CP&L

Carolina Power & Light Company

SERIAL: NLS-84-292

JUL 2 0 1984

Director of Nuclear Reactor Regulation
Attention: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing
United States Nuclear Regulatory Commission
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
APPENDIX R - EXEMPTION REQUEST

Dear Mr. Varga:

INTRODUCTION

Pursuant to 10CFR50.12, Carolina Power & Light Company (CP&L) hereby requests two technical exemptions from the requirements of 10CFR50, Appendix R, Section III.G.3. The first exemption is from the III.G.3 suppression requirements for six plant fire areas. The second exemption is from the III.G.3 suppression and detection requirements for a single fire area.

BACKGROUND

As a result of reviewing audit reports from early Appendix R inspections, CP&L has concluded that the Staff interpretation of III.G.3 is that suppression must be installed or an exemption justified for any fire area for which alternative shutdown capability is utilized to comply with Appendix R. This would include areas for which an alternative shutdown capability already exists as a result of present plant design.

In a letter dated February 6, 1984, Carolina Power & Light Company submitted a revised methodology to achieve safe shutdown per Section III.G of Appendix R to 10CFR50. This safe shutdown method essentially utilizes existing plant capability to achieve hot shutdown and credits operator actions and possible repairs to achieve cold shutdown. In that submittal CP&L assumed for certain fire areas the loss of normal plant shutdown equipment due to fire damage and chose to use other available equipment to achieve safe shutdown. An example of this approach for the Robinson plant is the use of the safety injection pumps should a fire damage the charging pumps. From a review of the I&E Audit Reports, it appears that the NRC staff considers the above example an alternative shutdown capability and it is, therefore, subject to the suppression requirements of III.G.3.

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Based on our understanding of the NRC staff interpretations, CP&L has prepared the enclosed exemption requests for seven fire areas which utilize alternative shutdown capability and are not covered by a suppression system.

Should you have any questions concerning this letter, please contact Mr. Sherwood Zimmerman at (919) 836-6242.

Yours very truly,

A. B. Cutter - Vice President
Nuclear Engineering & Licensing

PPC/cfr (290PPC)

Enclosure

cc: Mr. J. P. O'Reilly (NRC-RII)
Mr. G. Requa (NRC)
Mr. Steve Weise (NRC-HBR)

EXEMPTION REQUEST

Fixed Suppression for Alternative/Dedicated Shutdown

A. EXEMPTION SUMMARY

An exemption from the fixed fire suppression requirements of Section III.G.3 of Appendix R to 10 CFR 50 is requested for the following fire zones:

1. Charging Pump Room (Fire Zone 4)
2. Pipe Alley (Fire Zone 28)
3. Auxiliary Building Hallway, second level (Fire Zone 15)
4. Battery Room (Fire Zone 16)
5. Rod Control Room (Fire Zone 21)
6. Hagan (Relay) Room (Fire Zone 23)

B. AREA DESCRIPTIONS

1. General Description

The fire areas under consideration are located in the Auxiliary Building. Each area contains redundant trains of safe shutdown systems, and alternative/dedicated shutdown capability will be provided for each area. Each of these zones is discussed in general below.

a. Charging Pump Room

The Charging Pump Room is located on the ground floor of the Auxiliary Building. The walls of this area are constructed of reinforced concrete from 18-in. to 30-in. thick. The floor is 48-in. thick reinforced concrete and the ceiling is 24-in. reinforced concrete. A 3-hour rated door (fire door 2) provides access to this area from the hallway. This door is surrounded by a Pyrocrete wall section which is a rated fire barrier.

b. Pipe Alley

The Pipe Alley is located on the ground floor of the Auxiliary Building. The walls of this area are constructed of reinforced concrete ranging from 18-in. to 30-in. thick except for the south wall adjoining the auxiliary building hallway. The south wall is constructed of 24-in. concrete block. The upper section of the wall has a penetration area constructed of 1-in. marinite board, both sides, loose-filled with kaowool and coated with Intumastic on both sides. The floor is 48-in. thick reinforced concrete, and the ceiling is 24-in. thick reinforced concrete.

c. Auxiliary Building Hallway (Level two)

The Auxiliary Building Hallway, level two, is located at elevation 246 ft. in the Auxiliary Building. The walls of this are are constructed of reinforced concrete from 12 in. to 30 in thick. The floor is 24-in. reinforced concrete, and the ceiling is 10 in. to 12 in. thick. Normal access is provided by three-hour rated fire doors (14 and 15) from the E1-E2 Switchgear Room, and by an unrated security door from the outside.

d. Battery Room

The Battery Room is located on the second floor of the Auxiliary Building at elevation 248 ft. The walls of this area are reinforced concrete ranging from 12 in. to 18 in. thick. The floor is 18 in. reinforced concrete and the ceiling is 10 in. thick. Access to this area is provided by three-hour rated doors (fire doors 11 and 12) from the batching tank area and E1-E2 Switchgear Room.

e. Rod Control Room

The Rod Control Room is located on the second floor of the Auxiliary Building at elevation 249.5 ft. The walls of this area are 18 in. thick reinforced concrete. The floor is 12 in. reinforced concrete and ceiling is 10 in. thick. Access to this area is provided by a 3-hour rated door (fire door 16) from the E1-E2 Switchgear Room or by an unrated security door from the outside.

f. Hagan Room

The Hagan Room is located on the 254 ft. elevation of the Auxiliary Building. The walls of this area are reinforced concrete from 18 in. to 24 in. thick. The floor is 12 in. thick reinforced concrete, and the ceiling is 22 in. thick. Access to this area is provided by three hour rated fire doors (17 and 25) from the Control Room and stairwell.

The floor areas, clear floor to ceiling heights, combustible loadings, and equivalent fire severities for these six zones are as follows:

Fire Zone	Area (ft^2)	Ceiling Height (ft)	Combustible Loading (Btu/ft^2)	Equivalent Fire Severity (min.)
4	833	18	14,000	10
28	2123	18	16,000	12
15	4403	15	28,000	21
16	510	13	11,500	9
21	858	11	14,000	10
23	594	13	31,600	24

2. Fire Protection Features

Automatic fire detection which alarms in the Control Room is provided in each of these zones, and portable fire suppression equipment is located in the immediate vicinity. These features are tabulated below.

Fire Zone	Heat Detectors	Smoke Detectors	CO_2 Extin.	Dry Chem. Extin.	Halon Extin.	Hose Stations
4	2	2		3		1
28	2	5		1	1	2
15	5	5	1	1		2
16	2	2	1	1	1	1
21		3	1			1
23	2	2	1		2	*2

*Includes one dry standpipe system.

3. Safe Shutdown Equipment

Safe shutdown equipment in these zones includes redundant trains of cable. In addition, the Charging Pump Room contains all three Charging Pumps, and the Battery Room contains the station batteries. For a fire occurring in zones 28, 15, 16, 21, or 23, upon completion of proposed modifications and repair procedures, safe shutdown can be accomplished by use of the Alternate/Dedicated Shutdown System. For a fire in zone 4, safe shutdown can be accomplished by using the Safety Injection Pumps and pressurizer PORV's from the control room. Fuses and coordinated circuit breakers isolate this alternative method from cables in the Charging Pump Room.

C. BASIS FOR EXEMPTIONS

The existing features in each of these zones will ensure safe shutdown capability for a fire in any zone. The presence of automatic detection for early warning and a well-trained fire brigade with manual suppression equipment provide assurance that a fire in any zone would be quickly detected and extinguished. The low fixed combustible loadings provide further assurance that safe shutdown capability will not be precluded. Therefore, addition of fixed fire suppression in these zones would not enhance the existing fire protection capability.

D. CONCLUSION

Exemption from the fixed fire suppression requirement of 10 CFR 50, Appendix R, Section III.G.3 is requested for fire zones 4, 28, 15, 16, 21, and 23. The technical bases which justify the exemption requests are summarized below:

1. Alternative or dedicated shutdown capability is independent of each zone.

2. Automatic fire detection and manual fire suppression equipment is provided for each zone.

3. Combustible loadings result in maximum fire severities of 24 minutes or less in each zone.

EXEMPTION REQUEST

Automatic Detection and Fixed Suppression
for the Diesel Oil Storage Tank Area

A. EXEMPTION SUMMARY

An exemption from the automatic detection and fixed suppression requirements of Section III.G.3 of 10 CFR 50 Appendix R is requested for the Diesel Oil Storage Tank Area (Fire Zone 30).

B. AREA DESCRIPTION

1. General Description

The Diesel Oil Storage Tank Area is located in the plant yard north of the Auxiliary Building. The tank is a 25,000 gallon, 15 ft. diameter, 19 ft. high cylindrical metal tank enclosed within a concrete dike 3-1/2 ft. in height. The A and B Diesel Oil Transfer Pumps are also located in this area. The only fire hazard located in the area is the diesel oil within the tank.

The Diesel Oil Storage Tank area is monitored through the use of both roving security patrols and remote cameras.

2. Fire Protection Systems

Automatic fire detection and fixed fire suppression systems are not provided in this area. Exterior yard hydrant HY-4, portable foam, and 150 lb. Halon and dry chemical fire extinguishers are available for manual fire fighting in this area.

3. Safe Shutdown Equipment

The Diesel Oil Storage Tank and Transfer Pumps A and B located in this area provide fuel for redundant trains of emergency onsite power (Diesel Generators A and B). Alternate shutdown capability is provided independent of this area by the Alternate/Dedicated Shutdown System, which is powered by its own diesel generator.

C. BASIS FOR EXEMPTION

The fire hazard associated with this area consists of the 25,000 gallon Diesel Oil Storage Tank enclosed by a concrete dike. The combination of roving security patrols, remote cameras, yard hydrants and portable foam and dry chemical fire fighting equipment provides reasonable assurance that a fire at the Diesel Oil Storage Tank will be quickly discovered and suppressed utilizing manual fire suppression equipment.

Due to the tanks location and the surrounding dike, a fire at the tank will not adversely affect the Alternate/Dedicated Shutdown System. The DS Diesel Generator is located southwest of the Turbine Building, over 500 ft. from the Diesel Oil Storage Area, and is supplied by a separate

storage tank. The nearest equipment used for the Alternate/Dedicated Shutdown System is the Refueling Water Storage Tank, which is located approximately 100 ft. southwest of the Diesel Oil Storage Tank area. Due to the tank's location outdoors and the surrounding concrete dike, it is not credible that a postulated fire in this area could affect the integrity of the RWST.

D. CONCLUSION

An exemption from the automatic fire detection and fixed fire suppression system requirements of 10 CFR 50, Appendix R, Section III.G.3 is requested for the Diesel Oil Storage Tank area. The technical bases for this exemption are summarized as follows:

1. Alternate or dedicated shutdown capability is independent of this area.

2. The yard area is constantly patrolled by roving security personnel and is monitored by remote cameras, assuring prompt detection of a fire in this area;

3. Adequate manual fire suppression equipment is readily available to this area;

4. The 25,000 gallon Diesel Oil Storage Tank is surrounded by a 3-1/2 foot concrete dike;

5. Due to the remote location, a fire in this area will not affect the integrity of the Alternate/Dedicated Shutdown System.