Docket Nos. 50-325
and 50-324

March 20, 1989

Mr. E. E. Utley
Senior Executive Vice President
Power Supply and Engineering & Construction
Carolina Power & Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

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Dear Mr. Utley:

SUBJECT: ISSUANCE OF AMENDMENT NO. 126 TO FACILITY OPERATING LICENSE NO. DPR-71 AND AMENDMENT NO. 156 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2, REGARDING MODIFICATION OF FIRE DETECTION INSTRUMENTS REQUIRED IN DIESEL GENERATOR BUILDING CELLS (TAC NOS. 69312 AND 69313)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 126 to Facility Operating License No. DPR-71 and Amendment No. 156 to Facility Operating License No. DPR-62, for Brunswick Steam Electric Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your submittal dated August 23, 1988.

The amendments change Technical Specification Tables 3.3.5.7-1 for Units 1 and 2 to reflect the modification of the present fire detection system for the diesel generator cells. The modification includes replacing the present smoke detectors with a combination of heat and flame detectors.

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,

/S/

Ngoc B. Le, Project Manager
Project Directorate II-1
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 126 to License No. DPR-71
2. Amendment No. 156 to License No. DPR-62
3. Safety Evaluation

cc w/enclosures:
See next page

[BSEP12 AMEND 69312 - 69313]

OFO1
1/1

OFC	:LA:PD21:DRPR	:PM:PD21:DRPR	:D:PD21:DRPR	:	:	:	:
NAME	:P.Anderson	:N.Le:jfw	:E.Adensam	:	:	:	:
DATE	:1/31/89	:1/31/89	:3/20/89	:	:	:	:

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Mr. E. E. Utley
Carolina Power & Light Company

Brunswick Steam Electric Plant
Units 1 and 2

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AMENDMENT NO. 126 TO FACILITY OPERATING LICENSE NO. DPR-71 - BRUNSWICK, UNIT 1
AMENDMENT NO. 156 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK, UNIT 2

Docket File
NRC PDR
Local PDR
PDII-1 Reading
G. Lainas (14E4)
E. Adensam (14H3)
E. Reeves
P. Anderson
E. Tourigny
N. Le
B. Mozafari
OGC
D. Hagan (MNBB 3302)
E. Jordan (MNBB 3302)
B. Grimes (9A2)
T. Meeks (4) (P1-137)
W. Jones (P-130A)
E. Butcher (11F23)
ACRS (10)
GPA/PA
ARM/LFMB

cc: Licensee/Applicant Service List

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. 126
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 August 23, 1988, 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. 126, 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

E. A. Reeves, Acting 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: March 20, 1989

OFC	:LA:PD21:DRPR	:PM:PD21:DRPR	:BC:CEB:DST	:OGC	:D:PD21:DRPR	::
NAME	:PAnderson	:N. Le:jfw	:CMcCracken	:	:EReeves	::
DATE	:1/2/89	:1/31/89	:2/ /89	:2/13/89	:3/20/89	:

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ATTACHMENT TO LICENSE AMENDMENT NO. 126

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 3-60	3/4 3-60
3/4 3-61	3/4 3-61

TABLE 3.3.5.7-1

FIRE DETECTION INSTRUMENTS

INSTRUMENT LOCATION		MINIMUM INSTRUMENTS OPERABLE		
		FLAME	HEAT	SMOKE
1. Reactor Building #1				
Zone 1	-17'	0	0	1
Zone 2	-17'	0	0	1
Zone 3	-17'	0	0	6
Zone 4	-17'	0	0	6
Zone 5	20'	0	0	12
Zone 6	20'	0	0	11
Zone 7	20'	0	0	10
Zone 8	50'	0	0	11
Zone 9	50'	0	0	15
Zone 10	80'	0	0	8
Zone 11	80'	0	0	10
Zone 12	98'	0	0	3
Zone 13	117'	0	0	1
Zone 14	117'	0	0	34
Zone 16	77'	0	0	4
2. Control Building				
Zone 1	70'	0	0	9
Zone 2	49'	0	0	4
Zone 3	49'	0	0	4
Zone 4	49'	0	0	13
Zone 5	49'	0	0	14
Zone 6	49'	0	0	6
Zone 7	23'	0	0	3
Zone 8	23'	0	0	3
Zone 9	23'	0	0	25
Zone 10	23'	0	0	24
Zone 11	23'	0	0	3
Zone 12	23'	0	0	3
Zone 13	49'	0	0	9
Zone 14	49'	0	0	9
Zone 15	70'	0	1	0
Zone 16	70'	0	1	0
3. Diesel Generator Building				
Zone 1	2'	0	0	25
Zone 2	2'	0	0	24
Zone 3	50'	0	0	9
Zone 4	23'	0	0	7
Zone 5	23'	3	2	0
Zone 6	23'	3	2	0

TABLE 3.3.5.7-1 (Continued)

INSTRUMENT LOCATION		MINIMUM INSTRUMENTS OPERABLE		
		FLAME	HEAT	SMOKE
3. Diesel Generator Building (Cont'd)				
Zone 7	23'	3	2	0
Zone 8	23'	3	2	0
Zone 9	23'	0	0	8
Zone 10	50'	0	0	9
4. Service Water Building				
Zone 1	4'	0	0	7
Zone 2	20'	0	0	6
5. AOG Building				
Zone 1	20'	0	0	2
Zone 2	20'	0	0	2
Zone 3	20'	1	5	1
Zone 4	37' - 49'	1	6	6

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. 156
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 August 23, 1988, 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 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. 156, 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

/S/

E. A. Reeves, Acting 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: March 20, 1989

OFC	:LA:PD21:DRPR	:PM:PD21:DRPR	:BC:CEB:DEST	:OGC	:D:PD21:DRPR	:	:
NAME	: PAnderson	:N. Le:jfw	:C.McCracken	:	:EReeves	:	:
DATE	: 1/26/89	: 1/31/89	:2/1/89	:	:3/20/89	:	:

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ATTACHMENT TO LICENSE AMENDMENT NO. 156

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 3-60	3/4 3-60
3/4 3-61	3/4 3-61

TABLE 3.3.5.7-1

FIRE DETECTION INSTRUMENTS

INSTRUMENT LOCATION		MINIMUM INSTRUMENTS OPERABLE		
		FLAME	HEAT	SMOKE
1. Reactor Building #2				
Zone 1	-17'	0	0	1
Zone 2	-17'	0	0	1
Zone 3	-17'	0	0	6
Zone 4	-17'	0	0	6
Zone 5	20'	0	0	12
Zone 6	20'	0	0	10
Zone 7	20'	0	0	9
Zone 8	50'	0	0	11
Zone 9	50'	0	0	15
Zone 10	80'	0	0	9
Zone 11	80'	0	0	10
Zone 12	98'	0	0	3
Zone 13	117'	0	0	1
Zone 14	117'	0	0	34
Zone 16	77'	0	0	4
2. Control Building				
Zone 1	70'	0	0	9
Zone 2	49'	0	0	4
Zone 3	49'	0	0	4
Zone 4	49'	0	0	13
Zone 5	49'	0	0	14
Zone 6	49'	0	0	6
Zone 7	23'	0	0	3
Zone 8	23'	0	0	3
Zone 9	23'	0	0	25
Zone 10	23'	0	0	24
Zone 11	23'	0	0	3
Zone 12	23'	0	0	3
Zone 13	49'	0	0	9
Zone 14	49'	0	0	9
Zone 15	70'	0	1	0
Zone 16	70'	0	1	0
3. Diesel Generator Building				
Zone 1	2'	0	0	25
Zone 2	2'	0	0	24
Zone 3	50'	0	0	9
Zone 4	23'	0	0	7
Zone 5	23'	3	2	0
Zone 6	23'	3	2	0

TABLE 3.3.5.7-1 (Continued)

INSTRUMENT LOCATION		MINIMUM INSTRUMENTS OPERABLE		
		FLAME	HEAT	SMOKE
3. Diesel Generator Building (Cont'd)				
Zone 7	23'	3	2	0
Zone 8	23'	3	2	0
Zone 9	23'	0	0	8
Zone 10	50'	0	0	9
4. Service Water Building				
Zone 1	4'	0	0	7
Zone 2	20'	0	0	6
5. AOG Building				
Zone 1	20'	0	0	2
Zone 2	20'	0	0	2
Zone 3	20'	1	5	1
Zone 4	37' - 49'	1	6	6

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 126 TO FACILITY OPERATING LICENSE NO. DPR-71

AND AMENDMENT NO. 156 TO FACILITY OPERATING LICENSE NO. DPR-62

CAROLINA POWER & LIGHT COMPANY, et al.

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2

DOCKET NOS. 50-325 AND 50-324

1.0 INTRODUCTION

By letter dated August 23, 1988, Carolina Power & Light Company (the licensee) submitted a request for changes to the Brunswick Steam Electric Plant, Units 1 and 2, Technical Specifications to reflect a proposed modification to the fire detection instruments in the fire detection zones DG5, DG6, DG7, and DG8 in the diesel generator (DG) building.

The amendments change Table 3.3.5.7-1 in the Units 1 and 2 Technical Specifications to reflect the proposed modification of the present fire detection system for the diesel generator cells. The detection system will be modified by replacing the present smoke detectors with a combination of heat and flame detectors.

2.0 EVALUATION

In the request for changes, the licensee provided the staff with the following appraisal of the existing fire detection, particularly in the DG building.

> The function of the plant's fire detection system is to monitor continuously for the presence of a fire and to alarm in the event of a fire. The system consists of detectors, control panels, annunciator panels, and associated electrical circuits. The fire detection system is arranged into detector zones which consist of an electrical circuit with its associated detectors. Detector zones are used where a common area or hazard is covered by fire detectors. A separate fire detector zone (DG5, DG6, DG7, and DG8) has been designated for each diesel generator cell.
>
> Based on the fire hazards analysis contained in Section 9.5 of the Updated FSAR, there are two basic fire hazards

associated with the diesel generator cells. These are: (1) fires associated with ordinary combustible materials due to transient combustibles in the area, and (2) fires associated with combustion of fuel oil. Exposure from ordinary combustible fires is not expected to be severe enough to damage safety related equipment. Fuel oil fires are also not projected to be severe unless they occur between the diesel generator fuel pump and the fuel injectors. Because of the high pressure and atomized spray of fuel oil at this location, the fire would be intense and severe damage to the diesel generator could occur. This type of fire would produce intense heat and visible flame.

Currently, the diesel generator cells are equipped with smoke detectors. Smoke detectors are sensitive instruments capable of detecting the early products of combustion before they become visible smoke. Due to their sensitivity to aerosols, other than those produced by a fire, the subject smoke detectors have been yielding an excessive number of unnecessary alarms.

To reduce the number of unnecessary alarms, the licensee proposes to modify the present fire detection system for the diesel generator cells by replacing the present smoke detectors with a combination of heat and flame detectors. The heat detectors are of the fixed temperature/rate of temperature rise time type and are extremely reliable. The flame detectors are of the infrared type. Both detector types are expected to initiate few unnecessary alarms in this application. Although smoke detectors respond faster than the heat detectors to most fires, this shortcoming is more than compensated for by the flame detectors that respond faster than smoke detectors to flaming fires, which is the type of fire expected. The proposed combination of heat and flame detectors is expected to provide a more dependable service than that from smoke detectors, without sacrificing performance.

The staff has reviewed the proposed modification and associated Technical Specification changes and agree with the licensee's appraisal of the potential problems with the existing type of the detection system instruments. The staff found the proposed changes, to be consistent with the guidance of SRP BTP 9.5-1 and NFPA 72D, Standard for the Installation , Maintenance and Use of Proprietary Protective Signaling Systems, published by the National Fire Protection Association.

The modifications proposed by the licensee for the fire detection systems in the emergency diesel-generator buildings and the corresponding changes to their operating license Technical Specifications are, therefore, acceptable to the staff.

3.0 ENVIRONMENTAL CONSIDERATIONS

These amendments change a requirement with respect to installation or use of a facility component located within the restricted areas as defined in 10 CFR Part 20. The staff has determined that these amendments involve no significant increase in the amounts, and no significant change in the

types, of any effluents that may be released off site; and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration, and there has been no public comment on such finding. Accordingly, these amendments meet 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 these amendments.

4.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration which was published in the Federal Register on February 1, 1989 at 54 FR 5161, and consulted with the State of North Carolina. No public comments or requests for hearing were received, and the State of North Carolina did not have any comments.

The staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: N. B. Le

Dated: March 20, 1989