



**Wisconsin Electric** POWER COMPANY  
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October 11, 1982

Mr. H. R. Denton, Director  
Office of Nuclear Reactor Regulation  
U. S. NUCLEAR REGULATORY COMMISSION  
Washington, D. C. 20555

Attention: Mr. R. A. Clark, Chief  
Operating Reactors Branch No. 3

Gentlemen:

DOCKET NOS. 50-266 AND 50-301  
RESPONSE TO 10 CFR 50 APPENDIX R  
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

In response to requests by Messrs. John Stang and Tim Colburn of your staff during telephone conference calls on October 1 and 6, 1982, we are providing the enclosed information concerning our response to 10 CFR 50 Appendix R which was submitted with our letter dated June 30, 1982.

Enclosure 1 contains information regarding our exemption request for the Point Beach control room. Enclosure 2 contains a list of vertical cable trays in each fire zone for which an exemption has been requested.

The enclosed information should provide a satisfactory response to your questions concerning these items. Please contact us if you have any additional questions or desire additional clarification for either the enclosed information or our June 30 submittal.

Very truly yours,

Assistant Vice President

C. W. Fay

Enclosure

Copy to NRC Resident Inspector

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ENCLOSURE 1

POINT BEACH NUCLEAR PLANT  
REQUEST FOR EXEMPTION  
FIRE AREA 9, CONTROL ROOM

In our June 30, 1982 submittal, Wisconsin Electric Power Company requested exemption for Fire Area 9, Point Beach control room, from the specific requirements of Appendix R, Section III.G.2, i.e., 1) from the requirement for separation of cables and equipment and associated non-safety circuits of redundant trains by a fire barrier having a three-hour rating or, by a horizontal distance of more than twenty feet, from the requirement for enclosure of cable and equipment and associated non-safety circuits of one redundant train in a fire barrier having a one-hour rating and 2) from the requirement for automatic fire suppression in the fire area.

Section III.G of Appendix R requires that fire protection features shall be provided for structures, systems, and components important to safe shutdown so that

1. one train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control stations is free of fire damage, and
2. systems necessary to achieve and maintain cold shutdown from either the control room or emergency control stations can be repaired within 72 hours.

The licensee has provided the following fire protection features in order to satisfy these requirements:

1. Fire detection has been installed in the control room and inside the control board cabinets.
2. The control room boundary has been upgraded to a two-hour fire rating.
3. Hose reels with 100 feet of one-inch hose and fixed-fog nozzles have been installed outside the turbine hall entrances to the control room.
4. Two portable 2-1/2 gallon pressurized water fire extinguishers have been located in the control room.
5. Long discharge nozzles on existing carbon dioxide extinguishing equipment have been replaced with shorter nozzles to facilitate manual suppression in confined spaces.

6. Emergency shutdown panels have been installed in each diesel generator room to permit startup and loading independent of the control room. Existing emergency shutdown panels are listed in Table 2.

Section 5.10 of our June 30 submittal demonstrates by analysis that the control fire protection features provide adequate protection from fires which can be expected to occur in the control room. However, we recognize that, because of control board configurations, a single fire could affect redundant trains of some, but not all, required safe shutdown systems. The control board locations of safe shutdown system control switches are listed in Table 1. The general arrangement of the control board sections is shown in Figure 1. A potential fire could be expected to affect the redundant controls for those systems contained in a single control board section. A worst-case assumption would be the loss of all redundant safe shutdown system controls in one of the two control board cabinets. Emergency shutdown panels are provided which can accommodate this potential event. The emergency shutdown panels provided, including the circuits therein, are listed in Table 2. Under the worst-case assumption, remote operations from two emergency shutdown panels would provide adequate control of safe shutdown systems for both units. Sufficient operating personnel, exclusive of required fire brigade members, are available to perform these duties. The emergency shutdown capability is described in the Point Beach Nuclear Plant Final Safety Analysis Report, Section 7.7.5. The capability for control room decoupling and independent emergency shutdown panel operation has been verified and is documented on page 3-94 of the Point Beach Nuclear Plant Fire Protection Review dated June 20, 1977. The attached elementary wiring diagrams for the affected safe shutdown system components also show the complete control room decoupling capability. The provisions for safe shutdown capability were addressed in our response to Staff Position PF-47, "Control Room Shutdown Requirements", which was submitted with our letter dated December 29, 1978. The above description provides clarification of this subject in greater detail.

The control room is an unique area of the plant that is required to be continually occupied by the operators. The licensee has provided the following additional fire protection modifications to achieve this requirement:

1. A manually actuated smoke exhaust system has been provided.
2. Control room breathing apparatus has been relocated to be more readily accessible and less susceptible to damage.

3. Plastic light fixture diffusers have been replaced with metal diffusers to eliminate the hazard to personnel from dripping plastic.

The implementation of the modifications listed herein was determined to provide acceptable fire protection for the control room as stated in Section 5.2.6 of the Point Beach Nuclear Plant Fire Protection Safety Evaluation Report dated August 2, 1979. The fire safety objectives of Appendix R, i.e., the protection of redundant safety systems, remain the same as at the time of this Safety Evaluation Report issuance. Therefore, we believe that the functional fire protection features for the Point Beach control room are acceptable to the requirements of Appendix R, Section III.G.

The Fire Protection Safety Evaluation Report included consideration of shutdown capability remote from the control room. Appendix R, Section III.G.2, from which we have requested exemption does not include a provision for consideration of remote shutdown capability. Section III.G.3 of Appendix R specifically relies upon alternate shutdown capability in order to provide for safe plant shutdown.

Section III.G.3 of Appendix R also requires that a fixed fire suppression system be installed in an area, room, or zone for which consideration of remote shutdown capability is included. This provision would require a fixed fire suppression system in the Point Beach control room. Shutdown capability for the control of safe shutdown systems is provided remote from the control room. Fire detection is installed in the control room. Hose stations and fire extinguishing equipment have been upgraded to provide efficient manual suppression capability. The control room is required to be continually occupied by the operators and the licensee has implemented several modifications to ensure this capability. The operators provide a continuous fire watch in the control room and are trained fire brigade members. In the event of a fire occurrence, manual fire suppression would be prompt and effective. We consider the continuous presence of trained fire fighting personnel and readily available manual fire suppression equipment to provide acceptable fixed fire suppression capability for the Point Beach control room.

The filing of our exemption request with respect to Section III.G.2 for the Point Beach control room was based upon our conclusion that acceptable fire protection was already provided for the control room. For this reason we proposed no additional modifications to meet the specific requirements of Section III.G.3. Our conclusion was supported by the fact that we had implemented all modifications which were deemed necessary in the Fire Protection

Safety Evaluation Report previously issued by the NRC. The Section 5.10 analysis filed with our exemption request further demonstrated that potential fires which could be expected to occur in the control room would not damage redundant safe shutdown circuits. Having considered no additional modifications to be necessary in order to meet the specific requirements of Section III.G.3 and having proposed no such modifications we concluded in accordance with our interpretation of Generic Letter 81-12 that our exemption request for the Point Beach control room was proper.

However, because the features which were judged to provide acceptable fire protection for the Point Beach control room included the existing remote shutdown capability, we find that in order to achieve verbatim compliance with Appendix R, Section III.G, our June 30 exemption request from the requirements of Section III.G.2 for the control room would be required to read:

Per the provisions of 10 CFR 50.48(c)(6) and 10 CFR 50.12, Wisconsin Electric Power Company requests exemption from the specific requirements of Appendix R, Section III.G.3, i.e., from the requirement for automatic fire suppression in the fire area.

Therefore, we ask that our exemption request for Fire Area 9, control room, be reviewed in accordance with the above wording.

Enclosure 1

TABLE 1

Control Board

Safe Shutdown System Controls

1C04	Unit 1 CVCS charging pumps Unit 1 pressurizer heaters
1C03	Unit 1 turbine-driven auxiliary feedwater pump valves Unit 1 component cooling water pumps Unit 1 residual heat removal pumps
C01	Service water pumps Motor-driven auxiliary feedwater pumps
C02	Diesel generators
2C03	Unit 2 turbine-driven auxiliary feedwater pump supply valves Unit 2 component cooling water pumps Unit 2 residual heat removal pumps
2C04	Unit 2 CVCS charging pumps Unit 2 pressurizer heaters

Enclosure 1

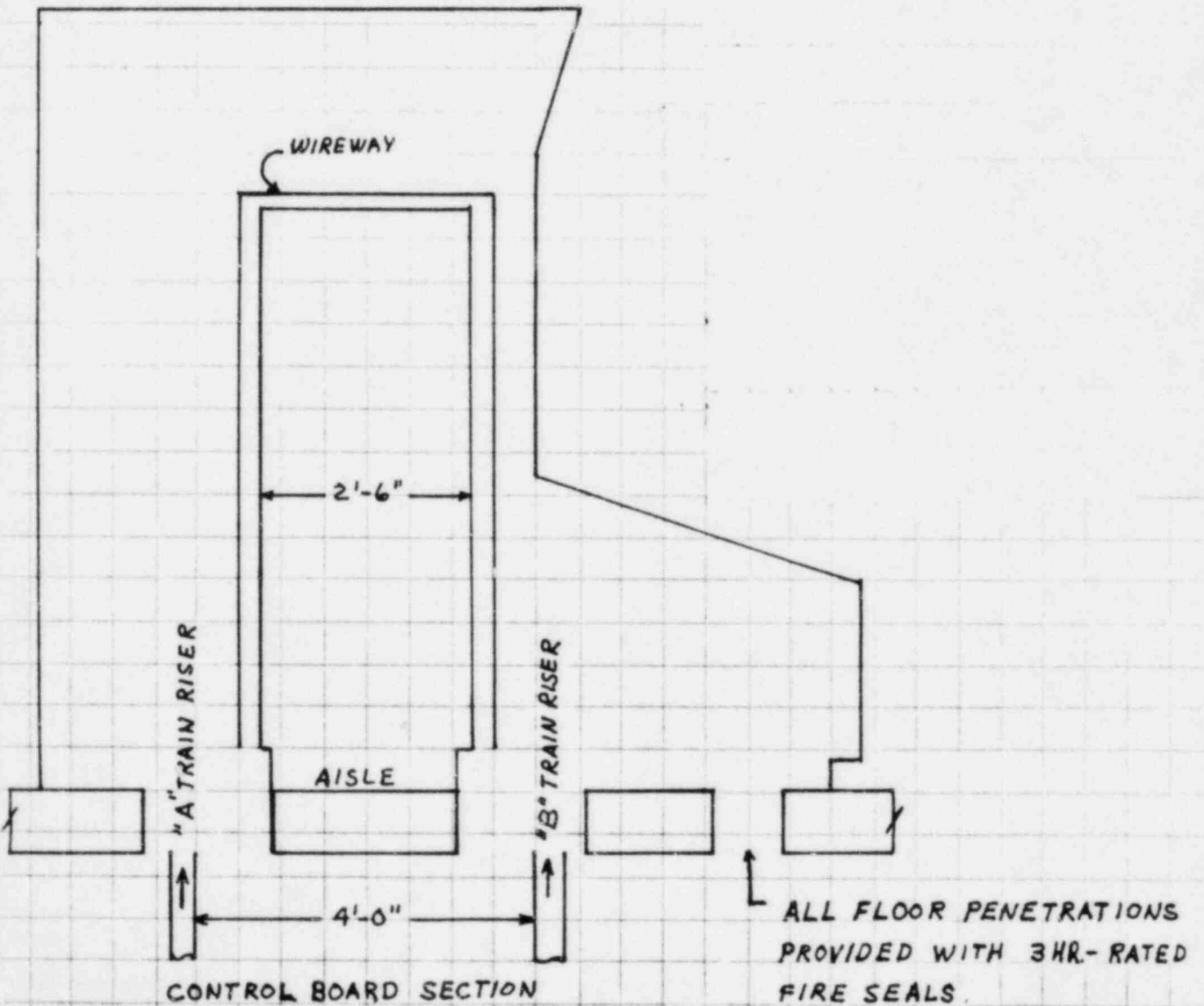
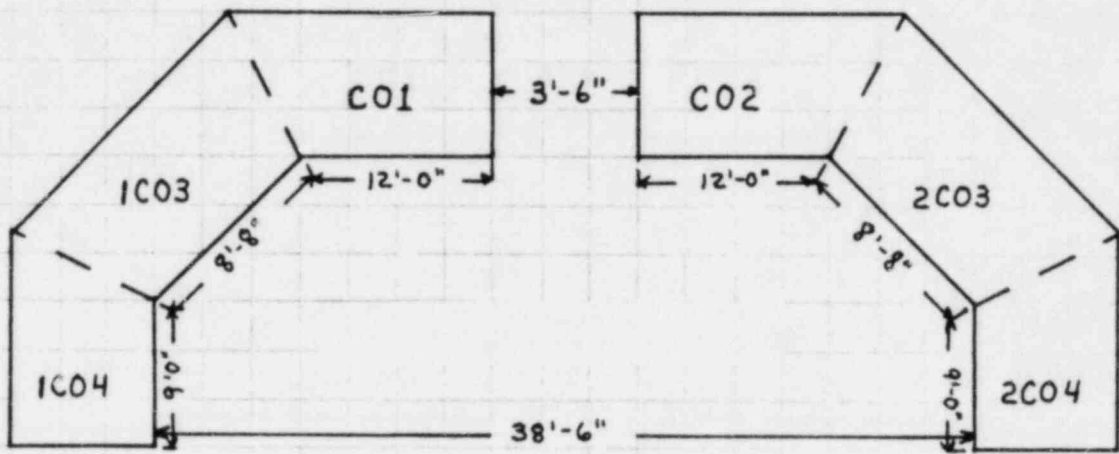
TABLE 2

EMERGENCY SHUTDOWN PANELS

Panel NO1	<u>Auxiliary Feedwater Pump Room</u> 1. "A" train motor-driven auxiliary feedwater pump. 2. "A" train service water pumps (3). 3. Unit 1 "A" train containment cooling fans (2).
Panel NO2	<u>Auxiliary Feedwater Pump Room 39 Ft. Separation Form NO1</u> 1. "B" train motor-driven auxiliary feedwater pump. 2. "B" train service water pumps (3). 3. Unit 2 "B" train containment cooling fans (2).
Panel 1NO3	<u>Auxiliary Feedwater Pump Room Adjacent to Panel NO1</u> 1. Unit 1 "B" train containment cooling fans (2).
Panel 2NO3	<u>Auxiliary Feedwater Pump Room Adjacent to Panel NO2</u> 1. Unit 2 "A" train containment cooling fans (2).
Panel 1NO4	<u>Outside Unit 1 Charging Pump Cubicles</u> 1. "A" train charging pumps 1P2A, 1P2B 2. Letdown orifice isolation 1V200B, 1V200C. 3. Pressurizer heater group C.
Panel 1N11	<u>Outside Unit 1 Charging Pump Cubicles 26 Ft. Separation From 1NO4</u> 1. "B" train charging pump 1P2C. 2. Pressurizer heater group D.
Panel 2NO4	<u>Outside Unit 2 Charging Pump Cubicles</u> 1. "A" train charging pumps 2P2A, 2P2B. 2. Letdown orifice isolation 2V200B, 2V200C. 3. Pressurizer heater group C.
Panel 2N11	<u>Outside Charging Pump Cubicles 18 Ft. Separation From 2NO4</u> 1. "B" train charging pump 2P2C. 2. Pressurizer heater group D.

ENCLOSURE 1  
FIGURE 1

CONTROL BOARD GENERAL ARRANGEMENT





## ENCLOSURE 2

POINT BEACH NUCLEAR PLANT  
 APPENDIX R EXEMPTION REQUESTS  
VERTICAL CABLE TRAYS

<u>Fire Zone</u>	<u>Ceiling Height</u>	<u>Cable Tray</u>	<u>Elevation</u>		<u>Remarks</u>
			<u>From</u>	<u>To</u>	
1	16'-6"	CT01	7'-6"	16'-6"	From top of motor control cabinet
		JB01	14'-6"	16'-6"	
		RH01	7'-6"	13'-6"	From top of motor control cabinet
		RJ01	7'-6"	13'-6"	From top of motor control cabinet
		RK01	7'-6"	13'-6"	From top of motor control cabinet
		QS01	6'-0"	15'-6"	From top of wall mounted panel
		2	16'-6"	FE01	15'-6"
FG03	14'-6"			16'-6"	
FJ04	14'-6"			16'-6"	
FL02	15'-6"			16'-6"	
FN04	15'-6"			16'-6"	
JD01	15'-6"			16'-6"	
KF02	14'-6"			16'-6"	
3	16'-6"	CA02	15'-6"	16'-6"	
		CF03	15'-6"	16'-6"	
		CJ01	13'-6"	16'-6"	
		CK01	14'-6"	16'-6"	
		CM02	12'-6"	16'-6"	
		CN03	14'-6"	16'-6"	
		FA01	15'-6"	16'-6"	
		FE01	14'-6"	16'-6"	
		FG01	15'-6"	16'-6"	
		FS04	15'-6"	16'-6"	
		FT04	14'-6"	16'-6"	
		FX04	15'-6"	16'-6"	
		JE05	15'-6"	16'-6"	
		QF01	14'-6"	16'-6"	
		QG01	14'-6"	16'-6"	
		QH01	14'-6"	16'-6"	
		QJ01	14'-6"	16'-6"	
QK01	14'-6"	16'-6"			
4	16'-6"	HA01	6'-0"	1'-0"	From top of wall mounted cabinet
			10'-0"	23'-0"	17' horizontal run between rises
		KG01	7'-6"	14'-2"	From top of motor control cabinet
		KN01	7'-6"	14'-2"	From top of motor control cabinet
		KJ01	7'-6"	14'-2"	From top of motor control cabinet
		KL01	7'-6"	14'-2"	From top of motor control cabinet
		KM01	7'-6"	14'-2"	From top of motor control cabinet
		KN01	7'-6"	14'-2"	From top of motor control cabinet

Note: The motor control cabinet is located in the west wing section of Fire Zone 4 shown on Figure 5.5-1 of June 30, 1982 Response to Appendix R submittal.

<u>Fire Zone</u>	<u>Ceiling Height</u>	<u>Cable Tray</u>	<u>Elevation</u>		<u>Remarks</u>
			<u>From</u>	<u>To</u>	
5	17'-2"	AJ05	15'-6"	17'-2"	
		AQ02	14'-6"	17'-2"	
		EK02	15'-6"	17'-2"	
		EM02	15'-6"	17'-2"	
		ET04	8'-6"	17'-2"	
		EW02	8'-6"	17'-2"	
6	17'-2"	1EG01	7'-6"	9'-6"	From top of switchgear cabinet
		1EJ01	10'-0"	15'-6"	Above switchgear cabinet
		1EK01	11'-6"	15'-6"	Above switchgear cabinet
		1EM02	8'-6"	15'-6"	Above switchgear cabinet
		1EF01	5'-0"	15'-6"	From top of pull box
		1EQ01	7'-6"	11'-6"	From top of switchgear cabinet
		1ER01	5'-0"	15'-6"	From top of pull box
		1ES01	15'-6"	17'-2"	Above switchgear cabinet
		1EV01	5'-0"	13'-6"	From top of pull box
		1EW01	5'-0"	13'-6"	From top of pull box
		1EX01	5'-0"	14'-6"	From top of pull box
		1EZ01	10'-6"	17'-2"	
		1FA01	7'-6"	14'-6"	From top of switchgear cabinet
		1FB01	7'-6"	13'-6"	From top of switchgear cabinet
		1FC01	7'-6"	12'-6"	From top of switchgear cabinet
		1FD01	7'-6"	11'-6"	From top of switchgear cabinet
		2AE01	11'-6"	14'-6"	
		2AE01	11'-6"	14'-6"	
		2AR01	10'-6"	13'-6"	
		2EB01	14'-6"	17'-2"	Above switchgear cabinet
		2EJ01	7'-6"	11'-6"	From top of switchgear cabinet
		2EK02	9'-6"	15'-6"	
		2EL01	11'-6"	15'-6"	Above switchgear cabinet
		2EM01	11'-6"	15'-6"	
		2EP06	13'-6"	15'-6"	Above switchgear cabinet
		2EQ02	7'-6"	10'-6"	From top of switchgear cabinet
		2EV01	10'-6"	15'-6"	Above switchgear cabinet
		2FA01	7'-6"	14'-6"	From top of switchgear cabinet
		2FB01	7'-6"	13'-6"	From top of switchgear cabinet
		2FC01	7'-6"	12'-6"	From top of switchgear cabinet
		2FD01	7'-6"	11'-6"	From top of switchgear cabinet
		EH01	5'-0"	13'-0"	From top of pull box
		FG01	14'-6"	15'-6"	Above switchgear cabinet
		FH01	5'-0"	14'-6"	From top of pull box
		F201	12'-0"	14'-6"	Above switchgear cabinet
		GA01	3'-0"	11'-0"	
		GB01	5'-0"	11'-0"	
		GE01	3'-0"	11'-0"	
		GF01	3'-0"	11'-0"	

- Note: 1. Vertical trays above switchgear cabinets are not directly exposed to potential fires.
2. Barrier protection is proposed for, but not limited to, some of the above listed vertical cable trays in Section 5.7 of the June 30, 1982 Response to Appendix R submittal

Fire Zone	Clearing Height	Cable Tray	Elevation		Remarks
			From	To	
7	18'-6"	1FE01	0'-6"	18'-6"	
		1FG03	0'-6"	18'-6"	
		2FE01	0'-6"	18'-6"	
		2FG04	0'-6"	18'-6"	
		CA02	0'-6"	7'-0"	
		CB02	8'-0"	18'-6"	
		CJ03	0'-6"	9'-0"	
		CJ01	0'-6"	9'-0"	
		CK01	0'-6"	8'-0"	
		CM02	0'-6"	9'-0"	
		CN03	0'-6"	7'-0"	
		CS02	9'-0"	14'-0"	
		CT05	8'-0"	14'-0"	
		CV03	8'-0"	18'-6"	
		FJ04	0'-6"	16'-0"	
		FL02	0'-6"	18'-6"	
		FN04	0'-6"	18'-6"	
		FS04	0'-6"	18'-6"	
		FT03	0'-6"	16'-3"	
		FX04	0'-6"	18'-6"	
		JD01	0'-6"	8'-6"	
		KF02	0'-6"	7'-0"	
		KR06	7'-0"	18'-0"	
RB07	9'-0"	18'-6"			
YV03	7'-0"	18'-6"			
YX04	7'-0"	18'-6"			

- Note:
1. All trays listed are located between the zone boundary wall and a 6 inch high concrete floor curb. All floor penetration seals are flush with the top of the curb. Direct fire involvement is thereby prevented.
  2. Some cable trays are covered.
  3. Barrier protection is proposed for but not limited to some of the above listed vertical cable trays in Section 5.8 of the June 30, 1982 Response to Appendix R submittal.

8	17'-2"	AJ05	0'-6"	11'-0"	
		AQ02	0'-6"	10'-0"	
		EK02	0'-6"	12'-0"	
		EM02	0'-6"	12'-0"	
		ET04	0'-6"	13'-6"	
		EW02	0'-6"	13'-6"	

- Note:
1. All cable tray floor penetrations are surrounded by a 6 inch high concrete curb. All floor penetration seals are flush with the top of the curb. Direct fire involvement is thereby prevented.
  2. All cable trays in this Fire Area are totally enclosed with metal tray covers and bottoms.
  3. Additional cable tray barrier protection has been determined by analysis in Section 9 of the June 30, 1982 Response to Appendix R to be unnecessary but is not precluded.

<u>Fire Zone</u>	<u>Ceiling Height</u>	<u>Cable Tray</u>	<u>Elevation</u>		<u>Remarks</u>
			<u>From</u>	<u>To</u>	
9	15'-2"				There are no cable trays in the control room
10	14'-6"	UH01	16'-6"	20'-0"	
		VJ01	15'-0"	24'-6"	
		VK01	15'-0"	24'-6"	
		VL01	15'-0"	24'-6"	
		WA04	19'-0"	24'-6"	
		WH01	23'-6"	24'-6"	Covered tray
		WN02	18'-0"	24'-6"	Barrier protection proposed
		WY01	17'-0"	24'-6"	Barrier protection proposed
11	24'-6"	VD01	0'-0"	24'-6"	
		VJ01	18'-0"	24'-6"	
		VK01	23'-0"	24'-6"	
		VM01	16'-0"	24'-6"	Barrier protection proposed
		VT01	18'-0"	13'-6"	
		VV01	22'-0"	24'-6"	
		WV02	23'-0"	24'-6"	