("Proportionate basis" refers to the equalized percentage of reserves concept rather than the largest single-unit concept, unless all participants otherwise agree.)

Explanatory Notes

- (a) Interconnections will not be limited to low voltages when higher voltages are available from applicant's installed facilities in the area where interconnection is desired, when the proposed arrangement is found to be technically and economically feasible.
- (b) Emergency service agreements will not be limited to a fixed amount, but emergency service provided under such agreements will be furnished if and when available and desired where such supply does not impair or threaten to impair service to the supplier's customers due to capacity availability, fuel supply, system reliability or other good cause. Applicant, however, shall not be obligated to provide emergency service to another entity in lieu of such entity's maintaining its own adequate system reserves or fuel supply.
- (c) An example of the type of reserve sharing arrangement available to any participant and which would provide "full access on a proportional basis to the benefits of reserve coordination" would be one in which the following conditions would obtain:

\*\*The use of the term "service area" as found in this commitment or in any other section of the commitments is intended to describe those areas in North Carolina and South Carolina where applicant provides some class of electric service, but in no way indicates an assignment or allocation of wholesale market areas.

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- (i) The applicant and each participant(s) shall provide to the other emergency power if and when available from its own generation, or through its transmission from the generation of others to the extent it can do so without disrupting or threatening to impair service to its own customers due to capacity availability, fuel supply, system reliability or other good cause.
- (ii) The participants to the reserve sharing agreement, including applicant, shall, consistent with applicant's reserve policy as established from time to time by applicant, determine a minimum percentage reserve to be installed and/or purchased by the participants, including applicant, as necessary to maintain in total an adequate and reliable power supply on the interconnected system of applicant and participant(s).

Commitment No. 3

Applicant will purchase from or sell "bulk power" to any other entity in its service area engaging in or proposing to engage in the generation of electric power in bulk at the seller's cost (including a reasonable return) whenever such transactions would serve to reduce the overall costs of new bulk power supply, each, for itself and other participant(s) to the transaction, respectively. ("Costs" refers to costs of bulk power supply determined in accordance with the seller's normal practices, without regard to the purchaser's intended use of the power or the status of the purchaser.) This paragraph refers specifically to the opportunity to coordinate in the planning of new generation, transmission and associated facilities. If applicant questions the desirability of a proposed transaction on the ground that it would not reduce its overall bulk power costs, it will make available upon request to the entity proposing the transaction such information as is relevant and reasonably necessary to establish its bulk power costs.

Explanatory Notes

- (a) It is not to be considered that this condition requires applicant to purchase or sell bulk power if such purchase or sale is technically infeasible or that the benefits therefrom do not exceed the costs in connection with such purchase or sale.

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Commitment No. 4

Applicant will facilitate the exchange of bulk power by transmission over its system between or among two or more entities with which it is interconnected on terms which will fully compensate it for the service performed, to the extent that such arrangements reasonably can be accommodated from a functional and technical standpoint.

Explanatory Notes

- (a) This condition applies to entities with which applicant is interconnected in the future as well as those to which it is now interconnected.

Commitment No. 5

Applicant will sell power in bulk to any entity in the aforesaid area now engaging in or proposing to engage in the retail distribution of electric power.

Explanatory Notes

- (a) This is provided that applicant has such power available for sale after making adequate provision for the capacity, fuel and other requirements of its service area customers.

Commitment No. 6

The implementation of these numbered paragraphs shall be in all respects on reasonable terms and conditions as consistent with the Federal Power Act and all other lawful regulation and authority, and shall be subject to engineering and technical feasibility for applicant's system. Applicant will negotiate (including the execution of a contingent statement of intent) with respect to the foregoing commitments with any entity in its service area engaging in or proposing to engage in bulk power supply transactions, but applicant shall not be required to enter into any final arrangements prior to resolution of any substantial questions as to the lawful authority of an entity to engage in the transactions.

Commitment No. 7

In contracts between applicant and its wholesale customers, applicant will not attempt to restrict such customers from electrically connecting with other sources of power if reasonable written notice to applicant has been made and agreement reached by the parties on such measures or conditions, if any, as may be required for the protection and reliability of both systems.

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- E. In accordance with the requirement imposed by the October 8, 1976, order of the United States Court of Appeals for the District of Columbia Circuit in Natural Resources Defense Council vs. Nuclear Regulatory Commission, No. 74-1385 and 74-1586 (cert. granted sub nom Vermont Yankee Nuclear Power Corp. vs. Natural Resources Defense Council, 45 U.S.L.W. 3570, February 22, 1977) that the Nuclear Regulatory Commission "shall make any licenses granted between July 21, 1976 and such time when the mandate is issued subject to the outcome of the proceedings herein," the construction permit issued herein shall be subject to the outcome of such proceedings.
- F. This permit is subject to the following conditions for the protection of the environment:
- (1) The applicant will not dispose of morpholine to the makeup reservoir. Alternative disposal methods or use of a different chemical acceptable to the Staff will be adopted prior to the operation of the facility.
  - (2) The applicant will conduct a comprehensive environmental sampling, monitoring, and surveillance program (biological, chemical, thermal, and radiological) adequate to determine an ecological baseline for measuring the operational impact of the station on land and water ecosystems. The program, (which has been initiated,) shall be continued throughout the construction period and for at least one full year after the last facility is in operation.
  - (3) The applicant will continue its onsite meteorological program and collect weather data with a minimum of 90% recovery. Prior to operation of the facility, at least one full year of data (covering all seasons) will be collected and analyzed to enable a complete description of the site weather so that accurate predictions of the impact of gaseous releases to the surrounding area can be made for both normal and accident conditions of facility operation.
  - (4) The applicant will, as a design objective, provide for the control of the use of chlorine such that average total residual chlorine concentrations in water discharged to the makeup reservoir will not exceed 0.2 ppm.

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- (5) The applicant shall take the necessary mitigating action, including those summarized in Section 4.6 of the Revised Final Environmental Statement, during construction of the station and associated transmission lines to avoid unnecessary adverse environmental impacts from construction activities.
- (6) Before engaging in a construction activity which may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than that evaluated in the Staff's Revised Final Environmental Statement, the applicant shall provide written notification to the Director of Nuclear Reactor Regulation.
- (7) A control program shall be established by the applicant to provide for a periodic review of all construction activities to assure that those activities conform to the environmental conditions set forth in the construction permit.
- (8) If unexpected harmful effects or evidence of irreversible damage are detected during facility construction, the applicant shall provide an acceptable analysis of the problem and a plan of action to eliminate or significantly reduce the harmful effects or damage.
- (9) Prior to initiation of construction of the Harris-Erwin segment of the off-site transmission line, applicant shall submit descriptions of the route and immediate environs to the Staff and obtain Staff approval on the proposed route within the corridor reviewed by the Staff.
- (10) No withdrawals of water from the Cape Fear River will be made which will reduce the stream flow at the Lillington gauge station of the U.S. Geological Survey to less than 600 cubic feet per second nor reduce the stream flow by more than 25% of the stream flow which would exist without withdrawal of water.

4. This permit is subject to the limitation that a license authorizing operation of the facility will not be issued by the Commission unless (a) the applicant submits to the Commission the complete Final Safety Analysis Report; portions of which may be submitted and evaluated from time to time; (b) the Commission finds that the final design provides reasonable assurance that the health and safety of the public

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will not be endangered by the operation of the facility in accordance with procedures approved by it in connection with the issuance of said license; (c) the Commission finds that operation of the facility will be in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements were satisfied; and (d) the applicant submits proof of financial protection and executes an indemnity agreement as required by Section 170 of the Act.

- 5. This permit is effective as of its date of issuance and shall expire on the latest completion date indicated in paragraph 3.A above.

FOR THE NUCLEAR REGULATORY COMMISSION

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Roger S. Boyd, Director  
 Division of Project Management  
 Office of Nuclear Reactor Regulation

Date of Issuance: JAN 27 1978

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OFFICE	LWR #3:LA/PM	OELDA	LWR #3:BC	LWR:A	DRM	DRM
SURNAME	MR. S. Miner	Barth Rutberg	ODParr	DBVassallo	RDeYoung	RSBoyd
DATE	1/27/78	1/27/78	1/27/78	1/27/78	1/ / 78	1/ / 78

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-400, 50-401, 50-402 AND 50-403

CAROLINA POWER & LIGHT COMPANY

NOTICE OF AVAILABILITY OF INITIAL DECISION OF THE ATOMIC SAFETY  
AND LICENSING BOARD FOR THE SHEARON HARRIS NUCLEAR POWER PLANT, UNITS 1, 2, 3 AND 4  
AND ISSUANCE OF CONSTRUCTION PERMITS

Pursuant to the National Environmental Policy Act of 1969 and the United States Nuclear Regulatory Commission's regulations in Section 51.52(b)(3) of 10 CFR Part 51, notice is hereby given that an Initial Decision dated January 23, 1978, by the Atomic Safety and Licensing Board in the above captioned proceeding authorizing issuance of construction permits to the Carolina Power & Light Company for construction of the Shearon Harris Nuclear Power Plant, Units 1, 2, 3 and 4 located about 20 miles southwest of Raleigh, North Carolina, in Wake and Chatham Counties, is available for inspection by the public in the Commission's Public Document Room at 1717 H Street, N. W., Washington, D.C. and in the Wake County Library, 104 Fayetteville Street, Raleigh, North Carolina 27601.

The Initial Decision is subject to review by an Atomic Safety and Licensing Appeal Board prior to its becoming final. Any decision or action taken by an Atomic Safety and Licensing Appeal Board in connection with the Initial Decision may be reviewed by the Commission.

The Initial Decision is also being made available at the Office of Intergovernmental Relations, 116 West Jones Street, Raleigh, North Carolina 27603 and at the Triangle J. Council of Governments, P. O. Box 12276, Research Triangle Park, Durham, North Carolina 27709.

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Based upon the record developed in the public hearing in the above captioned matter, the Initial Decision modified in certain respects the contents of the Revised Final Environmental Statement relating to the construction of the Shearon Harris Nuclear Power Plant, Units 1, 2, 3 and 4, prepared by the Commission's Office of Nuclear Reactor Regulation. Pursuant to the provisions of Section 51.52(b)(3) of 10 CFR Part 51, the Revised Final Environmental Statement is deemed modified to the extent that the findings and conclusions relating to environmental matters contained in the Initial Decision are different from those contained in the Revised Final Environmental Statement, dated March 1974. As required by Section 51.52(b)(3) of 10 CFR Part 51, a copy of the Initial Decision, which modifies the Revised Final Environmental Statement, has been transmitted to the Council on Environmental Quality and distributed to the Environmental Protection Agency and other interested agencies and persons in accordance with Section 51.26(c) of 10 CFR Part 51.

Pursuant to the above mentioned Initial Decision, the Commission has issued Construction Permits Nos. CPPR-158, CPPR-159, CPPR-160 and CPPR-161 to the Carolina Power & Light Company for construction of four (4) pressurized nuclear reactors, known as the Shearon Harris Nuclear Power Plant, Units 1, 2, 3 and 4, each designed to operate at a core power level of 2775 megawatts thermal with a net electrical output of approximately 900 megawatts.

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The Commission has made appropriate findings as required by the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the construction permits. The application for the construction permits complies with the standards and requirements of the Act and the Commission's rules and regulations.

The construction permits are effective as of their date of issuance. The earliest date for the completion of Unit 1 is June 1, 1983, the latest date for completion is June 1, 1984. The earliest date for the completion of Unit 2 is June 1, 1985, and the latest date for completion is June 1, 1986. The earliest date for the completion of Unit 3 is June 1, 1989, and the latest date for completion is June 1, 1990. The earliest date for the completion of Unit 4 is June 1, 1987, and the latest date for completion is June 1, 1988. Each permit shall expire on the latest date for completion of the facility.

In addition to the Initial Decision, copies of: (1) Construction Permit Nos. CPPR-158, CPPR-159, CPPR-160 and CPPR-161; (2) the report of the Advisory Committee on Reactor Safeguards dated August 19, 1977; (3) the Office of Nuclear Reactor Regulation's Safety Evaluation Report, dated December 22, 1972, and its four (4) supplements, dated April 27, 1973, May 6, 1974, July 30, 1977, and September 20, 1977, respectively; (4) the Preliminary Safety Analysis Report and amendments thereto; (5) the applicant's Revised Environmental Report dated March 16, 1972 and supplements

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thereto; (6) the Draft Environmental Statement, dated November 1972; and (7) the Revised Final Environmental Statement, dated March 1974, are available for public inspection at the Commission's Public Document Room at 1717 H Street, N. W., Washington, D.C. and at the Wake County Library, 104 Fayetteville Street, Raleigh, North Carolina 27601. Copies of the Initial Decision and the Final Environmental Statement are also available for public inspection at the above clearinghouses in North Carolina.

Single copies of the Initial Decision by the Atomic Safety and Licensing Board, the construction permits, the Safety Evaluation Report and supplements thereto, and the Revised Final Environmental Statement may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Project Management.

Dated at Bethesda, Maryland this <sup>27<sup>th</sup></sup> day of January 1978.

FOR THE NUCLEAR REGULATORY COMMISSION

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Olan D. Parr, Chief  
Light Water Reactors Branch No. 3  
Division of Project Management

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DATE	1/26/78	1/27/78	1/27/78	1/27/78		

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