June 26, 1989

Docket Nos. 50-325
and 50-324

DISTRIBUTION
See attached list

Mr. Lynn W. Eury
Executive Vice President
Power Supply
Carolina Power & Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

Dear Mr. Eury:

SUBJECT: ISSUANCE OF AMENDMENT NO. 134 TO FACILITY OPERATING LICENSE NO. DPR-71 AND AMENDMENT NO.164 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2, REGARDING RADIOACTIVE WASTE OIL INCINERATION (TAC NOS. 65930 AND 65931)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 134 to Facility Operating License No. DPR-71 and Amendment No.164 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 in response to your submittal dated June 23, 1987, as revised March 29, 1989.

The amendments add surveillance and radioactive release requirements for incinerated oil to the Radiological Environmental Technical Specifications (RETS).

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,

Ngoc B. Le

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

Enclosures:
1. Amendment No. 134 to License No. DPR-71
2. Amendment No. 164 to License No. DPR-62
3. Safety Evaluation

cc w/enclosures:
See next page

BSEP12 AMEND 65930/31

DF01

OFC	:LA:PD21:DRPR	:PM:PD21:DRPR	:D:PD21:DRPR	:	:	:
NAME	: PAnderson	: N. Le	: EAdensam	:	:	:
DATE	: 5/9/89	: 5/10/89	: 5/25/89	:	:	:

cc:

Mr. Russell B. Starkey, Jr.
Project Manager
Brunswick Nuclear Project
P. O. Box 10429
Southport, North Carolina 28461

Mr. R. E. Jones, General Counsel
Carolina Power & Light Company
P. O. Box 1551
Raleigh, North Carolina 27602

Ms. Grace Beasley
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, Chief
Radiation Protection Branch
Division of Facility Services
N. C. Department of Human Resources
701 Barbour Drive
Raleigh, North Carolina 27603-2008

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

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 27626-0520

AMENDMENT NO. 134 TO FACILITY OPERATING LICENSE NO. DPR-71 - BRUNSWICK, UNIT 1
AMENDMENT NO. 164 TO FACILITY OPERATING LICENSE NO. DPR-62 - BRUNSWICK, UNIT 2

Docket File
NRC PDR
Local PDR
PDII-1 Reading
S. Varga (14E4)
G. Lainas
E. Adensam
P. Anderson
E. Tourigny
N. Le
L.Spessard (MNBB 3701)
OGC
D. Hagan (MNBB 3302)
E. Jordan (MNBB 3302)
B. Grimes (9A2)
T. Meeks (8) (P1-137)
W. Jones (P-130A)
J. Cavo
W. Meinke (11D23)
ACRS (10)
GPA/PA
ARM/LFMB

cc: Licensee/Applicant Service List

DFO1
1/1

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. 134
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 June 23, 1987, as revised March 29, 1989, 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. 134, 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

Original Signed By:

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: June 26, 1989

OFC	:LA:PD21:DRPR	:PM:PD21:DRPR	:OGC	:D:PD21:DRPR	:PRAB	:
NAME	: PAnderson	:NLe:jfw	:	: EAdensam	: JCunningham	:
DATE	:6/9/89	:6/9/89	:5/30/89	:6/26/89	5/24/89	:

OFFICIAL RECORD COPY

ATTACHMENT TO LICENSE AMENDMENT NO. 134

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 11-12	3/4 11-12
-	3/4 11-14a
3/4 11-16	3/4 11-16
B 3/4 11-3	B 3/4 11-3
B 3/4 11-5	B 11-5
6-24	6-24

TABLE 4.11.2-1

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD)[a] (μ Ci/ml)
A. Drywell Purge	P Each Purge Grab Samples	P Each Purge	Principal Gamma Emmitters[b]	1×10^{-4}
B. Environmental Release Points - Main Stack, Reactor Building Vents, Turbine Building Vents, Hot Shop[h]	M[c][d] Grab Sample	M[c]	Principal Gamma Emmitters[b]	1×10^{-4}
			H-3	1×10^{-6}
	Continuous[e]	W[f][g] Charcoal Sample	I-131	1×10^{-12}
	Continuous[e]	W[f][g] Particulate Sample	Principle Gamma Emmitters[b] (I-131, others)	1×10^{-11}
	Continuous[e]	M Composite Particulate Sample	Gross Alpha	1×10^{-11}
	Continuous[e]	Q Composite Particulate Sample	Sr-89, Sr-90	1×10^{-11}
	Continuous[e]	Noble Gas Monitor	Noble Gases, Gross Beta or Gamma	1×10^{-6}
C. Incinerated Oil[i]	P Each Batch[j] Grab Sample	P Each Batch[j]	Principle Gamma[b] Emitter	5×10^{-7}

TABLE 4.11.2-1 (Continued)

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

TABLE NOTATION

(i) Releases from incinerated oil may be discharged via points other than the main vent (e.g., incinerator). Release shall be accounted for based on pre-release grab sample data.

(j) Samples of waste oil to be incinerated shall be collected from and representative of oil in liquid form.

RADIOACTIVE EFFLUENTS

DOSE - IODINE-131, IODINE-133, TRITIUM, AND RADIONUCLIDES IN PARTICULATE FORM

LIMITING CONDITION FOR OPERATION

3.11.2.3 The dose to a MEMBER OF THE PUBLIC from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from the site to areas at and beyond the SITE BOUNDARY (see Figure 5.1.3-1) shall be limited to the following:

a. During any calendar quarter: Less than or equal to 15 mrems to any organ; and

b. During any calendar year: Less than or equal to 30 mrems to any organ.

c. Less than 0.1% of the limits of 3.11.2.3(a) and (b) as a result of burning contaminated oil.

APPLICABILITY: At all times.

ACTION:

a. With the calculated dose from the release of iodine-131, iodine-133, tritium, and radionuclides in particulate form with half-lives greater than 8 days, in gaseous effluents exceeding any of the above limits, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that identifies the cause(s) for exceeding the limit and defines the corrective actions that have been taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be in compliance with the above limits.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.3 Dose Calculations - Cumulative dose contributions for the current calendar quarter and current calendar year for iodine-131, iodine-133, tritium, and radionuclides in particulate form with half-lives greater than 8 days shall be determined in accordance with the ODCM at least once per 31 days.

NOTE: See Bases 3/4.11.2.3

3/4.11.1.4 LIQUID HOLDUP TANKS

The tanks listed in this specification include all those outdoor tanks that are not surrounded by liners, dikes, or walls capable of holding the tank contents and do not have tank overflows and surrounding area drains connected to the liquid radwaste treatment system with the exception of the auxiliary surge tank. The auxiliary surge tank is excluded from this specification because the tank and its associated piping are all Seismic Class I.

Since the condensate storage tanks have continuous influent and effluent, stratification should not occur. Samples taken from the operating condensate transfer pump(s) vent or drain shall be deemed representative of this system.

"Without delay" implies that the operator, upon determining the limiting condition for operation is being exceeded, takes the next appropriate action to comply with the specification.

3/4.11.2 GASEOUS EFFLUENTS

3/4.11.2.1 DOSE RATE

This specification is provided to ensure that the dose rate at and beyond the SITE BOUNDARY from gaseous effluents from all units on the site will be within the annual dose rate limits of 10 CFR Part 20 for UNRESTRICTED AREAS. The annual dose limits are the doses associated with the concentration of 10 CFR Part 20, Appendix B, Table II, Column 1. These limits provide reasonable assurance that radioactive material discharged in gaseous effluents will not result in the exposure of a MEMBER OF THE PUBLIC in an UNRESTRICTED AREA, either within or outside the SITE BOUNDARY, to annual average concentrations exceeding the limits specified in Appendix B, Table II, of 10 CFR Part 20 [10 CFR Part 20.106 (b)]. For MEMBERS OF THE PUBLIC who may at times be within the SITE BOUNDARY, the occupancy of that MEMBER OF THE PUBLIC will be sufficiently low to compensate for any increase in the atmospheric diffusion factor above that for the SITE BOUNDARY. The specified release rate limits restrict, at all times, the corresponding gamma and beta dose rates above background to a MEMBER OF THE PUBLIC at or beyond the SITE BOUNDARY to less than or equal to 500 mrems/year to the total body or to less than or equal to 3000 mrems/year to the skin. These release rate limits also restrict, at all times, the corresponding thyroid dose rate above background to a child via the inhalation pathway to less than or equal to 1500 mrems/year.

This specification applies to the release of gaseous effluents from all reactors at the site and from the incineration of waste oil.

With regard to footnotes (c) and (g) of Table 4.11.2-1, (1) to determine whether the DOSE EQUIVALENT I-131 concentration in the primary coolant has increased by more than a factor of 3, the iodine-131 analysis performed after the transient will be compared to the most recent routine analysis for DOSE EQUIVALENT I-131 concentration performed before the transient; and (2) to determine whether the main condenser air ejector noble gas monitor has increased by more than a factor of 3, the activity indiciated on the monitors'

3/4.11.2.3 DOSE - IODINE-131, IODINE-133, TRITIUM, AND RADIONUCLIDES IN PARTICULATE FORM

This specification is provided to implement the requirements of Section II.C, III.A, and IV.A of Appendix I, 10 CFR Part 50. The Limiting Conditions for Operation are the guides set forth in Section II.C of Appendix I. The ACTION statements provide the required operating flexibility and, at the same time, implements the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive materials in gaseous effluents to UNRESTRICTED AREAS will be kept "as low as is reasonably achievable." The ODCM calculational methods specified in the surveillance requirements implement the requirements in Section III.A of Appendix I that conformance with the guides of Appendix I be shown by calculational procedures based on models and data such that the actual exposure of a MEMBER OF THE PUBLIC through appropriate pathways is unlikely to be substantially underestimated. The ODCM calculational methods for calculating the doses due to the actual release rates of the subject materials are required to be consistent with the methodology provided in Regulatory Guide 1.109, "Calculating of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors," Revision 1, July 1977. These equations also provide for determining the actual doses based upon the historical average atmospheric conditions. The release rate specification for iodine-131, iodine-133, tritium, and radioactive material in particulate form with half-lives gerater than 8 days are dependent on the existing radionuclide pathways to man in the areas at and beyond the SITE BOUNDARY. The pathways which are examined in the development of these calculations are: (1) individual inhalation of airborne radionuclides, (2) deposition of radionuclides onto green leafy vegetation with subsequent consumption by man, (3) deposition onto grassy areas where milk animals and meat producing animals graze, with consumption of the milk and meat by man, and (4) deposition on the ground with subsequent exposure of man. The limits of this specification are twice the 10 CFR 50 Appendix I per reactor guidelines because they are written for a two unit site.

Doses due to the incineration of waste oil will be determined in accordance with the ODCM.

3/4.11.2.4 GASEOUS RADWASTE TREATMENT SYSTEM

This requirement provides reasonable assurance that the releases of radioactive materials in gaseous effluents will be kept "as low as reasonably achievable." This specification implements the requirements of 10 CFR Part 50.36a, General Design Criterion 60 of Appendix A to 10 CFR Part 50, and the design objectives given in Section II.D of Appendix I to 10 CFR Part 50. The GASEOUS RADWASTE TREATMENT SYSTEM refers to the 30-minute offgas holdup line, stack filter house filtration, and the Augmented Off-Gas-Treatment System.

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (Continued)

6. Solidification agent or absorbent (e.g., cement, urea formaldehyde).

c. A list of description of unplanned releases from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

d. Any changes made during the reporting period to the PROCESS CONTROL PROGRAM (PCP) or the OFFSITE DOSE CALCULATION MANUAL (ODCM), as well as a listing of new locations for dose calculations and/or environmental monitoring identified by the land use census pursuant to Specification 3.12.2.

e. A summary of radioactivity released from the site by incineration of radioactive waste oil.

6.9.1.10 The portion of the Semiannual Radioactive Effluent Release Report to be submitted within 90 days after January 1 of each year shall include the following:

a. An annual summary of hourly metorological data collected over the previous calendar year. This annual summary may be either in the form of an hour-by-hour listing on magnetic tape of wind speed, wind direction, atmospheric stability, and precipitation (if measured), or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability.6/

b. An assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the station during the previous calendar year.

MONTHLY OPERATING REPORTS

6.9.1.11 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to main steam system safety/relief valves, shall be submitted on a monthly basis to the Director, Office of Resource Management, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Administrator of the Regional Office no later than the 15th of each month following the calendar month covered by the report.

6/ In lieu of submission with the Semiannual Radioactive Effluent Release Report, the licensee has the option of retaining this summary of required meteorological data in a file that shall be provided to the NRC upon request.

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. 164
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 June 23, 1987, as revised March 29, 1989, 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. 164, 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

Original Signed By:

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: June 26, 1989

OFC	:LA:PD21:DRPR	:PM:PD21:DRPR	OGC	:D:PD21:DRPR	:RPB	:
NAME	:PAnderson	:NLe:jfw		:EAdensam	:JCunningham	:
DATE	:6/6/89	:5/9/89	:5/20/89	:5/24/89	: 5/24/89	:

OFFICIAL RECORD COPY

ATTACHMENT TO LICENSE AMENDMENT NO. 164

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 11-12	3/4 11-12
-	3/4 11-14a
3/4 11-16	3/4 11-16
B 3/4 11-3	B 3/4 11-3
B 3/4 11-5	B 3/4 11-5
6-24	6-24

TABLE 4.11.2-1

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD)[a] (μ Ci/ml)
A. Drywell Purge	P Each Purge Grab Samples	P Each Purge	Principal Gamma Emmitters[b]	1×10^{-4}
B. Environmental Release Points - Main Stack, Reactor Building Vents, Turbine Building Vents, Hot Shop[h]	M[c][d] Grab Sample	M[c]	Principal Gamma Emmitters[b]	1×10^{-4}
			H-3	1×10^{-6}
	Continuous[e]	W[f][g] Charcoal Sample	I-131	1×10^{-12}
	Continuous[e]	W[f][g] Particulate Sample	Principle Gamma Emmitters[b] (I-131, others)	1×10^{-11}
	Continuous[e]	M Composite Particulate Sample	Gross Alpha	1×10^{-11}
	Continuous[e]	Q Composite Particulate Sample	Sr-89, Sr-90	1×10^{-11}
	Continuous[e]	Noble Gas Monitor	Noble Gases, Gross Beta or Gamma	1×10^{-6}
C. Incinerated Oil[i]	P Each Batch[j] Grab Sample	P Each Batch[j]	Principle Gamma[b] Emitter	5×10^{-7}

TABLE 4.11.2-1 (Continued)

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

TABLE NOTATION

(i) Releases from incinerated oil may be discharged via points other than the main vent (e.g., incinerator). Release shall be accounted for based on pre-release grab sample data.

(j) Samples of waste oil to be incinerated shall be collected from and representative of oil in liquid form.

RADIOACTIVE EFFLUENTS

DOSE - IODINE-131, IODINE-133, TRITIUM, AND RADIONUCLIDES IN PARTICULATE FORM

LIMITING CONDITION FOR OPERATION

3.11.2.3 The dose to a MEMBER OF THE PUBLIC from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from the site to areas at and beyond the SITE BOUNDARY (see Figure 5.1.3-1) shall be limited to the following:

a. During any calendar quarter: Less than or equal to 15 mrems to any organ; and

b. During any calendar year: Less than or equal to 30 mrems to any organ.

c. Less than 0.1% of the limits of 3.11.2.3(a) and (b) as a result of burning contaminated oil.

APPLICABILITY: At all times.

ACTION:

a. With the calculated dose from the release of iodine-131, iodine-133, tritium, and radionuclides in particulate form with half-lives greater than 8 days, in gaseous effluents exceeding any of the above limits, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that identifies the cause(s) for exceeding the limit and defines the corrective actions that have been taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be in compliance with the above limits.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.3 Dose Calculations - Cumulative dose contributions for the current calendar quarter and current calendar year for iodine-131, iodine-133, tritium, and radionuclides in particulate form with half-lives greater than 8 days shall be determined in accordance with the ODCM at least once per 31 days.

NOTE: See Bases 3/4.11.2.3

3/4.11.1.4 LIQUID HOLDUP TANKS

The tanks listed in this specification include all those outdoor tanks that are not surrounded by liners, dikes, or walls capable of holding the tank contents and do not have tank overflows and surrounding area drains connected to the liquid radwaste treatment system with the exception of the auxiliary surge tank. The auxiliary surge tank is excluded from this specification because the tank and its associated piping are all Seismic Class I.

Since the condensate storage tanks have continuous influent and effluent, stratification should not occur. Samples taken from the operating condensate transfer pump(s) vent or drain shall be deemed representative of this system.

"Without delay" implies that the operator, upon determining the limiting condition for operation is being exceeded, takes the next appropriate action to comply with the specification.

3/4.11.2 GASEOUS EFFLUENTS

3/4.11.2.1 DOSE RATE

This specification is provided to ensure that the dose rate at and beyond the SITE BOUNDARY from gaseous effluents from all units on the site will be within the annual dose rate limits of 10 CFR Part 20 for UNRESTRICTED AREAS. The annual dose limits are the doses associated with the concentrations of 10 CFR Part 20, Appendix B, Table II, Column 1. These limits provide reasonable assurance that radioactive material discharged in gaseous effluents will not result in the exposure of a MEMBER OF THE PUBLIC in an UNRESTRICTED AREA, either within or outside the SITE BOUNDARY, to annual average concentrations exceeding the limits specified in Appendix B, Table II, of 10 CFR Part 20 [10 CFR Part 20.106 (b)]. For MEMBERS OF THE PUBLIC who may at times be within the SITE BOUNDARY, the occupancy of that MEMBER OF THE PUBLIC will be sufficiently low to compensate for any increase in the atmospheric diffusion factor above that for the SITE BOUNDARY. The specified release rate limits restrict, at all times, the corresponding gamma and beta dose rates above background to a MEMBER OF THE PUBLIC at or beyond the SITE BOUNDARY to less than or equal to 500 mrems/year to the total body or to less than or equal to 3000 mrems/year to the skin. These release rate limits also restrict, at all times, the corresponding thyroid dose rate above background to a child via the inhalation pathway to less than or equal to 1500 mrems/year.

This specification applies to the release of gaseous effluents from all reactors at the site and from the incineration of waste oil.

With regard to footnotes (c) and (g) of Table 4.11.2-1, (1) to determine whether the DOSE EQUIVALENT I-131 concentration in the primary coolant has increased by more than a factor of 3, the iodine-131 analysis performed after the transient will be compared to the most recent routine analysis for DOSE EQUIVALENT I-131 concentration performed before the transient; and (2) to determine whether the main condenser air ejector noble gas monitor has increased by more than a factor of 3, the activity indicated on the monitor's

3/4.11.2.3 DOSE - IODINE-131, IODINE-133, TRITIUM, AND RADIONUCLIDES IN PARTICULATE FORM

This specification is provided to implement the requirements of Section II.C, III.A, and IV.A of Appendix I, 10 CFR Part 50. The Limiting Conditions for Operation are the guides set forth in Section II.C of Appendix I. The ACTION statements provide the required operating flexibility and, at the same time, implements the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive materials in gaseous effluents to UNRESTRICTED AREAS will be kept "as low as is reasonably achievable." The ODCM calculational methods specified in the surveillance requirements implement the requirements in Section III.A of Appendix I that conformance with the guides of Appendix I be shown by calculational procedures based on models and data such that the actual exposure of a MEMBER OF THE PUBLIC through appropriate pathways is unlikely to be substantially underestimated. The ODCM calculational methods for calculating the doses due to the actual release rates of the subject materials are required to be consistent with the methodology provided in Regulatory Guide 1.109, "Calculating of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors," Revision 1, July 1977. These equations also provide for determining the actual doses based upon the historical average atmospheric conditions. The release rate specification for iodine-131, iodine-133, tritium, and radioactive material in particulate form with half-lives greater than 8 days are dependent on the existing radionuclide pathways to man in the areas at and beyond the SITE BOUNDARY. The pathways which are examined in the development of these calculations are: (1) individual inhalation of airborne radionuclides, (2) deposition of radionuclides onto green leafy vegetation with subsequent consumption by man, (3) deposition onto grassy areas where milk animals and meat producing animals graze, with consumption of the milk and meat by man, and (4) deposition on the ground with subsequent exposure of man. The limits of this specification are twice the 10 CFR 50 Appendix I per reactor guidelines because they are written for a two unit site.

Doses due to the incineration of waste oil will be determined in accordance with the ODCM.

3/4.11.2.4 GASEOUS RADWASTE TREATMENT SYSTEM

This requirement provides reasonable assurance that the releases of radioactive materials in gaseous effluents will be kept "as low as reasonably achievable." This specification implements the requirements of 10 CFR Part 50.36a, General Design Criterion 60 of Appendix A to 10 CFR Part 50, and the design objectives given in Section II.D of Appendix I to 10 CFR Part 50.

Until such time as the Augmented Off-Gas Treatment System becomes operational at the Brunswick Steam Electric Plant, the GASEOUS RADWASTE TREATMENT SYSTEM shall refer to the 30-minute offgas holdup line and stack filter house

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (Continued)

6. Solidification agent or absorbent (e.g., cement, urea formaldehyde).

c. A list of description of unplanned releases from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

d. Any changes made during the reporting period to the PROCESS CONTROL PROGRAM (PCP) or the OFFSITE DOSE CALCULATION MANUAL (ODCM), as well as a listing of new locations for dose calculations and/or environmental monitoring identified by the land use census pursuant to Specification 3.12.2.

e. A summary of radioactivity released from the site by incineration of radioactive waste oil.

6.9.1.10 The portion of the Semiannual Radioactive Effluent Release Report to be submitted within 90 days after January 1 of each year shall include the following:

a. An annual summary of hourly metorological data collected over the previous calendar year. This annual summary may be either in the form of an hour-by-hour listing on magnetic tape of wind speed, wind direction, atmospheric stability, and precipitation (if measured), or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability.[6]/

b. An assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the station during the previous calendar year.

MONTHLY OPERATING REPORTS

6.9.1.11 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to main steam system safety/relief valves, shall be submitted on a monthly basis to the Director, Office of Resource Management, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Administrator of the Regional Office no later than the 15th of each month following the calendar month covered by the report.

6/ In lieu of submission with the Semiannual Radioactive Effluent Release Report, the licensee has the option of retaining this summary of required meteorological data in a file that shall be provided to the NRC upon request.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 134 TO FACILITY OPERATING LICENSE NO. DPR-71

AND AMENDMENT NO. 164 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 June 23, 1987, as revised March 29, 1987, Carolina Power & Light Company submitted a request for changes to the Brunswick Steam Electric Plant, Units 1 and 2 (Brunswick).

The proposed amendments would augment the Brunswick Radiological Environment Technical Specifications (RETS) by incorporating commitments to the gaseous effluent Technical Specifications relative to the burning of contaminated oil.

The radioactive effluent releases and procedures for review and analysis were previously approved under the RETS program for Brunswick Units 1 and 2. The implementation of the Technical Specifications for the RETS program overlooked the release pathway through the Auxiliary Boiler System although the releases have been accounted for and reported, as appropriate. The proposed amendment would correct the oversight by adding the limits and test requirements to the Technical Specifications.

2.0 EVALUATION

We have evaluated the proposed changes and find that the licensee is formalizing procedure commitments that have been used by the licensee before the implementation of the RETS. No new pathways for gaseous effluents are proposed beyond those already considered in the RETS. The licensee's commitments in the RETS for radioactive effluent monitoring remain the same; and the dose limits to members of the public from the effluents remain the same. The amendments proposed by the licensee would add to the Brunswick RETS commitments regarding the burning of contaminated oil previously approved by the NRC staff and implemented in the RETS of a number of other operating plants such as Calvert Cliffs, Fitzpatrick and Maine Yankee.

The NRC staff considers that the safety and environmental effects of the Technical Specification changes proposed by the licensee fall within the envelope of effluent impacts already considered in the RETS Safety Evaluation for Brunswick dated December 27, 1983. We therefore, find the changes acceptable.

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 and changes to the surveillance requirements. 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 (54 FR 21299) on May 17, 1989 , 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: W. Meinke
N. Le

Dated: June 26, 1989