

May 3, 1989

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. 10 TO FACILITY OPERATING LICENSE
NO. NPF-63 - SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1,
REGARDING CHLORINE DETECTION SYSTEMS (TAC NO. 71858)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 10 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 January 4, 1989.

The amendment changes the Shearon Harris Nuclear Power Plant, Unit 1, Technical Specifications (TS), Section 3.3.3.7, "Chlorine Detection Systems," Limiting Condition for Operation (LCO) and the associated Surveillance Requirement (SR) 4.7.6.d.5. The proposed amendment deletes TS 3.3.3.7, "Chlorine Detection Systems," LCO and the associated SR 4.7.6.d.5. The requested change is based on the removal of onsite liquid chlorine in substantial quantities and the low probability of accidental release of chlorine gas from transported offsite sources.

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,

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

Enclosures:

- 1. Amendment No. 10 to NPF-63
- 2. Safety Evaluation

cc w/enclosures:
See next page

[SH AMEND 71858]

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OFC	: LA	: PD21	: DRPR	: PM	: PD21	: DRPR	: D	: PD21	: DRPR	:	:
NAME	: PAnderson	:	: RBecker	: bd	:	: EAdensam	:	:	:	:	:
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AMENDMENT NO. 10 TO FACILITY OPERATING LICENSE NO. NPF-63 - HARRIS, UNIT 1

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DF01
1/1

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Shearon Harris

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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. 10
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 January 4, 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. 10, 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

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: May 3, 1989

:LA:PB21:DRPR:PM:PD21:DRPR:	ECEB	: OGC	:D:PD21:DRPR :	:
E :PAAnderson:bd: <i>RBaker</i>	: CMCracken	: <i>R. Saehmann</i>	: EAdensam	:
E :04/17/89	:04/17/89	:04/17/89	:04/18/89	:04/19/89

ATTACHMENT TO LICENSE AMENDMENT NO. 10

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.

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B3/4 3-5

Insert Pages

vi

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3/4 7-15

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INSTRUMENTATION

CHLORINE DETECTION SYSTEMS

Specification 3/4 3.3.7 deleted.

PLANT SYSTEMS

CONTROL ROOM EMERGENCY FILTRATION SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

Revisions 2, March 1978, and the system flow rate is 4000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1980; and

2. Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, by showing a methyl iodide penetration of less than 0.175% when tested at a temperature of 30°C and at a relative humidity of 70% in accordance with ASTM D3803.
- c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, by showing a methyl iodide penetration of less than 0.175% when tested at a temperature of 30°C and at a relative humidity of 70% in accordance with ASTM D3803.
- d. At least once per 18 months by:
 1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 5.1 inches water gauge while operating the system at a flow rate of 4000 cfm \pm 10%;
 2. Verifying that, on either a Safety Injection or a High Radiation test signal, the system automatically switches into an isolation with recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks;
 3. Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge at less than or equal to a pressurization flow of 315 cfm relative to adjacent areas during system operation;
 4. Verifying that the heaters dissipate 14 ± 1.4 kW when tested in accordance with ANSI N510-1980; and
 5. Deleted.

INSTRUMENTATION

BASES

REMOTE SHUTDOWN SYSTEM (Continued)

This capability is consistent with General Design Criterion 3 and Appendix R to 10 CFR Part 50.

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, Revision 3, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," May 1983 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

3/4.3.3.7 DELETED

3/4.3.3.8 DELETED

3/4.3.3.9 METAL IMPACT MONITORING SYSTEM

The OPERABILITY of the Metal Impact Monitoring System ensures that sufficient capability is available to detect loose metallic parts in the Reactor System and avoid or mitigate damage to Reactor System components. The allowable out-of-service times and surveillance requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

3/4.3.3.10 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

The radioactive liquid effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases of liquid effluents. The Alarm/Trip Set-points for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 10 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 January 4, 1989, the Carolina Power & Light Company submitted a request for changes to the Shearon Harris Nuclear Power Plant, Unit 1 (Harris), Technical Specifications (TS), Section 3.3.3.7, "Chlorine Detection Systems," Limiting Condition for Operation (LCO) and the associated Surveillance Requirement (SR) 4.7.6.d.5. The proposed amendment deletes TS 3.3.3.7, "Chlorine Detection Systems," LCO and the associated SR 4.7.6.d.5. The requested change is based on the removal of onsite liquid chlorine in substantial quantities and the low probability of accidental release of chlorine gas from transported offsite sources.

2.0 EVALUATION

The Chlorine Detection Systems consist of two independent chlorine detector trains with each train consisting of a detector at each Control Room Area Ventilation System intake (both normal and emergency) and a detector at the chlorine storage area. The purpose of the systems is to ensure that sufficient capability is available to promptly detect and initiate protective action in the event of an accidental chlorine release from either onsite or an offsite location. The probability of an accidental release of chlorine is independent of whether or not a Chlorine Detection System exists; therefore, only the consequences of such an event must be considered to evaluate the justification for deletion of the system from the Technical Specifications.

The storage area detectors alarm and isolate the control room in the event of a release of chlorine at the storage area. The licensee does not store large quantities (i.e., quantities greater than 20 pounds) of liquid chlorine onsite at Harris. Regulatory Guide 1.95, "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release," specifically exempts 20 lbs or less of chlorine as small quantities for laboratory use. Therefore, the accidental onsite release of such a small quantity of chlorine would not affect the plant operators. As such, deletion of the storage area chlorine detectors will not increase the consequences of an accidental onsite release of chlorine.

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The chlorine detectors located at the Control Room Area Ventilation System intakes are intended to provide protection in the event of accidental offsite release of chlorine. The licensee has performed a probabilistic risk assessment (PRA) to determine the probability of accidental chlorine release in the vicinity of Harris. The analyses calculated the probability of accidents involving the transportation of liquid chlorine on U. S. Highway 1 and on the Seaboard Coast railroad line, the only major routes of transportation of liquid chlorine near the Harris site. The results of the analysis show that the total probability of an accidental release of chlorine which results in toxic chlorine concentrations in the control room being exceeded before the operators can don breathing apparatus is 2.5×10^{-8} per year. The total probability reflects an accident frequency of 2.2×10^{-8} per year for the railroad line and 3.0×10^{-9} per year for trucks on U. S. Highway 1. The threshold for accidents that must be considered, as stipulated by both the Nuclear Regulatory Commission's (NRC) Regulatory Guide 1.70 and Standard Review Plan, NUREG-0800, are those accidents which have a probability of 10^{-7} per year or greater. Therefore, offsite chlorine release accidents have such a low probability that they are not considered to be credible events.

Based on the above arguments, the licensee reasons that deletion of the Chlorine Detection Systems from the Technical Specifications will not result in a significant reduction in the margin of safety for the plant since both onsite and offsite accidental releases of chlorine gas which could affect plant operators are not credible events. The NRC staff has reviewed the licensee's evaluation and analyses and finds the evaluation and analyses acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment changes 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 the surveillance requirement. 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 7626) on February 22, 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 NRC 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 Contributor: Richard A. Becker

Dated: May 3, 1989