



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

MAY 24 1984

Docket No.: 50-341

Dr. Wayne Jens  
Vice President - Nuclear Operations  
The Detroit Edison Company  
2000 Second Avenue  
Detroit, Michigan 48226

Dear Mr. Jens:

Subject: Request for Additional Information Regarding JIO'S for the  
Environmental Qualification of Equipment Important  
to Safety in the Fermi-2 Facility

In the course of our review of your submittal on the environmental qualification of safety-related components in the Fermi-2 facility, we have identified a need for additional information. This information is related to those safety-related components which are considered environmentally unqualified but for which you submitted a justification for interim operation (JIO). While we have determined that most of these JIO's are acceptable, we need additional information regarding some of your JIO's. Enclosure 1 contains a request for additional justification for those JIO's related to Class 1E instrumentation and controls. In our review of these I&C JIO's, we focused on the equipment functions, failure consequences, accident scenarios and alternate (i.e., backup) equipment and systems available to accomplish the desired safety function.

In Enclosure 2, we request that you submit additional justification and information for the use of environmentally unqualified solenoid valves in achieving a particular safety objective; namely, containment heat removal. Specifically, we do not have sufficient assurance that a common mode failure of the unqualified solenoid valves is precluded. Consequently, we do not have sufficient assurance that the containment monitoring system will function in the harsh environment associated with a postulated severe accident. (Note that both Enclosures 1 and 2 refer to the same solenoid valves. Enclosure 1 is oriented towards a consideration of the instrument readings while Enclosure 2 is oriented towards the overall operability of the containment monitoring system.)

For both these matters, we did not consider the partial environmental qualification data and analysis which you submitted. Accordingly, in responding, you may wish to discuss the applicability of the partial environmental qualification of these components.

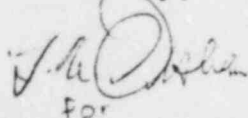
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Inasmuch as we conduct an audit review of your JIO's, we request that you identify all those JIO's in which you have taken credit for redundant divisions and/or trains containing comparable components that are also not qualified for the harsh environment anticipated in the event of an accident. If you have any questions on these matters, please contact the Fermi-2 Project Manager, M. D. Lynch, at 301/492-7050.

Sincerely,



For

B. J. Youngblood, Chief  
Licensing Branch No. 1  
Division of Licensing

Enclosures:  
As stated

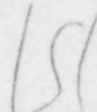
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Licensing Branch No. 1  
Division of Licensing

Enclosures:  
As stated

cc: See next page

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ENCLOSURE 1

REQUEST FOR ADDITIONAL INFORMATION

REGARDING INSTRUMENTATION AND CONTROL SYSTEM JIO'S

1. You have provided on pages B21-8, 9 and 10 of your submittal, justification for interim operation (JIO) with non-qualified Rosemount transmitters. We note that these transmitters are used throughout the reactor protection system (RPS) to initiate reactor trip, containment isolation and other engineered safety features. For one of the examples cited above (i.e., reactor trip), there will be a very short time delay between the onset of harsh environmental conditions in the event of a severe accident and the reactor trip. However, this may not be the case for other engineered safety feature functions which rely on the operability of the Rosemount transmitters. Specifically, those transmitters required for the operation of the automatic depressurization system, low pressure coolant injection system and the containment spray system will have to remain operable for a considerable period of time. Accordingly, we request that you identify each case where a non-qualified Rosemount transmitter will be subjected to a harsh environment in the event of a severe accident. Additionally, confirm that the time requirements for instrument operability are enveloped by the one hour time period which you propose in your justifications. In particular, address the interlock/permissive circuits and any other circuits which do not seal in after exceeding a predetermined setpoint. Provide the numerical value of the inaccuracy of the transmitter output signal when the transmitter is subjected to harsh environmental conditions. Demonstrate how this inaccuracy has been considered in determining the instrument channel trip setpoints.
2. On Pages E41-7, 8 and 9 of your submittal, you have provided justification for interim operation with a non-qualified General Electric flow transmitter. In the "Justification Summary" section of your submittal, you state that even if the high pressure coolant injection (HPCI) system were to fail, the reactor core could be safely cooled by other Class 1E systems. These other safety-related systems used as alternative emergency core cooling systems (ECCS) are the automatic depressurization system (ADS) and the low pressure coolant injection (LPCI) system. As discussed in Item 1 above, these systems are initiated by and include permissive/interlock circuits which depend on the operability of, non-qualified Rosemount transmitters. Accordingly, submit additional justification for relying on safety-related systems which contain environmentally unqualified components that would be required to function in a harsh environment.
3. On Pages E41-16, 17, and 18 of your submittal, you have provided justification for interim operation with a non-qualified "Square-D" pressure switch in the HPCI system. As discussed in Items 1 and 2 above, the back-up ECCS you propose to rely on if the pressure switch fails, in turn relies on non-qualified components. Accordingly, submit additional justification for relying on safety-related systems which contain environmentally unqualified components that would be required to function in a harsh environment.

4. On Pages T50-5, 6 and 7 of your submittal, you have provided justification for interim operation with non-qualified ASCO solenoid valves. These solenoid valves operate post-accident monitoring instrumentation isolation valves. You state in the "Equipment Failure Effects" section of your submittal that the drywell pressure and torus level indication will be recognized by the operator as "obviously" faulty if a solenoid valve were to fail. You further state in the "Justification Summary" section of the submittal that if one solenoid valve fails, redundant instrumentation will provide equivalent data. However, you have not provided a technical basis supporting either of these two statements. If a solenoid valve were to fail causing the isolation valve to close, the reading on the instruments would be locked-in and the operator would receive conflicting information. Further, there is no evidence to support the claim that only one valve will fail and there is no basis to conclude that redundant instrumentation would be available. Accordingly, provide additional information to support your request to permit interim operation with nonqualified ASCO valves. (Refer to Item 1 of Enclosure 2.)

ENCLOSURE 2

REQUEST FOR ADDITIONAL INFORMATION

REGARDING A CONTAINMENT MONITORING SYSTEM JIO

1. In your JIO related to the ASCO solenoid used in the containment monitoring system (Page T50-5), you assume that one train of instrumentation remains functional in the event of the loss of the redundant train. However it appears we cannot preclude the failure of both trains of instrumentation due to environmental effects since neither one is qualified. It appears that a common mode failure could disable both of them. Accordingly, we request that you propose an alternative system to accomplish the safety function performed by the containment monitoring system. Alternatively, provide additional justification for this JIO. (Refer to Item 4 of Enclosure 1.)
2. In our review of these solenoid valves and their associated containment isolation valves, two apparent discrepancies were noted which should be clarified. In Table 6.2-2 of the FSAR, you do not list the same valves for the torus level instrumentation penetration as those provided in this JIO (i.e., V5-2232, 2236). In addition, this JIO refers to the same set of solenoid valves with two different sets of numbers (F020 A and B, F021 A and B, F022 versus F420 A and B, F421 A and B, and F422). These apparent discrepancies should be corrected so that the JIO's and the FSAR are consistent and to assure that misunderstandings do not develop concerning the affected system.