

May 9, 1990

Docket No. 50-400

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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. 17 TO FACILITY OPERATING LICENSE  
NO. NPF-63 - SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1,  
REGARDING REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY  
(TAC NO. 73073)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 17 to Facility Operating License No. NPF-63 for the Shearon Harris Nuclear Power Plant, Unit 1. This amendment consists of changes to the Technical Specifications in response to your request dated May 5, 1989, as supplemented May 25, 1989.

The amendment modifies the procedure for obtaining the gross radioactivity for the reactor coolant specific activity determination. Specifically, the note on Item 1 of Technical Specification (TS) Table 4.4-4 is deleted and the count described in Bases 3/4.4.8 will be performed in its place. This change removes the gaseous activity determination from this gross activity determination.

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

Sincerely,

*Richard A. Becker*  
Richard A. Becker, Project Manager  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 17 to NPF-63
2. Safety Evaluation

cc w/enclosures:  
See next page

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AMENDMENT NO. 17 TO FACILITY OPERATING LICENSE NO. NPF-63 - HARRIS, UNIT 1

**Docket File**

NRC PDR

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cc: Licensee/Applicant Service List

DF01  
11

Mr. W. T. Cottle

-2-

May 10, 1990

Paperwork Reduction Project (3150-0011), Office of Management and Budget, Washington, D.C. 20503, and to the U.S. Nuclear Regulatory Commission, Information and Records Management Branch, Division of Information Support Services, Office of Information Resources Management, Washington, D.C. 20555.

Sincerely,

Original Signed By:

Lester L. Kintner, Senior Project Manager  
Project Directorate II-I  
Division of Reactor Projects I/II,  
Office of Nuclear Reactor Regulation

cc: See next page

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Document Name: MPA F/72 LETTER 2

Mr. L. W. Eury  
Carolina Power & Light Company

Shearon Harris

cc:

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Carolina Power & Light Company  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-400

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 17  
License No. NPF-63

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Carolina Power & Light Company, (the licensee), dated May 5, 1989, as supplemented May 25, 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. NPF-63 is hereby amended to read as follows:

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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, as revised through Amendment No. 17, are hereby incorporated into this license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*151*  
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: May 9, 1990

*AD with correction*

OFC	: LA: PD21: DRPR: PM: PD21: DRPR:	OGC	: D: PD21: DRPR :	:	:
NAME	: Panderson:	: RB: se :	: L. Dewey :	: EAdensam :	:
DATE	: 4/11/90	: 4/12/90	: 4/26/90	: 5/9/90	:

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ATTACHMENT TO LICENSE AMENDMENT NO. 17

FACILITY OPERATING LICENSE NO. NPF-63

DOCKET NO. 50-400

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

Remove Pages

3/4 4-31

3/4 4-32

Insert Pages

3/4 4-31

3/4 4-32

# REACTOR COOLANT SPECIFIC ACTIVITY SAMPLE AND ANALYSIS PROGRAM

TYPE OF MEASUREMENT AND ANALYSIS	SAMPLE AND ANALYSIS FREQUENCY	MODES IN WHICH SAMPLE AND ANALYSIS REQUIRED
1. Gross Radioactivity Determination	At least once per 72 hours.	1, 2, 3, 4
2. Isotopic Analysis for DOSE EQUIVALENT I-131 Concentration	1 per 14 days.	1
3. Radiochemical for $\bar{E}$ Determination	1 per 6 months**	1
4. Isotopic Analysis for Iodine Including I-131, I-133, and I-135	<p>a. Once per 4 hours, whenever the specific activity exceeds 1 <math>\mu\text{Ci}/\text{gram}</math> DOSE EQUIVALENT I-131 or <math>100/\bar{E}</math> <math>\mu\text{Ci}/\text{gram}</math> of gross radioactivity, and</p> <p>b. One sample between 2 and 6 hours following a THERMAL POWER change exceeding 15% of the RATED THERMAL POWER within a 1-hour period.</p>	<p>1#, 2#, 3#, 4#, 5#</p> <p>1, 2, 3</p>



TABLE 4.4-4 (Continued)

TABLE NOTATIONS

\*\*Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since reactor was last subcritical for 48 hours or longer.

#Until the specific activity of the Reactor Coolant System is restored within its limits.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 17 TO FACILITY OPERATING LICENSE NO. NPF-63  
CAROLINA POWER & LIGHT COMPANY, et al.  
SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1  
DOCKET NO. 50-400

1.0 INTRODUCTION

By letter dated May 5, 1989, as supplemented May 25, 1989, Carolina Power & Light Company submitted a request for changes to the Shearon Harris Nuclear Power Plant, Unit 1, Technical Specification (TS) Table 4.4-4 related to gross radioactivity analyses of reactor coolant samples. The May 25, 1989, letter provided clarifying information that did not change the initial determination of no significant hazards consideration as published in the Federal Register (54 FR 29400) dated July 12, 1989. The amendment request deletes the footnote in Table 4.4-4 related to the gross radioactivity determination. The footnote stipulates that the determination of radioactivity should consist of quantitative measurements of both gaseous and degassed activities excluding specific activities with half-lives less than 15 minutes and all radioiodines. The amendment request would replace the deleted footnote method with the gross count method described in the Bases for TS 3/4.4.8. The gross count method of TS 3/4.4.8 is a gross beta/gamma proportional counter measurement of an evaporated reactor coolant sample.

2.0 EVALUATION

Performing the radioactivity determination described in the footnote to TS Table 4.4-4, Gross Radioactivity Determinations, requires collecting a pressurized reactor coolant sample; degassing and collecting the gaseous portion of the sample; performing separate isotopic measurements of the degassed liquid and stripped gaseous samples; and then summing these activities including the activities of pure beta emitters such as tritium, Fe-55, Sr-89 and Sr-90. The intent of the gross radioactivity determination required by TS Table 4.4-4, Item 1 is to verify that Reactor Coolant System (RCS) liquid specific activity is maintained within the specific activity limits of TS 3.4.8.b. The specific activity limits of TS 3.4.8.b ensure that the resulting doses at the site boundary will not exceed an appropriately small fraction of 10 CFR Part 100 dose guideline values following a steam generator tube rupture. The conditions imposed by note 1 of Table 4.4-4 are too restrictive since the gaseous activity does not

contribute significantly to the doses at the site boundary for the steam generator tube rupture event. In addition, degradation of fuel performance would be readily detectable by an increase in the sample's non-gaseous fission products.

Further, the staff concludes that these changes are consistent with the Standard Technical Specifications (STS) for Westinghouse's Pressurized Water Reactors, NUREG-0452, Rev. 4, 1981, Table 4.4-4, "Primary Coolant Specific Activity Sample and Analysis Program," and are, therefore, acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a surveillance requirement of a facility component located within the restricted area as defined in 10 CFR Part 20. The 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 this amendment involves no significant hazards consideration, and there has been no public comment on such finding. Accordingly, this 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 this amendment.

### 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 29400) on July 12, 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: J. Minns  
R. Becker

Dated: May 9, 1990