

June 3, 1996

Mr. C. S. Hinnant, Vice President  
Carolina Power & Light Company  
H. B. Robinson Steam Electric Plant,  
Unit No. 2  
3581 West Entrance Road  
Hartsville, South Carolina 29550

SUBJECT: EXEMPTION FROM CERTAIN REQUIREMENTS OF 10 CFR PART 50, APPENDIX R,  
SECTION III.J - H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
(TAC NO. M91619)

Dear Mr. Hinnant:

The Commission has granted the enclosed Exemption from certain technical requirements of Section III.J of Appendix R to Part 50 of Title 10 of the Code of Federal Regulations (10 CFR Part 50) for H.B. Robinson Steam Electric Plant, Unit 2 (HBR). Section III.J of Appendix R requires that emergency lighting units with at least an 8-hour battery power supply be provided in all areas needed for operation of safe shutdown equipment and in access and egress routes thereto. By letter dated February 2, 1995, as supplemented May 15, 1995, and September 29, 1995, you requested an exemption to allow the use of the diesel-backed security lighting system for manual operation of certain valves located in outside areas, because the application of the regulation under this circumstance is not necessary to achieve the underlying purpose of the rule. The exemption will allow the use of the security lighting system as an acceptable alternative fire protection configuration equivalent to that achieved by conformance with the requirements of 10 CFR Part 50, Appendix R, Section III.J.

We find that granting the Exemption is authorized by law, will not present an undue risk to public health and safety, is consistent with the common defense and security, and meets the special circumstances described in 10 CFR 50.12(a)(2)(ii).

This Exemption is being forwarded to the Office of the Federal Register for publication.

Sincerely,

ORIGINAL SIGNED BY:

Brenda Mozafari, Project Manager  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

100048

Docket No. 50-261

Enclosure: Exemption

cc w/enclosure: See next page

\* previous concurrence

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Mr. C. S. Hinnant  
Carolina Power & Light Company

H. B. Robinson Steam Electric  
Plant, Unit No. 2

cc:

Mr. William D. Johnson  
Vice President and Senior Counsel  
Carolina Power & Light Company  
Post Office Box 1551  
Raleigh, North Carolina 27602

Mr. Dayne H. Brown, Director  
Department of Environmental,  
Health and Natural Resources  
Division of Radiation Protection  
Post Office Box 27687  
Raleigh, North Carolina 27611-7687

Ms. Karen E. Long  
Assistant Attorney General  
State of North Carolina  
Post Office Box 629  
Raleigh, North Carolina 27602

Mr. Robert P. Gruber  
Executive Director  
Public Staff - NCUC  
Post Office Box 29520  
Raleigh, North Carolina 27626-0520

U.S. Nuclear Regulatory Commission  
Resident Inspector's Office  
H. B. Robinson Steam Electric Plant  
2112 Old Camden Road  
Hartsville, South Carolina 29550

Mr. Max Batavia, Chief  
South Carolina Department of Health  
Bureau of Radiological Health  
and Environmental Control  
2600 Bull Street  
Columbia, South Carolina 29201

Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
101 Marietta St., N.W., Ste. 2900  
Atlanta, Georgia 30323

Mr. J. Cowan  
Manager  
Nuclear Services and Environmental  
Support Department  
Carolina Power & Light Company  
Post Office Box 1551 - Mail OHS7  
Raleigh, North Carolina 27602

Mr. Dale E. Young  
Plant General Manager  
Carolina Power & Light Company  
H. B. Robinson Steam Electric Plant  
3581 West Entrance Road  
Hartsville, South Carolina 29550

Mr. Milton Shymlock  
U. S. Nuclear Regulatory Commission  
101 Marietta Street, N.W. Suite 2900  
Atlanta, Ga. 3023-0199

Public Service Commission  
State of South Carolina  
Post Office Drawer 11649  
Columbia, South Carolina 29211

Mr. R. M. Krich  
Manager - Regulatory Affairs  
Carolina Power & Light Company  
H. B. Robinson Steam Electric Plant,  
Unit No. 2  
3581 West Entrance Road  
Hartsville, South Carolina 29550

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the matter of	)	
	)	
CAROLINA POWER & LIGHT COMPANY	)	Docket No. 50-261
	)	
(H. B. Robinson Steam Electric Plant,	)	
Unit No. 2	)	

EXEMPTION

I.

Carolina Power and Light Company (CP&L or the licensee) is the holder of Facility Operating License No. DPR-23, which authorizes operation of the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR), at steady-state reactor power level not in excess of 2300 megawatts thermal. The facility consists of one pressurized water reactor located at the licensee's site in Darlington County, South Carolina. The license provides, among other things, that it is subject to all rules, regulations and Orders of the Nuclear Regulatory Commission (the Commission or NRC) now or hereafter in effect.

II.

Section III.J of Appendix R to Part 50 of Title 10 of the Code of Federal Regulations (10 CFR Part 50) requires that emergency lighting units with at least an 8-hour battery power supply be provided in all areas needed for operation of post-fire safe shutdown equipment and in access and egress routes thereto. The NRC may grant exemptions from the requirements of the regulations which, pursuant to 10 CFR 50.12(a), are (1) authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security; and (2) present special

circumstances. Special circumstances exist whenever, according to 10 CFR 50.12(a)(2)(ii), "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule...."

### III.

By letters dated February 2, 1995, May 15, 1995, and September 29, 1995, Carolina Power & Light Company (the licensee), requested an exemption from certain technical requirements of Section III.J of Appendix R to 10 CFR Part 50 for HBR. Section III.J of Appendix R requires that emergency lighting units with at least an 8-hour battery power supply be provided in all areas needed for operation of post-fire safe shutdown equipment and in access and egress routes thereto. The licensee plans to implement procedure enhancements to its post-accident safe shutdown procedure that would require manual operation of certain valves. The licensee proposed to use the diesel-backed security lighting system for access and egress to, and operation of, auxiliary feedwater (AFW) valves AFW-1 and AFW-104 and instrument air (IA) valve IA-297, stating that the use of the diesel-backed security lighting system will provide an equivalent level of fire safety to that achieved by compliance with Section III.J of Appendix R to 10 CFR Part 50 for access and egress to, and operation of, valves AFW-1 and AFW-104, located in fire zone 33, and valve IA-297, located in fire zone 25.

### IV.

Valves AFW-1, AFW-104, and IA-297 are located in outdoor areas within the protected area. These areas and the access and egress paths do not have 8-hour fixed battery-operated emergency lighting as required by Section III.J of Appendix R to 10 CFR Part 50.

Valves AFW-1 and AFW-104 are located in fire zone 33 at the bottom of the condensate storage tank (CST). Failure to manually isolate valves AFW-1 and AFW-104 could result in overflowing the CST with service water after switchover of the AFW cooling source from the CST to the service water system. These AFW valves are located in outdoor areas within the protected area and are provided with lighting from the security lighting system. However, the licensee may need to manually operate these valves during the hours of darkness. Because the security lighting system is also backed by a standby diesel generator, the licensee would like to rely on the security lighting system with its standby diesel generator as an acceptable alternative fire protection configuration equivalent to that achieved by conformance with the requirements of 10 CFR Part 50, Appendix R, Section III.J.

Valve IA-297 is located in an outdoor area within the protected area near the southeast corner of the turbine mezzanine in fire zone 25 next to the steam dump accumulator. The HBR safe shutdown analysis takes credit for the availability of the main steam safety valves. The use of the nitrogen backup to the main steam power-operated relief valves is a contingency evolution for coping with a fire in the charging pump room. The licensee has already committed to provide emergency lighting with at least an 8-hour battery power supply for the main steam isolation and relief valve area, also in the southeast corner of the turbine building mezzanine. The licensee would rely on that planned emergency lighting in the vicinity of IA-197 as well as the security lighting system with its backup diesel generator to ensure the light necessary to take the actions described by the licensee.

The manual actions would be limited to operating valves AFW-1, AFW-104, and IA-297 over their full travel, with no requirement to partially open or

close a valve, by relying on instruments, or other means, to determine valve travel.

In the licensee's submittal of September 29, 1995, the licensee confirmed that a walkdown was conducted in the areas for which the exemption was requested. With the normal lighting turned off, the light provided solely by the security lighting system was adequate for access and egress to, and operation of, valves AFW-1, AFW-104, and IA-297. During a telephone conference call on December 1, 1995, the licensee confirmed that postulated fires requiring the operators to travel to and operate valves AFW-1, AFW-104, and IA-297 would not affect the security lighting system. In addition, the security lighting system is backed by a standby diesel generator that has been very reliable; records indicate only two failures in 250 surveillance starts. However, none of the failures were failures to start but, rather, failures to come up to rated speed within the prescribed time of 10 seconds. Should the diesel fail to start, procedure OP-926, "TSC/ EOF/ PAT Diesel Generator," provides instruction for manually starting the diesel, and such an action would be initiated by a call to the control room operators. Therefore, in the event of a fire that requires manual operation of valves AFW-1, AFW-104, and IA-297, or in the event of a loss of offsite power, there is reasonable assurance that the security lighting system will be available and will provide the light necessary to take the actions described above.

On the basis of this evaluation, the NRC staff has concluded that the use of the diesel-backed security lighting system will provide an equivalent level of fire safety to that achieved by compliance with Section III.J of Appendix R to 10 CFR Part 50 for access and egress to, and operation of, valves AFW-1 and AFW-104, located in fire zone 33, and valve IA-297, located in fire zone 25.

The Commission, thus, has determined that, pursuant to 10 CFR 50.12, the exemption requested by the licensee's letters dated February 2, 1995, May 15, 1995, and September 29, 1995, as discussed above, is authorized by law and will not endanger life or property and is otherwise in the public interest. Furthermore, the Commission has determined, pursuant to 10 CFR 50.12(a), that special circumstances as set forth in 10 CFR 50.12(a)(ii) are present and applicable in that application of the regulation in these particular circumstances is not necessary to achieve the underlying purpose of the rule.

The Commission hereby grants an exemption from the technical requirements of 10 CFR Part 50, Appendix R, Section III.J, for the use of the diesel-backed security lighting system for access and egress to, and operation of, valves AFW-1 and AFW-104 and IA-297.

Pursuant to 10 CFR 51.32, the Commission has determined that granting of this exemption will have no significant effect on the quality of the human environment (61 FR 6044). This exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Steven A. Varga, Director  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland  
this 3rd day of June 1996