

CAROLINA POWER & LIGHT COMPANY
BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2

REVISED PLANT EMERGENCY PROCEDURES

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* Partial Instruction or Modification

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CAROLINA POWER & LIGHT COMPANY
BRUNSWICK STEAM ELECTRIC PLANT

UNIT 0

INITIAL EMERGENCY ACTIONS

PLANT EMERGENCY PROCEDURE: PEP-02.1

VOLUME XIII

Rev. 010

Recommended By:

LE Boyer
Director - Administrative Support

Date: 12/12/83

Approved By:

C. J. [Signature]
General Manager

Date: 12/30/83

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PEP-02.1

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Section 3 - Abnormal Core Conditions and Fuel Damage

3.1 Unusual Event

Failed fuel as indicated by:

3.1.1 Liquid

- a. Reactor Coolant System (RCS) activity greater than 4.0 $\mu\text{Ci/ml}$ I-131 dose equivalent.
- b. RCS activity greater than 0.2 $\mu\text{Ci/ml}$ I-131 dose equivalent but less than limit above for more than 48 hours.
- c. RCS activity greater than $100/\bar{E}$ $\mu\text{Ci/ml}$ for all isotopes.

3.1.2 Gaseous

- a. Condenser off-gas radiation monitor (D12-RM-K601 A & B) reading of greater than 1.2×10^4 mR/hr.
- b. An increase of greater than 2.4×10^3 mR/hr in 30 minutes on the condenser off-gas radiation monitor (D12-RM-K601 A & B).

3.2 Alert

3.2.1 Liquid

Reactor coolant activity greater than 40 $\mu\text{Ci/ml}$ I-131 dose equivalent.

3.2.2 Gaseous

Condenser off-gas radiation monitor (D12-RM-K601 A & B) reading of greater than 1.2×10^5 mR/hr.

3.3 Site Emergency

- 3.3.1 Reactor Coolant System activity is greater than 400 $\mu\text{Ci/ml}$ I-131 dose equivalent.

3.4 General Emergency

- 3.4.1 Reactor Coolant System activity is greater than 4000 $\mu\text{Ci/ml}$ I-131 dose equivalent.
- 3.4.2 Loss of any two of the three fission product barriers below:
 - a. Failed fuel causing RCS activity greater than 40 $\mu\text{Ci/ml}$.

EXHIBIT 2.1-2
EMERGENCY ACTION LEVELS

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CAUTION

The following flow charts (pages 5, 6, and 7) should be used as an initial check that an emergency action level has been met or exceeded. The specific indications for classifying an emergency begin on page 8.

CAROLINA POWER & LIGHT COMPANY
BRUNSWICK STEAM ELECTRIC PLANT

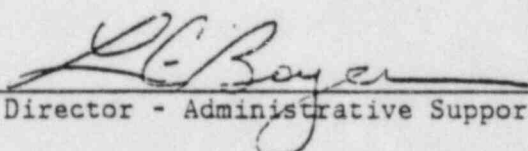
UNIT 0

REPRESENTATIVE AT THE STATE EMERGENCY RESPONSE TEAM HEADQUARTERS

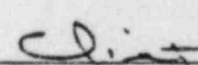
PLANT EMERGENCY PROCEDURE: PEP-02.6.5

VOLUME XIII

Rev. 002

Recommended By: 
Director - Administrative Support

Date: 12/21/83

Approved By: 
General Manager

Date: 12/30/83

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1.0 Responsibilities and Objectives

The member of the plant staff identified in PEP-01 as SERT representative is responsible to the Emergency Response Manager for:

- 1.1 Reporting to the SERT Headquarters as directed by the Site Emergency Coordinator/Emergency Response Manager.
- 1.2 Providing liaison with agency representatives at the SERT Headquarters.
- 1.3 Serving as director of CP&L's involvement with off-site protective actions during a declared emergency.

2.0 Scope and Applicability

This procedure shall be implemented during a declared site or general emergency. The actions and responsibilities are limited to the individuals listed in PEP-01 as SERT Representative and those emergency team members assigned to them.

3.0 Actions and Limitations

3.1 General Requirements

- 3.1.1 Report your position and readiness to the Site Emergency Coordinator or the Emergency Response Manager.
- 3.1.2 Announce your name and assumed position title to all appropriate agency representatives at the State Emergency Response Team Headquarters.
- 3.1.3 When relinquishing this position, brief your successor on the emergency and emergency actions status.
- 3.1.4 Determine need for additional equipment, supplies, and manpower and make request for the same.
- 3.1.5 Initiate a log and ensure documentation of the following in accordance with PEP-04.1, Record Keeping and Documentation:
 - 3.1.5.1 Communications
 - 3.1.5.2 Key decisions
 - 3.1.5.3 Data collected
 - 3.1.5.4 Checklists
- 3.1.6 Ensure proper use of communications equipment per PEP-03.1.3, Use of Communications Equipment.

3.2 Relay Site Emergency Coordinator's/Emergency Response Manager's recommendations for protective actions off site to agency representatives at the SERT Headquarters.

3.3 Provide descriptions of the procedures used to analyze samples so that differences in analysis methods are not, of themselves, the cause of differing assessments of levels of radioactivity in the environment (i.e., may result from use of different types of TLDs and different methods of reading TLDs).

3.4 Where requested, coordinate arrangements for analysis of replicate samples.

CAROLINA POWER & LIGHT COMPANY
BRUNSWICK STEAM ELECTRIC PLANT

UNIT 0

RELEASE ESTIMATES BASED UPON STACK/VENT READINGS

PLANT EMERGENCY PROCEDURE: PEP-03.6.1

VOLUME XIII

Rev. 006

Recommended By: *LL. Bayne*
Director - Administrative Support

Date: 11/22/83

Approved By: *Ch. [Signature]*
General Manager

Date: 12/30/87

LIST OF EFFECTIVE PAGES

PEP-03.6.1

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1.0 Responsible Individual and Objectives

The Radiological Control Director is responsible to the Site Emergency Coordinator for determining the magnitude and rate of radioactive release to the environment. The Radiological Control Director may delegate the calculational aspects of this procedure to the Dose Projection Coordinator. This procedure may be used by the Control Room personnel until the dose projection team is activated in the Technical Support Center.

2.0 Scope and Applicability

This procedure shall be implemented by the Site Emergency Coordinator, or by the Radiological Control Director, whenever an abnormal radiological release through an identifiable release point is suspected, including any Site or General Emergency. The only apparatus required is a scientific calculator.

3.0 Actions and Limitations

NOTE: The detector response will depend on the specific isotopic mixture being released at various times. Grab samples must be taken, analyzed and evaluated to provide an exact relationship; however, the predetermined relationship used in this procedure should be sufficiently accurate to guide initial emergency response actions and assessments.

List of EXHIBITS:

- 3.6.1-1 Source Term Calculation from Plant Stack Monitors
- 3.6.1-2 Source Term Calculation from #1 RX Gas (1-CAC-AQH-1264-3)
- 3.6.1-3 Source Term Calculation from #1 Turbine Vent
- 3.6.1-4 Source Term Calculation from #2 Rx Gas (2-CAC-AQH-1264-3)
- 3.6.1-5 Source Term Calculation from #2 Turbine Vent
- 3.6.1-6 Estimating Stack Flow

- 3.1 Depending upon alarming channel(s), use appropriate EXHIBIT (EXHIBIT 3.6.1-1 through EXHIBIT 3.6.1-5) to calculate the release source term.

Note: If the time duration of the release is unknown, assume 60 minutes and perform this procedure as directed by the Radiological Control Director.

- 3.2 If only one channel is alarming or reading abnormally high, the source term determined on the appropriate EXHIBIT is the total.

EXHIBIT 3.6.1-1

SOURCE TERM CALCULATION FROM STACK MONITORS

Release rate is read in $\mu\text{Ci/sec}$ directly from 2-D12-RR-4600 (effluent channel) when the 2-VA-FT-3359 flow instrument loop is operational. The following calculations are necessary when this loop is not operational.

TIME	MONITOR ¹ READING ($\mu\text{Ci/cc}$)	FLOW ² (cfm)	CONVERSION FACTOR $\frac{\text{cc/sec}}{\text{cfm}}$	RELEASE RATE ³ ($\mu\text{Ci/sec}$)
			472	

¹ The monitor automatically selects the most accurate operational channel, either low, mid, or high range. Read the $\mu\text{Ci/cc}$ from the appropriate channel (low, mid, or high) of 2-D12-RR-4599.

² If not available, use the sum of design flows for systems exhausting to the stack as per Exhibit 3.6.1-6.

³ Release rate ($\mu\text{Ci/sec}$) = $\mu\text{Ci/cc} \times \text{cfm} \times 472$

EXHIBIT 3.6.1-6 ESTIMATING STACK FLOW

SUM THE DESIGN FLOWS FOR SYSTEMS EXHAUSTING TO THE STACK.

GASEOUS RADWASTE
TO MEET 10CFR20
AND 10CFR50
EFFLUENT LIMITS

MAIN
STACK

UNIT NO. 1

CFM

AOG

30 MIN DELAY

1.8 MIN DELAY

SJAE
SJAE
TURB GLAND SEAL
TURB GLAND SEAL
MECH VAC PUMP
MECH VAC PUMP
DW PURGE
DW PURGE
STANDBY GAS TRAIN
STANDBY GAS TRAIN

A 300
B 300
A 650
B 650
A 1810
B 1810
A 7200
B 7200
A 3500
B 3500

UNIT NO 2

AOG

30 MIN DELAY

1.8 MIN DELAY

SJAE
SJAE
TURB GLAND SEAL
TURB GLAND SEAL
MECH VAC PUMP
MECH VAC PUMP
DW PURGE
DW PURGE
STANDBY GAS TRAIN
STANDBY GAS TRAIN

A 300
B 300
A 650
B 650
A 1810
B 1810
A 7200
B 7200
A 3500
B 3500

COMMON

RADWASTE BLDG FAN
RADWASTE BLDG FAN
*AOG BLDG VENT EXH

A 23200
B 23200
18000

TOTAL STACK EFFLUENT FLOW

*ALTHOUGH THERE ARE TWO SUPPLY AND EXHAUST FANS THIS FLOW IS BASED ON ONE SUPPLY AND ONE EXHAUST FAN RUNNING BY PROCEDURE.



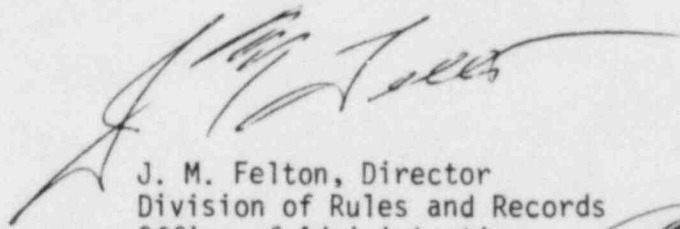
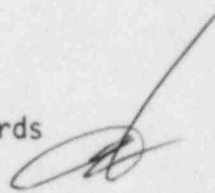
UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 26, 1984

50-324/325 Brunswick

MEMORANDUM FOR: Chief, Document Management Branch, TIDC
FROM: Director, Division of Rules and Records, ADM
SUBJECT: REVIEW OF UTILITY EMERGENCY PLAN DOCUMENTATION

The submitter of the attached document has expressed no desire to withhold any information contained therein. Therefore, this material may now be made publicly available.


J. M. Felton, Director
Division of Rules and Records
Office of Administration 

Attachment: As stated



Carolina Power & Light Company

JAN 18 1984

SERIAL: NLS-84-015

Mr. James P. O'Reilly, Regional Administrator
United States Nuclear Regulatory Commission
Suite 2900
101 Marietta Street, NW
Atlanta, GA 30303

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324
LICENSE NOS. DPR-71 AND DPR-62
EMERGENCY PLANNING

Dear Mr. O'Reilly:

In accordance with 10CFR50, Appendix E, Carolina Power & Light Company hereby transmits one copy of recent revisions to the Brunswick Steam Electric Plant Emergency Procedures. A list of the revisions to the Plant Emergency Procedures is attached for your use.

If you have any questions on this subject, please contact our Licensing Staff.

Yours very truly,

S. R. Zimmerman
Manager

Nuclear Licensing Section

WRM/pgp (9281WRM)
Enclosures

cc: Mr. D. O. Myers (NRC-BSEP)
Mr. M. Grotenhuis (NRC)

Document Control Desk (2 Copies)
U. S. Nuclear Regulatory Commission
Washington, DC 20555

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