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 FACIL: 50-261 H. B. Robinson Plant, Unit 2, Carolina Power and Light 05000261
 AUTH. NAME: AUTHOR AFFILIATION
 UTLEY, E. E. Carolina Power & Light Co.
 RECIP. NAME: RECIPIENT AFFILIATION
 PALLADINO, N. J. Commissioners

SUBJECT: Forwards fire zone loading descriptions as suppl to 810311
 petition for exemption from certain requirements of
 10CFR50.48 & App R to 10CFR50. Safety & adequacy of present
 seal configuration justified for greater than 12-h.

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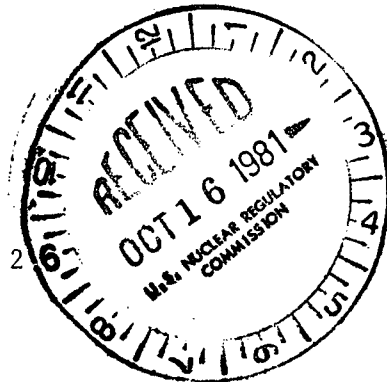
Carolina Power & Light Company

October 7, 1981

FILE: NG-3514(R)

Serial No.: NO-81-1649

Honorable Nunzio J. Palladino
Chairman
United States Nuclear Regulatory Commission
Washington, D. C. 20555



H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
SUPPLEMENT TO PETITION OF
CAROLINA POWER & LIGHT COMPANY
FOR EXEMPTION FROM CERTAIN REQUIREMENTS OF
10 CFR 50.48 AND APPENDIX R TO 10 CFR PART 50

Dear Mr. Palladino:

By letter dated March 11, 1981 Carolina Power & Light Company (CP&L) submitted to the Nuclear Regulatory Commission a petition for exemption from certain of the requirements of 10 CFR 50.48 and Appendix R to 10 CFR Part 50 with respect to the H. B. Robinson Steam Electric Plant Unit No. 2 (Robinson).

Among other things, CP&L requested an exemption from Appendix R item III.M to the extent that it would require that the difference between the temperature levels for the unexposed side of the cable penetration seals and the cable insulation ignition temperature for PVC be greater than that which was recorded during qualification testing. CP&L supplemented its initial exemption request on May 21, 1981 with additional justification.

As shown in Attachment C of CP&L's petition for exemption, all penetration seals tested were capable of meeting the Appendix R criteria for greater than two hours. CP&L is of the opinion that replacement of the seals would not contribute to fire protection safety because there are no zones containing these seals which are capable of sustaining a fire for greater than 2 hours. We expressed this opinion in a meeting with the NRC Staff on July 28, 1981 during which they requested the attached information. The attachment to this letter identifies the zones which contain these seals, the type and quantity of combustible material in each zone, and the resultant fire loading and maximum fire severity. For zones that have fire severities greater than 30 minutes, we have also discussed the distribution of fire loads within the zones.


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PDR ADOCK 05000261
F PDR

11 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

It is our opinion that the information which CP&L previously has provided and that which is provided above and in the attachment more than justifies the safety and adequacy of the present seal configuration for greater than two hours. We therefore request that our exemption be granted. Please contact my staff if you need additional information on this subject.

Yours very truly,



E. E. Utley
Executive Vice President
Power Supply and
Engineering & Construction

DCS/lr (0112)

Attachment

cc: Mr. Steven A. Varga
Mr. W. J. Ross

FIRE ZONE LOADING DESCRIPTIONS

Attached is a table listing all fire zones which contain the fire seal configuration for which the exemption is being requested. The table defines the type and quantity of combustible materials present, the fire loading and the maximum fire severity. All information was obtained from section 4.4 of the Fire Protection Program Review for H.B. Robinson submitted to the NRC on January 1, 1977. Some information has been adjusted to reflect current plant conditions. Also attached are sketches of the Auxiliary Building showing the location of all the cable tray seals and equipment configuration in some zones. In the fire loading information no credit is taken for the fact that all cables in the auxiliary building which were installed prior to 1979 are coated with Intumastic 285 fire retardant coatings (cable installed after 1979 meets the IEEE-383 vertical flame test qualifications).

As can be seen from the fire loading information, several zones contain sufficient fire loading to result in maximum fire severities of greater than thirty minutes. The following is a discussion of the location of fire loads within each of these zones: (Refer to the attached sketches for zone locations)

Zone 3 - Safety Injection Pump Room: The cable in this area is distributed in cable trays running the entire east-west length of the south wall of the room. The oil is contained in the safety injection, containment spray and primary water pumps located on the floor throughout the room (see the attached sketch of Zone 3). The only penetration seal is in the southwest corner of the room in the wall to the Pipe Alley. Most of the cable enters Zone 3 through Pyrocrete wall (PW)-1 and exits the cable trays and goes to pumps and valves prior to reaching the penetration seal P-11. Thus, a fire in this zone would not tend to concentrate on seal P-11.

Zone 7 - Auxiliary Feedwater Pump Room: The cable in this zone passes from Zone 13 through penetration seals P-152 and P-153 and go in cable trays to

the pumps and valves located in this area. Dispersion of cable throughout this zone is such that any fire would not concentrate at the penetration seals themselves.

Zone 9 - North Cable Vault: Cable in this room enters from the Rod Control Room (Zone 21) through penetration seals FP-48, FP-49, FP-53 and FP-56, from the Pipe Alley (Zone 28) through conduit penetrations, and then exits into the containment through the containment electrical penetration seals. Some cable does pass between Zone 9 and adjoining Zone 10 (South Cable Vault) through penetration seal P-118. Almost all cable is in cable trays located near the ceiling. Although the fire severity is high, cable in this area tends to be dispersed throughout the ceiling area and the containment wall. A fire in this area would not concentrate at any one seal and would most likely tend to be dispersed over all of the seals to Zone 21. Additionally, the North Cable Vault is protected by an automatic total flooding CO₂ suppression system and, as with all auxiliary building zones, all the cables are coated with Intumastic 285.

Zone 10 - South Cable Vault: Cable in this room enters from the Rod Control Room through penetration seals FP-50, FP-51, FP-52, FP-54, FP-55, FP-57, FP-58, FP-60, and FP-61, from the Pipe Alley (Zone 28) through conduit penetrations, and then exits into the containment through the containment electrical penetration seals. Almost all cable is in cable trays located near the ceiling. Cable spread throughout the room is such that a fire in this zone would be dispersed over the entire ceiling area and would not concentrate at any particular seal. The South Cable Vault also has an automatic total flooding CO₂ suppression system and all cables are coated with Intumastic 285.

Zone 13 - Hallway near Component Cooling Equipment: Cables enter and exit this zone by way of conduit and cable tray penetration seals into Zone 4, Zone 5, Zone 6, Zone 7, Zone 20, and Zone 28. The only cable tray penetration seals in this zone are P-157 (to Zone 5), P-152 and P-153 (to Zone 7), and P-39 (to Zone 28). Cable in this zone runs in cable trays close to the ceiling and runs the entire length of the zone. This

configuration ensures that a cable fire in this zone would not concentrate at any fire seal.

Zone 15 - Second Level Auxiliary Building Hallway: Cable in this area runs the entire length of the hallway and is contained in cable trays located close to the ceiling. The only cable tray seals in this area are P-257 and P-257B into the Emergency Switchgear Room. A fire in this room would be dispersed enough not to concentrate at these penetrations.

Zone 19 - Unit 2 Cable Spread Room: Cables enter and exit this room from Zone 5, Zone 18, Zone 20, and Zone 22 as shown in the attached penetration drawings. Cable is dispersed throughout the room and is concentrated in cable trays near the ceiling. A fire involving all cable would be dispersed throughout the zone and would not concentrate at any single seal. All cable in this zone is coated with Intumastic 285. Paper in this zone is located in cabinets along the north wall of the zone and, if all the paper were to burn, would create a fire which was dispersed among the north wall penetrations. This zone also is protected by an automatic total flooding Halon 1301 suppression system.

Zone 20 - Emergency Switchgear, Safeguards Room: Cables enter and exit this room from Zones 12, 13, 15, 16, 19, 21, and 23 (Hagan Room). Cable tray penetration seals exist at the interfaces with Zones 15, 16, 19, and 21 (see attached drawings). Cable is dispersed throughout the zone in cable trays located near the ceiling. A fire involving all cable would be dispersed throughout the zone and would not concentrate at any single seal. All cable is coated with Intumastic 285 and the zone is protected by an automatic total flooding Halon 1301 suppression system.

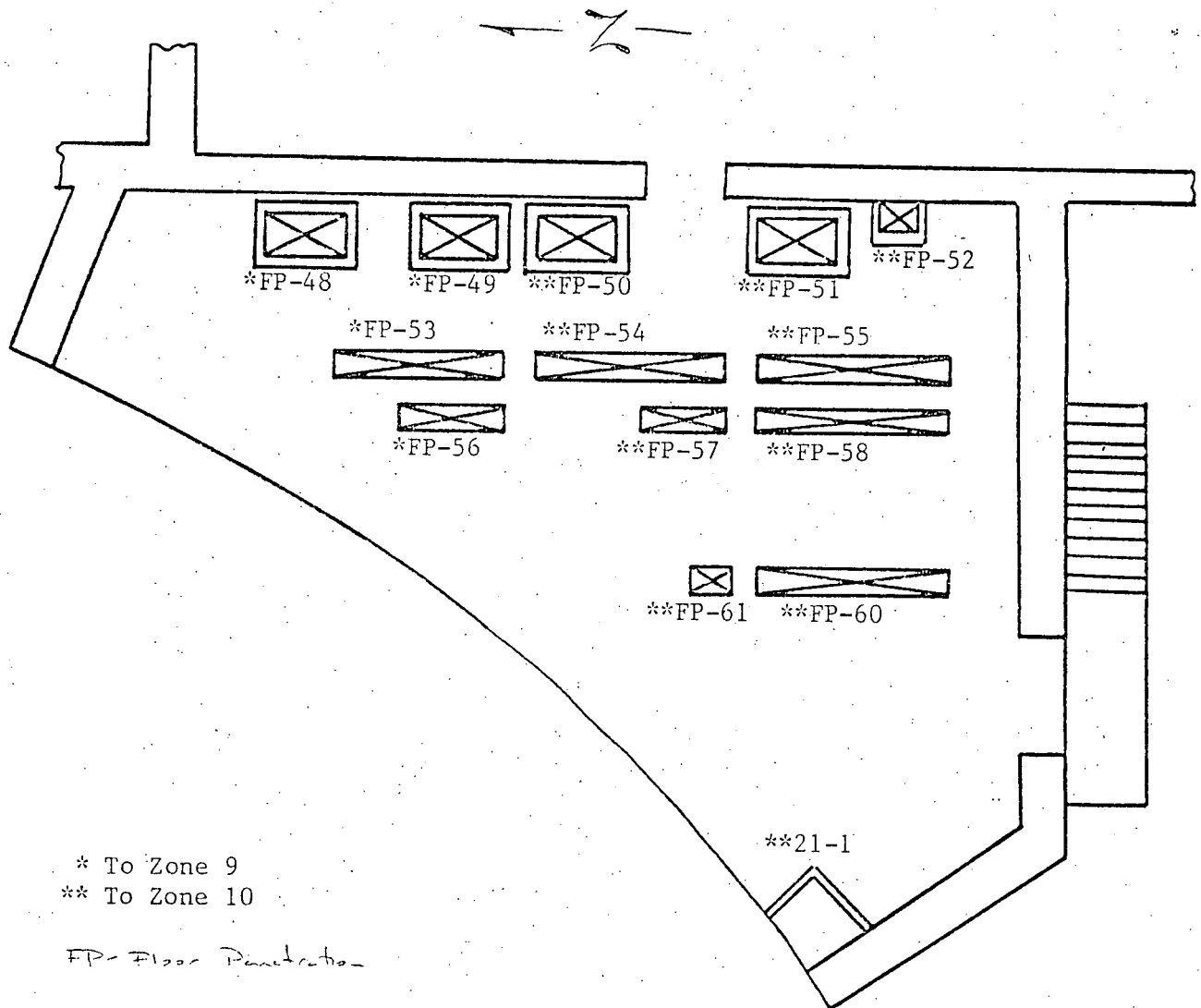
Fire New#	Zone Old#	Zone Description	Combustible Material	Quantity	Fire Load BTU/FT ²	Maximum Fire Severity (Min.)
3	3	S.J.Pump Room	Cable Lube Oil	69 ft ³ <10 gal	41,600 1,695	32
5	5	Comp. Cooling Pump Room	Cable	66 ft ³	15,600	12
7	7	Auxiliary Feedwater Pump Room	Lube Oil Cable	4 gal 17 ft ³	2,550 38,900	31
9	34	North Cable Vault	Cable	49 ft ³	159,00	119
10	9	South Cable Vault	Cable	90 ft ³	75,300	56
13	10C	Hallway near Comp. Cooling Equipment Cable	Cable	120 ft ³	63,200	47
15	14A	Second Level Aux. Bldg. Hallway	Cable	106 ft ³	44,900	34**
16	15	Battery Room	Cable	13 ft ³	13,800	10
18	17	Unit 1 Cable Spread Room	Cable	10 ft ³	11,600	10+
19	18	Unit 2 Cable Spread Room	Cable Paper	179 ft ³ 24 ft ³	85,100 3,600	66
20	19	Emergency Switchgear Safeguards Room	Cable	303 ft ³	70,700	53
21	20	Rod Control Room	Cable	44 ft ³	24,500	18
22	21B	Control Rom	Cable Paper	18 ft ³ 240 ft ³	5,000 21,300	16
28	10G	Pipe Alley	Cable	130 ft ³	30,500	25**

* As per section 4.3 of the Fire Protection Program review for H. B. Robinson submitted to the NRC on January 1, 1977.

** For Zone 15 (14A) the severity was adjusted to reflect the fact that all the ion exchange resin present during the original fire hazards has been removed and no further storage of resin is permitted.

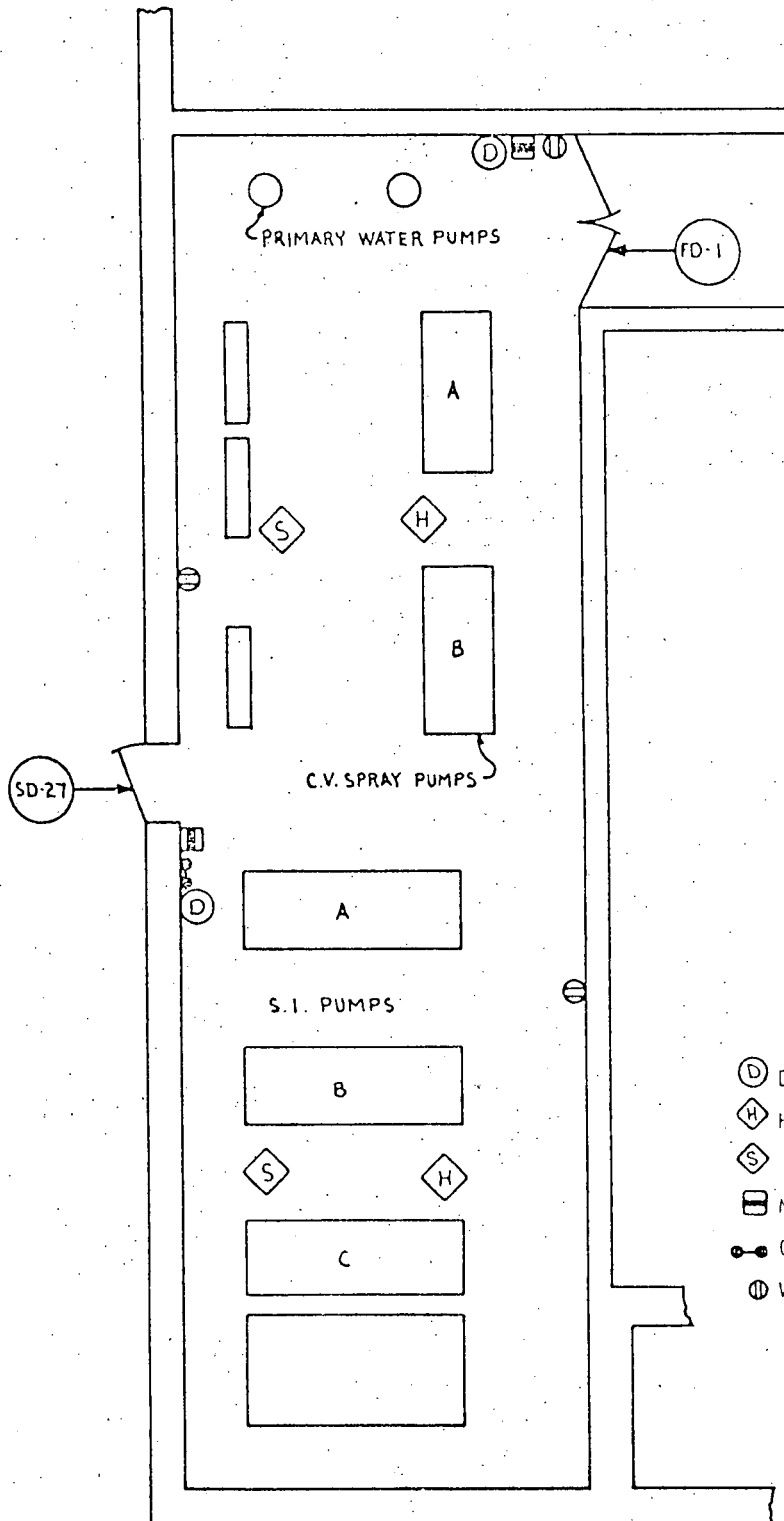
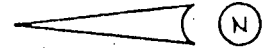
For Zone 28 (10G) the severity was adjusted to reflect the fact that all the clothing present during the original fire hazards has been removed and no further storage of clothing is permitted.

+ The fire loading and severity data has been readjusted to reflect the removal of almost all cable from this zone when the Unit 1 Control Board was relocated from the Unit 2 Control Room to the Unit 1 Control Room. This relocation was completed in the spring of 1981.



Zone 21 - Rod Control Room

ZONE 3
SAFETY INJECTION PUMP ROOM

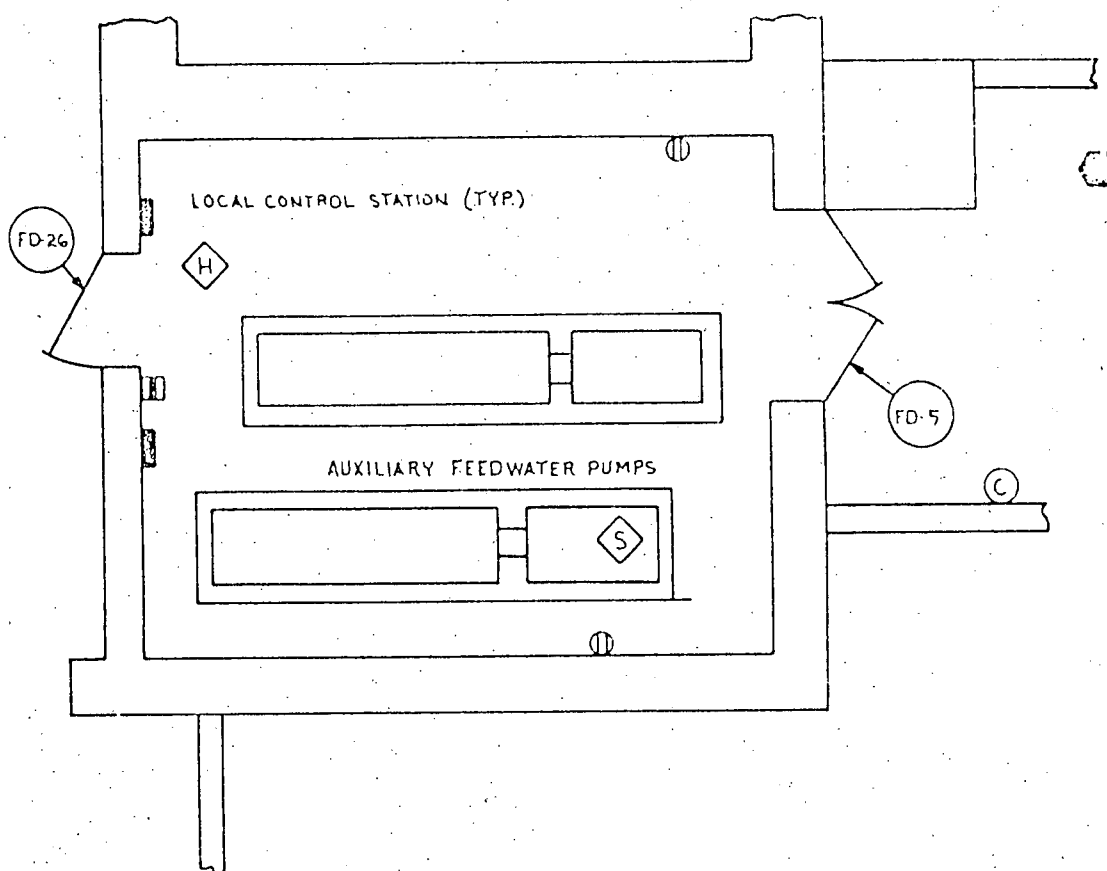
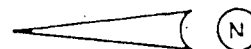


LEGEND

- ⊙ DRY CHEMICAL FIRE EXT.
- ◇ HEAT DETECTOR
- ◇ IONIZATION SMOKE DETECTOR
- ▢ MANUAL PULL STATION
- ⊙ GAI-TRONICS HANDSET STATION
- ⊕ WALL RECEPTACLE

ZONE 7

AUXILIARY FEEDWATER PUMP ROOM



LEGEND

- HEAT DETECTOR
- IONIZATION SMOKE DETECTOR
- MANUAL PULL STATION
- WALL RECEPTACLE
- HOSE STATION
- CO₂ FIRE EXT.