Detroit Edison
2000 Second Avenue
Detroit, Michigan 48226
(313) 237-8000

June 18, 1981

EF2 - 53791

Mr. L. L. Kintner
Division of Project Management
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Kintner:

Reference: Enrico Fermi Atomic Power Plant, Unit 2
NRC Docket No. 50-341

Subject: Fire Protection Commitments

Based on your verbal request, this letter documents the commitments made by Detroit Edison at the Fire Inspection Exit Critique of May 15, 1981, and the meeting in Bethesda of May 27, 1981.

A. Commitments from the May 27, 1981 meeting:

In the Cable Spreading Room, Auxiliary Building elevation 630'-6", Edison will

a. Change the gaseous CO_2 suppression system to a gaseous Halon system,

b. Add a dry pipe sprinkler system, manually operated and

c. Provide a one-hour fire barrier on both divisions of shutdown cable trays

Other commitments regarding the remote shutdown panels are documented in the June 15 letter to you.

B. Commitments made from the Fire Inspection of May 12 through May 15, 1981.

B002
S1/0

8106220 284
F

NRC Fire Protection
Review Findings

	Edison Position
1, The following areas contain redundant divisions that are within the fire zone area of influence. General area automatic sprinklers and a one hour rated barrier on one division should be provided to insure integrity of at least one division.	
a. Auxiliary Building elevation 677'-6" Control Room Ventilation Equipment and Standby Treatment Rooms, Zone 14, F.H.A. page II 9B 4-49, coordinates G-H and 12-13.	A three hour rated barrier will be provided for the Division 1 circuits in the Division 2 areas
b. Auxiliary Building elevation 659'-6" Ventilation Equipment Area, Zone 13, F.H.A. page #9B 4-47, in the northeast corner.	Edison Engineering analysis required
c. Auxiliary Building, elevation 643'-6" Miscellaneous Rooms, Zone 11, F.H.A. page #9B 4-44, coordinates G-H and 11. This applies to both cable trays and the MCC Control cabinets. The existing automatic carbon dioxide suppression is acceptable in lieu of automatic sprinklers.	One hour barrier will be provided on trays and between MCC's
d. Auxiliary Building elevation 631', cable tray area, zone 8, F.H.A. page #9B 4-40. The cable trays located in the NE corner of room coordinates H-11. The existing automatic carbon dioxide suppression is acceptable in lieu of automatic sprinklers.	One hour barrier will be provided
e. Auxiliary Building, elevation 613'-6" Cable Tunnel, zone 5, F.H.A. page #9B 4-35.	One hour barrier will be provided
f. Reactor Building, elevation 613'-6" second floor, zone 6, F.H.A. Page #9B 4-15. Southeast corner E - F and 10 - 11. The area has an existing automatic sprinkler system.	One hour barrier will be provided

		Edison Position
g.	Reactor Building, elevation 613'-6" second floor, zone 6, F.H.A. page # 9B 4-15. Southwest corner coordinates B - C and 11.	Analysis indicates these circuits are control circuits for cold shutdown valves, no protection or suppression required
h.	Auxiliary Building, elevation 613'-6" relay room, zone 3, F.H.A. page # 9B 4-32.	A three hour rated barrier will be provided witout suppression
i.	Auxiliary Building elevation 613'-6" relay room, zone 3, F.H.A. page # 9B 4-32. The existing automatic carbon dioxide fire suppression is acceptable in lieu of automatic sprinklers.	One hour barriers will be provided for <20 feet. Bypass switches required to bypass leak detection trip
j.	Auxiliary Building, elevation 603'-6" mezzanine and cable tray area, Zone 2, F.H.A. page #9B 4-30. The area has an existing automatic sprinkler system.	One hour barrier will be provided
k.	Reactor Building, elevation 583'-6" first floor, Zone 5, F.H.A. page # 9B 4-11. West side outside containment	Valves in this zone area are cold shutdown valves - no protection necessary.
l.	Auxiliary Building, elevation 538'-6" cable tray area, Zone 2, F.H.A. page # 9B 4-30. Both the north and south ends. The area has an existing automatic sprinkler system.	One hour barrier will be provided
m.	Auxiliary Building, elevation 551' and 561' basement, Zone 1, F.H.A. page # 9B 4-28. The area has an existing automatic sprinkler system.	One hour barrier will be provided
2.	The applicant will document that the fire dampers are installed as per the manufacturers' instructions or will anchor the frame of the damper to the wall.	Edison will correct any damper installation not in accordance with manufacturers instructions

		Edison Position
3.	The diesel fuel oil supply valve, located at the elevated fuel oil tank, should be locked open or electrically supervised.	Lock will be provided
4.	The cable tray supports should have the same fire resistance as cable tray itself.	Cable tray supports will be protected as requested
5.	Smoke detection should be provided for the Auxiliary Building, elevation 613' northeast corner in the stairway adjacent to the relay room.	An additional smoke detector will be provided
6.	Auxiliary Building, elevation 630'-6" cable spreading room, Zone 7 F.H.A. page # 9B 4-30. Provide an auxiliary shutdown system for all cabling independent of the cable spreading room. This would effectively bypass the control room also.	Edison will protect cable spreading room as per the May 27, 1981 meeting. The shutdown of the control room will be as defined in the May 27, 1981 meeting and letter of June 15, 1981.
7.	The remote shutdown panel should be electrically isolated from the control room, cable spreading room, and relay room.	Fermi 2 having 2 remote shutdown panels precludes the need for electrical isolation
8.	The applicant should provide documentation on the flame spread, fuel contributed and smoke developed ratings of all interior finish in the control room.	Documentation will be provided
9.	Spurious operation of valves and equipment should be considered in applicant's analysis of the effect zone of fire influence.	Will be addressed in response to question 021.32
10.	A second feed from the underground fire main should be provided for the RHR Building.	A second feed willbe provided to the RHR Complex

C. Results of the Analysis Requested at the May 15, 1981 Exit Critique.

The following analysis will be provided in response to Question 021.32 but are provided per your verbal request.

a. Critique Item #1-g - Reactor Building, elevation 613'-6" Southwest corner coordinates B - C and 11.

The interaction tray identified as the foreign division in this area is also known as the swing bus. This tray contains control cables to valves which are used for shutdown cooling only. The following valves are included:

E11 F010 (RHR Cross tie)

E1150 F015 A, B (RHR injection)

E1150 F017 A, B (RHR injection)

B3105 - F031 A, B (Recirc Line Discharge Valves)

Relay Control for B3105 - F031 A, B

The RHR cross tie valve E1150 F010 is normally open and is not used for the reactor shutdown. If it should close, there would be no affect on the shutdown using the RHR system. The RHR injection valves are not used until shutdown cooling for cold shutdown is required. If both injection valves inadvertently opened while the reactor was at pressure, the swing check valves E1150 F050 A or B would prevent back flow. If the valves failed to open when called upon for cold shutdown, the valves can be manually opened.

The Recirculation Pump discharge valves are open and are closed when the RHR system is put into shutdown cooling. There is no problem if these valves inadvertently closed as there is no flow in the Recirculation System once the reactor is scramed. If the valves cannot be closed, the Recirculation System inboard valves B3105 F023 A, B can be closed and accomplish the same objective. The inboard valves are not powered by the swing bus.

This analysis indicates that the swing bus circuits can be damaged in a fire without preventing hot or cold reactor shutdown.

b. Critique Item #1 - 2 - Auxiliary Building 613'-6" Relay Room. Evaluation of relay room panels.

The relay room analysis indicates there are two sets of panels used for shutdown that have both divisions separated by less than 20 feet. The panels are H11 P609 and P611, the Reactor Protection System panels, and panel P614, the HPCI, RCIC steam line leak detection panel.

The RPS cabinets are included as shutdown equipment because the reactor must be scramed to shutdown. Loss of the RPS cabinets would cause a scram as the RPS circuit integrity must be intact to keep the control rods out. In addition, the RPS MG sets can be tripped that will de-energize the scram circuits and cause a scram.

The steam leak detection cabinets are used for isolation of the HPCI and RCIC steam lines in the event of a steam line break. This cabinet includes trip contacts in both the HPCI and RCIC systems.

If the circuits in this cabinet open circuit, there would be no affect on the HPCI or RCIC control circuits (which are located in other divisional relay cabinets). If the circuits in H11 P614 are grounded, the circuit fusing would de-energize the leak detection circuits; however, the HPCI and RCIC turbine control circuits would not be affected. A hot short in certain circuits in H11 P614 could inadvertently pick up the trip relay. To correct for this potential problem, a bypass switch will be added at the relay cabinets (H11 P618 for RCIC, H11 P617 for RCIC) to isolate the steam leak detection trip contacts. The leak detection is not needed in a fire scenario.

c. Critique Item #1-k - Reactor Building elevation 583'-6" west side outside containment.

This zone contains valves E11 F019A, E11 F015 B and E11 F006. These valves are shutdown cooling valves and are not needed until the reactor is put into cold shutdown. Damage to these valves can be overcome as the valves can be operated manually. Inadvertent operation of valves E11 F015 A or B was discussed in Critique Item #1-g above. If valve E11 F008 should inadvertently open, the valve inside containment E11 F009 would provide isolation. No further protection is required.

Sincerely,

W. F. Colbert
Technical Director
Enrico Fermi 2

WFC/RCA/dk

cc: B. Little