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August 16, 1984  
EF2-72,718

Mr. Harold Denton  
Director Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Denton:

Reference: Fermi 2  
NRC Docket No. 50-341

Subject: Alternative Shutdown in the Control Center  
Complex

At a meeting with your staff on July 11, 1984, the Detroit Edison proposal for providing the additional fire protection feature of a single failure proof Halon System for the Relay Room at our Fermi 2 plant was rejected. The course of action agreed to at the meeting was for Detroit Edison to pursue the alternative or dedicated shutdown approach for this area as allowed per II.D, III.G.3, and III.L of Appendix R to 10CFR50. It was also realized that this approach would relieve staff concerns relative to fire protection features in the Control Room at Fermi 2. In addition, it should be recognized that due to the configuration of the structure, this approach is also applicable to the Cable Spreading Room. The control/cable spreading/relay rooms in essence are a 3 tiered stack of rooms in descending order of elevation (Control Room on top, Cable Spreading Room in the middle, Relay Room at the bottom). This stack of rooms is known as the Control Center Complex. Shutdown circuits necessary for Appendix R are common to all three rooms in the complex.

Accordingly, Detroit Edison is informing you formally in this letter that it intends to use the alternative or dedicated shutdown method described in Section III.L of Appendix R to 10CFR50 as the primary basis for satisfying the staff's requirements on Fire Protection for its Control Center Complex at its Fermi 2 plant.

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The conceptual approach for alternative shutdown is as described to your staff in the July 11th meeting and is provided for reference in Attachment I. Since this approach is a complex one and requires detailed analysis of safety implications and extensive hardware and procedural modifications, Detroit Edison commits to having the capability installed prior to startup after the first refueling outage. We will shortly be requesting a meeting with your Auxiliary Systems Branch to discuss in more detail the plan and schedule for the proposed concept.

The justification for interim operation until startup after the first refueling outage is based on the following permanent and compensatory measures:

#### Control Room

The Fire Hazards Analysis for the Control Room is described in FSAR Section 9B.4.2.10. The following is a summary of the permanent fire protection features for the Control Room:

1. Ionization smoke detection in each Control Room operating panel.
2. Ionization smoke detection above the Control Room drop ceiling.
3. The Control Room is continuously manned.
4. The Control Room Operating Panels have a low combustible loading and contain only low energy cables such as for control, indication, and low power circuitry for Control Room instrumentation (DECo to NRC letter, EF-2-68302, May 8, 1984).
5. Availability of portable fire extinguishers.
6. Availability of a trained fire brigade.
7. Availability of Operating Procedures and Measures to combat panel fires.
8. Administrative procedures for controlling combustibles and ignition sources.

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In addition, the following permanent fire protection features will be implemented prior to fuel load:

1. Holes or gaps between the panels 601 and 602, 809 and 810, and 808 and 817 will be sealed with a fire retardant sealant or barrier (in particular, the bus bar penetration and the air gaps between the separating bulkheads and the Control Room floor).
2. Small fitup gaps in the front corners of the above referenced panels will be sealed with a fire retardant sealant or barrier.
3. Two additional portable Halon fire extinguishers will be located in convenient locations near the Control Room Operating Panels.
4. The procedure for control of combustibles in the Control Room will be reviewed and upgraded if required.
5. The protective Marinite Panels on Panels 601, 602, 809, 810, 808, and 817 will either be labeled or affixed with a mechanical device to ensure they are installed on the correct panels.

The following temporary measures will be taken as compensatory action until the alternative means of shutting down is operational:

A roving fire watch will be established who will on an hourly basis check the Control Room (with particular attention to panels 601, 602, 809, 810, 808, and 817) for the following:

- o Fire hazards
- o Evidence of fire
- o Availability of extinguishers
- o Any unsafe practices

A specific training and qualification plan will be implemented to satisfy this commitment to ensure the fire watch knows its job and its purpose.

With the above permanent and compensatory actions, Detroit Edison believes the degree of fire protection afforded the Control Room for the interim period until startup after the first refueling outage is equivalent to that afforded by compliance with Appendix R.

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#### Cable Spreading Room

The Fire Hazards Analysis for the Cable Spreading Room is described in FSAR Section 9B.4.2.8. The following is a summary of the permanent fire protection features for the Cable Spreading Room:

1. Class A, cross zoned ionization smoke detection system.
2. Halon suppression system - automatic and manual.
3. Manual operated fusible link sprinkler system.
4. Availability of manual hoses.
5. Availability of portable fire extinguishers.
6. Availability of a trained fire brigade.
7. Administrative procedures for controlling combustible and ignition sources.
8. Access to the Cable Spreading Room is strictly controlled.

In addition, a roving fire watch (as discussed with the Control Room) will be established as compensatory action until the alternative means of shutting down is operational.

With the above permanent and compensatory actions, Detroit Edison believes the degree of fire protection afforded the Cable Spreading Room for the interim period until startup after the first refueling outage is equivalent to that afforded by compliance with Appendix R.

#### Relay Room

The Fire Hazards Analysis for the Relay Room is described in FSAR Section 9B.4.2.4. The following is a summary of the permanent fire protection features for the Relay Room:

1. Class A, cross zoned ionization smoke detection system.
2. Halon suppression system - automatic and manual.
3. Availability of manual hose.

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4. Availability of manual CO<sub>2</sub> hand hose reel for internal panel fires.
5. Availability of portable fire extinguishers.
6. Availability of a trained fire brigade.
7. Administrative procedures for controlling combustibles and ignition sources.
8. Access to the Relay Room is strictly controlled.
9. The bottom most cable trays are located approximately 9 to 10 feet off the floor.
10. The minimum panel separation between Appendix R Division I panels and Appendix R Division II panels is 22 feet. Generally 30 feet separation is maintained.
11. Approximately 5 to 6 feet aisles separate rows of relay room panels.
12. Vertical tray runs have metal covers.

In addition, a roving fire watch (as described with the Control Room) will be established as compensatory action until the alternate means of shutting down is operational.

With the above permanent and compensatory actions, Detroit Edison believes the degree of fire protection afforded the Relay Room for the interim period until startup after the first refueling outage is equivalent to that afforded by compliance with Appendix R.

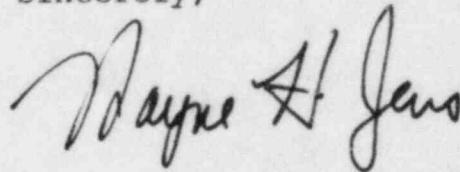
Although credit for cable wrapping was not taken above, it should be noted that a substantial percentage of the cables, conduit, and supports required for shutdown are wrapped with fire retardant material rated by the Underwriters Laboratories as a one hour protective envelope. While Detroit Edison will not continue the wrapping program to its completion, the existing wrap provides substantial additional protection. Detroit Edison commits to minimize compromising the present wrap while cables are added during the interim period until the alternate shutdown capability is operational. After that time the wrap may be removed as maintenance requires.

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As outlined in this letter and in the FSAR, Edison firmly believes that it has established permanent and compensatory fire protection measures for the Control Center Complex which provide essential equivalence to Appendix R for the interim period until startup after the first refueling outage. Further, interests of safety are further served by disassociating the development of the alternative shutdown approach from the fuel load schedule to allow for conscientious, detailed, and deliberate review and study. As stated previously, the concept is a complex one; we must satisfy ourselves of its safety and desirability prior to formal implementation. We believe that this can be accomplished, reviewed and accepted by you, and implemented prior to startup after the first refueling outage.

Your expedited review and approval of the above are hereby requested. If you have any questions, please contact Mr. Keener Earle at (313) 586-4211.

Sincerely,



cc: P. M. Byron  
B. J. Youngblood  
M. D. Lynch  
R. Eberly  
USNRC, Document Control Desk  
Washington, D.C. 20555

CONCEPTUAL APPROACH TO PROVIDE  
ALTERNATIVE SHUTDOWN CAPABILITY  
FOR A CONTROL ROOM OR RELAY ROOM FIRE

ASSUMPTION:

FIRE FULLY CONSUMES RELAY/CONTROL ROOM

POSSIBLE SPURIOUS CIRCUIT OPERATION

POSSIBLE LOSS OF DG'S DUE TO LOAD SEQUENCER PROBLEM

LOSS OF OFFSITE POWER

METHOD:

FOR A FIRE IN CONTROL/RELAY ROOM THAT THE FIRE BRIGADE LEADER HAS DETERMINED TO HAVE GOTTEN PAST THE INCIPIENT STAGE AND INTO THE INTERIOR STRUCTURAL FIRE STAGE

1. THE CTG'S (JETS) ARE GIVEN THE START SIGNAL (MULTIPLEXED CONTROL/DOES NOT GO THROUGH RELAY ROOM)
2. REACTOR IS SCRAMMED
3. SBFW SYSTEMS IS LINED UP AND STARTED FROM THE CONTROL ROOM
4. OPERATOR LOAD SHEDS VITAL AC/DC BUSES
5. OPERATOR TAKES UP STATION AT SBFW PANEL AND TRANSFERS ALL CONTROL FOR SBFW SYSTEMS TO THAT LOCATION AND MAINTAINS WATER LEVEL

INSTRUMENTS ON THAT PANEL INCLUDE:

- |                |                  |
|----------------|------------------|
| A. RX PRESSURE | SBFW CONTROL     |
| B. RX LEVEL    | BREAKER CONTROLS |
| C. CST LEVEL   | CTG'S            |
| D. TORUS TEMP  |                  |
| E. TORUS LEVEL |                  |
| F. SBFW FLOW   |                  |

- 5.5. RX LEVEL IS MAINTAINED BY SBFW  
RX PRESSURE IS MAINTAINED BY SRV/SAFETY FUNCTION  
DISCHARGING TO SUPPRESSION POOL
6. OPERATOR GOES TO LOCAL MCC'S "TURN OFF" NON  
REQUIRED EQUIPMENT  
TRANSFER OPERATION FOR SELECTED EQUIPMENT TO LOCAL  
OPERATION AT THE MCC  
WHEN ALL EQUIPMENT HAS BEEN ISOLATED, RESTORE POWER  
TO THAT BUS (CTG'S)
7. LOCALLY START DG'S  
LINE UP FOR LONG TERM SD COOLING
8. MAINTAIN #7 UNTIL DAMAGE IS REPAIRED (AFTER 72 HOURS  
EQUIPMENT WILL BE POWERED FROM OFFSITE POWER)