November 27, 1992

Docket Nos. 50-325
and 50-324

Mr. R. A. Watson
Senior Vice President
Nuclear Generation
Carolina Power & Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

Dear Mr. Watson:

SUBJECT: ISSUANCE OF AMENDMENT NO. 158 TO FACILITY OPERATING LICENSE NO. DPR-71 AND AMENDMENT NO. 189 TO FACILITY OPERATING LICENSE NO. DPR-62 REGARDING REFUELING PLATFORM MAST REPLACEMENT - BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2, (TAC NOS. M82845 AND M82846)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 158 to Facility Operating License No. DPR-71 and Amendment No. 189 to Facility Operating License No. DPR-62 for Brunswick Steam Electric Plant, Units 1 and 2. The amendments change the Technical Specifications in response to your submittal dated February 21, 1992, as supplemented August 24, 1992, September 4, 1992, and October 28, 1992.

The amendments revise TS 3/4.9.6 to change the refueling platform overload cutoff setpoint and the refueling platform loaded interlock setpoint for the fuel grapple hoist to accomodate the use of a new General Electric Model NF500 main hoist grapple mast to replace the existing NF400 mast.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's bi-weekly Federal Register Notice.

Sincerely,
ORIGINAL SIGNED BY:

Ronnie H. Lo, Senior Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 158 to License No. DPR-71
2. Amendment No. 189 to License No. DPR-62
3. Safety Evaluation

cc w/enclosures:
See next page

***SEE PREVIOUS CONCURRENCE**

LA:PD21:DRPE	PE:PD21:DRPE	PM:PD21:DRPE	OGC*	D:PD21:DRPE
PAnderson*	CECarpenter/rc	RLo:dt	SHom	EAdensam
11/12/92	11/16/92	11/16/92	9/23/92	11/25/92

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AMENDMENT NO158 TO FACILITY OPERATING LICENSE NO. DPR-71 - BRUNSWICK, UNIT 1
AMENDMENT NO189 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK, UNIT 2

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cc: Brunswick Service List

cc:

Mr. R. B. Richey
Vice President
Brunswick Nuclear Project
P. O. Box 10429
Southport, North Carolina 28461

Mr. H. Ray Starling
Manager - Legal Department
Carolina Power & Light Company
P. O. Box 1551
Raleigh, North Carolina 27602

Mr. Kelly Holden, Chairman
Board of Commissioners
P. O. Box 249
Bolivia, North Carolina 28422

Resident Inspector
U. S. Nuclear Regulatory Commission
Star Route 1
P. O. Box 208
Southport, North Carolina 28461

Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street, Suite 2900
Atlanta, Georgia 30323

Mr. Dayne H. Brown, Director
Division of Radiation Protection
N. C. Department of Environmental,
Commerce and Natural Resources
P. O. Box 27687
Raleigh, North Carolina 27611-7687

Mr. J. W. Spencer
Plant General Manager
Brunswick Steam Electric Plant
P. O. Box 10429
Southport, North Carolina 28461

Public Service Commission
State of South Carolina
P.O. Drawer 11649
Columbia, South Carolina 29211

Mr. H. A. Cole
Special Deputy Attorney General
State of North Carolina
P. O. Box 629
Raleigh, North Carolina 27602

Mr. Robert P. Gruber
Executive Director
Public Staff - NCUC
P. O. Box 29520
Raleigh, North Carolina 27626

Mr. R. B. Starkey, Jr.
Vice President
Nuclear Services Department
Carolina Power & Light Company
P.O. Box 1551
Raleigh, North Carolina 27602

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-325

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 158
License No. DPR-71

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

   A. The application for amendment filed by Carolina Power & Light Company (the licensee), dated February 21, 1992, as supplemented August 24, 1992, September 4, 1992, and October 28, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. DPR-71 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 158, are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Elinor G. Adensam, Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 27, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 158

FACILITY OPERATING LICENSE NO. DPR-71

DOCKET NO. 50-325

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages	Insert Pages
3/4 9-8	3/4 9-8
B 3/4 9-2	B 3/4 9-2

REFUELING OPERATIONS

3/4.9.6 CRANE AND HOIST OPERABILITY

LIMITING CONDITION FOR OPERATION

3.9.6 All cranes and hoists used for handling fuel assemblies or control rods within the reactor pressure vessel shall be OPERABLE.

APPLICABILITY: During movement of fuel assemblies or control rods within the reactor pressure vessel.

ACTION:

With the requirements for crane or hoist OPERABILITY not satisfied, suspend use of any inoperable crane or hoist from operations involving the movement of control rods and fuel assemblies after placing the load in a safe location. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.6 Each crane or hoist used for movement of control rods or fuel assemblies within the reactor pressure vessel shall be demonstrated OPERABLE within 7 days prior to the start of such operations with that crane or hoist by:

a. Demonstrating operation of the overload cutoff when the load exceeds 1600 pounds for the mast fuel gripper and ≤ 1050 pounds for all other cranes and hoists.

b. Demonstrating operation of the loaded interlock when the load exceeds 750 pounds for the mast fuel gripper and ≤ 350 pounds for all other cranes and hoists.

c. Demonstrating operation of the uptravel stop for all cranes and hoists other than the mast fuel gripper when uptravel would bring the top of the active fuel to 7 feet below the normal spent fuel pool water level.

d. Demonstrating operation of the slack cable cutoff when the load is less than 50 ± 25 pounds for the mast fuel gripper.

e. Performing a load test of at least 1000 pounds.

3/4.9.6 CRANE AND HOIST OPERABILITY

The OPERABILITY requirements of the cranes and hoists used for movement of fuel assemblies ensures that: 1) each has sufficient load capacity to lift a fuel element, and 2) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.*

3/4.9.7 CRANE TRAVEL-SPENT FUEL STORAGE POOL

The restriction on movement of loads in excess of the weight specified provides some assurance that with the failure of the lifting device the fuel pool would not be damaged to such a degree that the irradiated fuel would be subjected to a loss-of-coolant.

3/4.9.8 and 3/4.9.9 WATER LEVEL-REACTOR VESSEL AND SPENT FUEL STORAGE POOL

The restrictions on minimum water level ensure that sufficient water depth is available to remove 98% of the assumed 10% iodine gap activity released from the rupture of irradiated fuel assembly. This minimum water depth is consistent with the assumptions of the accident analysis.

3/4.9.10 CONTROL ROD REMOVAL

This specification ensures that maintenance or repair on control rods or control rod drives will be performed under conditions that limit the probability of inadvertent criticality. The requirements for simultaneous removal of more than one control rod are more stringent since the SHUTDOWN MARGIN specification provides for the core to remain subcritical with only one control rod fully withdrawn.

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* The fuel grapple hoist overload cutoff demonstration load of 1600 pounds is based on the submerged fuel bundle loads of 650 pounds, the highest unloaded hoist cable-supported load of approximately 660 pounds, and a tolerance for fuel bundle friction and load spikes of 290 pounds.

  The fuel grapple hoist loaded interlock demonstration load of 750 pounds is based on the highest unloaded hoist cable-supported load of approximately 660 pounds plus a tolerance for load spikes of 90 pounds as sections are raised and lowered.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 189
License No. DPR-62

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

   A. The application for amendment filed by Carolina Power & Light Company (the licensee), dated February 21, 1992, as supplemented August 24, 1992, September 4, 1992, and October 28, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. DPR-62 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 189 , are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Elinor G. Adensam, Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 27, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 189

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages	Insert Pages
3/4 9-8	3/4 9-8
B 3/4 9-2	B 3/4 9-2

REFUELING OPERATIONS

3/4.9.6 CRANE AND HOIST OPERABILITY

LIMITING CONDITION FOR OPERATION

3.9.6 All cranes and hoists used for handling fuel assemblies or control rods within the reactor pressure vessel shall be OPERABLE.

APPLICABILITY: During movement of fuel assemblies or control rods within the reactor pressure vessel.

ACTION:

With the requirements for crane or hoist OPERABILITY not satisfied, suspend use of any inoperable crane or hoist from operations involving the movement of control rods and fuel assemblies after placing the load in a safe location. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.6 Each crane or hoist used for movement of control rods or fuel assemblies within the reactor pressure vessel shall be demonstrated OPERABLE within 7 days prior to the start of such operations with that crane or hoist by:

a. Demonstrating operation of the overload cutoff when the load exceeds 1600 pounds for the mast fuel gripper and ≤ 1050 pounds for all other cranes and hoists.

b. Demonstrating operation of the loaded interlock when the load exceeds 750 pounds for the mast fuel gripper and ≤ 350 pounds for all other cranes and hoists.

c. Demonstrating operation of the uptravel stop for all cranes and hoists other than the mast fuel gripper when uptravel would bring the top of the active fuel to 7 feet below the normal spent fuel pool water level.

d. Demonstrating operation of the slack cable cutoff when the load is less than 50 ± 25 pounds for the mast fuel gripper.

e. Performing a load test of at least 1000 pounds.

3/4.9.6 CRANE AND HOIST OPERABILITY

The OPERABILITY requirements of the cranes and hoists used for movement of fuel assemblies ensures that: 1) each has sufficient load capacity to lift a fuel element, and 2) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.*

3/4.9.7 CRANE TRAVEL-SPENT FUEL STORAGE POOL

The restriction on movement of loads in excess of the weight specified provides some assurance that with the failure of the lifting device the fuel pool would not be damaged to such a degree that the irradiated fuel would be subjected to a loss-of-coolant.

3/4.9.8 and 3/4.9.9 WATER LEVEL-REACTOR VESSEL AND SPENT FUEL STORAGE POOL

The restrictions on minimum water level ensure that sufficient water depth is available to remove 98% of the assumed 10% iodine gap activity released from the rupture of irradiated fuel assembly. This minimum water depth is consistent with the assumptions of the accident analysis.

3/4.9.10 CONTROL ROD REMOVAL

This specification ensures that maintenance or repair on control rods or control rod drives will be performed under conditions that limit the probability of inadvertent criticality. The requirements for simultaneous removal of more than one control rod are more stringent since the SHUTDOWN MARGIN specification provides for the core to remain subcritical with only one control rod fully withdrawn.

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* The fuel grapple hoist overload cutoff demonstration load of 1600 pounds is based on the submerged fuel bundle loads of 650 pounds, the highest unloaded hoist cable-supported load of approximately 660 pounds, and a tolerance for fuel bundle friction and load spikes of 290 pounds.

  The fuel grapple hoist loaded interlock demonstration load of 750 pounds is based on the highest unloaded hoist cable-supported load of approximately 660 pounds plus a tolerance for load spikes of 90 pounds as sections are raised and lowered.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 158 TO FACILITY OPERATING LICENSING NO. DPR-71

AND AMENDMENT NO. 189 TO FACILITY OPERATING LICENSE NO. DPR-62

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2

DOCKET NOS. 50-325 AND 50-324

1.0 INTRODUCTION

By letter dated February 21, 1992, as supplemented August 24, 1992, September 4, 1992, and October 28, 1992, Carolina Power & Light Company (CP&L or the licensee) submitted a request for changes to the Brunswick Steam Electric Plant (BSEP), Units 1 and 2, Technical Specifications (TS). The following supplemental letters did not change the initial proposed no significant hazards consideration. The August 24, 1992, submittal provided typed TS pages and clarifying information. The September 4, 1992, submittal provided corrected TS pages. The October 28, 1992, submittal provided typed TS pages consistent with the proposed change described in Enclosure 1 to the February 21, 1992.

The proposed changes would revise the refueling platform overload cutoff setpoint for the fuel grapple hoist specified in TS 4.9.6.a. from "less than or equal to 1250 pounds" to "1600 pounds." The amendment would also revise the refueling platform loaded interlock setpoint for the fuel grapple hoist specified in TS 4.9.6.b. from "less than or equal to 435 pounds" to "750 pounds." The proposed change is being made to accomodate the use of a new General Electric (GE) Model NF500 main hoist grapple mast that will replace the existing NF400 mast.

2.0 EVALUATION

2.1 Comparison of New and Present Masts

The refueling platform main hoist grapple mast is part of the hoist on the refueling platform. The hoist is used to move fuel assemblies into and out of both the core and spent fuel pool at BSEP. The licensee intends to replace the present mast, a GE Model NF 400, with a Model NF 500, which is heavier (approximately 1015 pounds as compared to 550 pounds) and more rigid. The new mast will have less tendency to bow when used to move fuel assemblies.

The licensee reports that the NF 500 mast is identical in function to the NF 400 mast in grappling, lifting, moving and lowering of fuel assemblies. Use of the NF 500 grapple does not reduce the effectiveness of the platform design features, including the grapple fail-safe brakes and grapple interlocks that are intended to protect against fuel damage when moving. The NF 500 mast has the same single failure protections as the NF 400 mast.

The heavier weight of the NF 500 mast does not overstress the platform which was designed to hold a mast of approximately 1165 pounds.

The height to which a fuel assembly may be raised is the same with the NF 500 mast as with the NF 400 mast i.e., 32 feet.

2.2 Proposed TS

In paragraph "a" of T.S. 4.9.6, the licensee proposes to specify an overload cutoff less than or equal to 1600 pounds for the mast fuel gripper, in lieu of the previously specified cutoff of less than or equal to 1250 pounds. The licensee, in paragraph "b", proposes to change the weight at which the loaded interlock operates from equal to or less than 435 pounds to equal to or less than 750 pounds.

The new overload cutoff load is based upon a submerged fuel bundle weight of 650 pounds, the highest unloaded hoist cable-supported load of 660 pounds, and load spikes of 290 pounds. The new interlock load, 750 pounds, consists of 660 pounds (the highest unloaded hoist cable-supported load) plus a load spike tolerance of 90 pounds.

The licensee also proposes to add the rationale for the cutoff load (1600 pounds) and for the interlock load to the "Bases" for these TSs. Note that specifications 4.9.6a and 4.9.6b, which involve surveillance requirements for cranes and hoists, require that operability of the overload cutoff and loaded interlock be demonstrated within 7 days prior to the start of using the mast fuel gripper, which is part of the main hoist grapple.

2.3 Accident Analysis

The licensee noted that parts of the mast can fall with a fuel assembly. Therefore, a new fuel assembly drop accident analysis is required. The licensee reported that GE had conducted a new analysis, dated April 24, 1992, and forwarded it to the licensee and to NRC. The licensee examined the calculation and judged it to be acceptable. The staff has reviewed the analysis and found it to be bounded by a previous analysis found to be acceptable. Therefore, the new analysis is found to be acceptable.

2.4 Summary

The NF 500 mast appears to be equal or superior to the NF 400 mast in all aspects with the exception of increased weight, which does not present a problem. The question of potential damage due to an increased weight in a potential load drop analysis has been resolved. The proposed changes in TS 4.9.6.a. and 4.9.6.b. together with the changes in the Bases for TS 3/4.9.6, "Crane and Hoist Operability," are also found to be acceptable. Therefore, the staff finds the licensee's proposal to replace the NF-400 mast with the NF-500 mast to be acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of North Carolina official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes the surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (57 FR 11102). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: N. Wagner

Date: November 27, 1992