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February 22, 1990  
NRC-90-0025

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555

Reference: (1) Fermi 2  
NRC Docket No. 50-341  
NRC License No. NPF-43  
(2) NRC Inspection Report No. 50-341/89017,  
dated January 23, 1990.

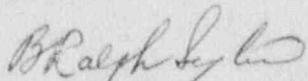
Subject: Response to Notice of Violation

Enclosed is the response to the Notice of Violation contained in Reference 2. While Detroit Edison concurs with both violations cited, we take exception to the conclusion that the first event described in Violation 89-017-01 constitutes an unreviewed safety question. Detroit Edison's position on this aspect of the event is presented in the violation response.

As requested in the cover letter of Reference 2, a discussion of the overall actions taken or being taken to strengthen the safety evaluation process at Fermi 2 is provided. This information is contained in the final section of this response.

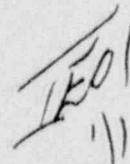
If there are any questions relating to this response, please contact Patricia Anthony, Compliance Engineer, at (313) 586-1617 or Terry Riley, Supervisor of Compliance and Special Projects, at (313) 586-1684.

Sincerely,

  
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I. Response to Violation 89-017-01

In Reference 2, a four part violation relating to implementation of 10 CFR 50.59 requirements was issued.

A. Part A of the violation states:

"On March 30, 1988 engineering personnel failed to identify an unreviewed safety question in that the evaluation of removal of the residual heat removal minimum flow valve from service under SE 88-0074 did not conclude that this action rendered the residual heat removal and low pressure coolant injection function of that residual heat removal division inoperable."

Corrective Actions Taken:

On April 15, 1988, Engineering Management questioned if the safety evaluation adequately addressed the requirements of Regulatory Guide 1.139 which requires the protection of the pumps from overheating due to lack of a flow path. The response was that with the vessel at 0 psig and with the Low Pressure Cooling Injection (LPCI) mode available that the need for the minimum flow path is negated. Under these conditions, the LPCI flow to the vessel would be developed before the 10 second time delay in the control circuit called for the minimum flow valve to open. Therefore, pump overheating due to a lack of flow path availability was not considered a concern and the Regulatory Guide requirements were considered met. Typically a low level (level-3) would isolate Residual Heat Removal (RHR) pump discharge valves E11-F015A/B along with the shutdown cooling suction valves E11-F008 and E11-F009. Such an isolation would automatically trip the RHR pump. Should the minimum bypass flow valve E11-F007B have been operational during the actual incident of deadheading the RHR pump, it would have provided the flow path to protect the pump from overheating. However, it would have also provided a flow path for draining the vessel to the torus. Hence, a closed minimum flow valve was still desirable.

On May 5, 1988, the Fermi 2 Independent Safety Engineering Group (ISEG) initiated DER 88-1008 due to their concerns with the adequacy of safety evaluation (SE) 88-0074 in respect to overheating of the pump if the discharge flow path was lost while the valve was disabled. This was evaluated and Detroit Edison concluded that no unreviewed safety question existed.

Corrective Actions Taken to Prevent Recurrence:

In the final section of this response, a detailed discussion of improvements to the safety evaluation process is given.

Date When Full Compliance Will be Achieved:

Fermi 2 is in full compliance with the requirements of 10CFR50.59 under its present program.

Discussion of the Existence of an Unreviewed Safety Question

The Inspector stated in report 89017, paragraph 4.g.1, that "the safety evaluation performed by the licensee in concluding that a division of RHR for shutdown cooling and LPCI mode was operable with the RHR minimum flow valve disabled was incorrect and an unreviewed safety question did exist. A license amendment was not sought for the unreviewed safety question." Further, the report states in the same paragraph, "the Technical Specification Limiting Condition for Operation 3.5.2 and 3.4.9.2 were not complied with when the minimum flow valve was taken out of service." Detroit Edison disagrees with both these conclusions reached by the inspector. Detroit Edison maintains that an unreviewed safety question did not exist and that the LCOs for the cited technical specifications were not violated. The following discussion provides the basis for this conclusion.

Unreviewed Safety Question Issue:

On March 30, 1988, a request was made for Nuclear Engineering to prepare a Safety Evaluation for the purpose of evaluating whether the removal of the Division 2 minimum flow path for Residual Heat Removal System (RHR) from service while in Operational Condition 4 constituted an unreviewed safety question. Division ECCS had been taken out of service for maintenance activities. In response to this request, engineering prepared SE 88-0074 and concluded that no unreviewed safety question existed. Subsequent to this evaluation, however, the RHR system was in the shutdown cooling mode of operation when a malfunction initiated a close signal to the RHR injection valve causing the RHR pump in service to deadhead. It was approximately 33 minutes before an operator noticed the problem and took corrective action. Subsequent reviews of the incident determined that the pump sustained no damage. However, as a result of this deadheading event, the resident inspector reviewed the SE and did not draw the same conclusions as the preparer concerning whether an unreviewed safety question existed. In like manner, the Independent Safety Evaluation Group (ISEG) also questioned the adequacy of the SE because of this incident and because of concerns regarding the flush function of the minimum flow line. The ISEG concern is documented in DER 88-1008.

Discussion between the inspector and the engineering staff ensued in an effort to resolve the issue. The inspector's concern was that by disabling the minimum flow valve, the pump overheating protection feature was disabled. This increased the probability of equipment malfunction and, therefore, was an unreviewed safety question. Though the inspector's concerns and the engineering staff's position were extensively discussed, an agreement was not reached. The inspector's concerns are included in Inspection Report 89017 as a violation. The ISEG concerns, documented in DER 88-1008, were resolved and the DER was closed out.

As stated above, DECo maintains its position that an unreviewed safety question did not exist. The reasons are as follows:

1. The SE was written for a specific set of conditions, that is, for the plant in Operational Condition 4 (OPCON-4). This condition is specifically defined in Table 1.2 as the Mode Switch in "Shutdown" (except for some specific exceptions listed in the table) and the reactor coolant temperature less than or equal to 200°F. This is an important consideration since the SE was written specifically for this OPCON.

The minimum flow line is provided to allow a flow path when a LPCI injection signal occurs but reactor pressure is too high for LPCI to inject. A description of the function of the minimum flow line is given in section 6.3.2.2.4.4 of the UFSAR. In this section, it should be noted that the function of the minimum flow line is given with respect to the "Low Pressure Coolant Injection" mode. With reactor pressure at a nominal 0 psig, LPCI injection would be immediate and thus, the function of the minimum flow line is not required. A ten second time delay is included in the logic to allow flow to be established before activating on a low flow condition. The logic functions the same way for other modes of RHR. In SE 88-0074, the preparer correctly asserts that the reactor pressure would be a nominal 0 psig and, therefore, the function of the minimum flow line would not be required. Thus, removal of the minimum flow valve would not constitute an unreviewed safety question.

Inspection Report 89017 notes that "Reactor pressure is not always 0 in operational condition 4. Hydrostatic testing is done in operational condition 4 and at much higher pressures than the discharge pressure of the RHR pumps." This is true, hydrostatic testing is performed in OPCON-4. The report later continues, "... the licensee did not establish any administrative or physical controls to assure 0 psig reactor pressure was maintained." Detroit Edison disagrees with this conclusion. Hydrostatic testing is not done without prescribed preparations. It is a complex task that is governed by a procedure. Specifically, at the time of this incident, a reactor pressure vessel hydrostatic test would be controlled by procedure 43.000.09, revision 0, "Reactor Pressure Vessel System Leakage Test". This revision of the procedure allowed for the use of RHR in the Shutdown Cooling Mode (SDC) for the purpose of generating heat to bring the reactor vessel temperature up to the required level for the hydrostatic test. However, step 6.5 of this procedure specifically directed the RHR system be placed in STANDBY prior to exceeding 95 psig. Thus, it is clear that administrative controls were in effect at the time of this incident. Furthermore, since the bulk of the RHR system is made up of "low pressure" piping, a high pressure interlock is provided to isolate the system at a nominal pressure of 95 psig. Isolation of the suction flow path would have automatically tripped the RHR pump; thus eliminating the need

for low flow protection. This interlock is required for OPCONS 1, 2, and 3 where pressure could be expected to be greater than 0 psig. It is not unreasonable to expect this interlock would also be functional in OPCON-4 as it was during the event. Therefore, it can be concluded that both administrative and physical controls were available to remove RHR from SDC prior to pressurizing the reactor above 95 psig in OPCON-4.

2. The inspection report states that "Regulatory Guide 1.139 was not mentioned or referenced in the safety evaluation." This regulatory guide states in paragraph C.4 that, "The design and operating procedures of the RHR system should include provisions to prevent damage to the RHR system due to overheating, cavitation, or loss of adequate pump suction head." Although it is true that the preparer of the SE did not specifically cite this regulatory guide in his evaluation, it is not true that the SE did not address the essence of the regulatory guide, that is, pump overheating protection. The SE states, "the minimum bypass flow capability (through E11-F007B) is provided to protect the RHR pump from overheating when the reactor pressure is high and the RHR pumps are running without an available injection flow path to the vessel. When the reactor pressure falls below the RHR pump discharge pressure, the coolant injection flow path to the RPV vessel becomes available (E11-F015 valve opens) and the RHR minimum bypass flow valve (E11-F007B) automatically closes." The SE goes on to show that the minimum flow valve could be taken out of service without creating an unreviewed safety question. It is clear that the SE addressed the specifics of Regulatory Guide 1.139 although it was not discussed by reference.

It should be noted that two control room alarms (1D26 and 2D31) along with the reactor parameter display system were installed in the control room following the June 1987 mode change incident (see LER 87-027). The purpose of this display and the alarms is to alert the operator should reactor temperature increase to 200°F because of problems with shutdown cooling. Although the primary purpose of these is to prevent inadvertent entry into OPCON-3, they also provide a secondary function of alerting the operator of a problem with the RHR system, which in the shutdown cooling mode of operation, such as deadheading a pump.

3. The inspection report implies in the fourth paragraph of section 4.c that the SE was flawed because a malfunction of the injection valve caused the RHR pumps to deadhead, thus negating the argument in the SE that a flow path would be available and the minimum flow valve would not be necessary. It appears the inspector concludes there is an unreviewed safety question on the basis of this event. Although the preparer of the SE did not anticipate the malfunction of the injection valve, it does not necessarily follow that an

unreviewed safety question existed. The provisions of 10 CFR 50.59 and item 2a of the SE require that an evaluation be made as to whether the proposed change (taking the minimum flow valve out of service) creates an increase in the probability of malfunction of equipment important to safety as previously evaluated in the UFSAR. Under the plant conditions outlined in the SE, it is clear that the disabling of the minimum flow line did not create a condition whereby the RHR system could not perform its design safety function. Even if it is assumed that the RHR pump had failed, this does not put the plant outside the envelope of the UFSAR because as stated in section 6.3.3.3 of the UFSAR, "...the functional consequences of potential operator errors, single failures, and the potential for submerging valve motors in the ECCS are discussed in subsection 6.3.2. This subsection includes information on errors that could cause any manually controlled, electrically operated valve in the ECCS to move to a position that could adversely affect the ECCS. There it is shown that all potential single failures are no more severe than one of the single failures identified in Table 6.3-5." Table 6.3-5 shows that the failure of the LPCI injection valve directing water to the unbroken loop is the most severe failure. Under these conditions, a single LPCI valve failure disables all four RHR pumps. Certainly, the condition created by the malfunction of the injection valve in this case (i.e., in OPCON-4, minimal decay heat load, vessel head removed) is no worse than the conditions cited in Table 6.3-5 (full power operation, etc.) and, therefore, could not be considered an unreviewed safety question.

It should be noted that although the RHR pump ran deadheaded for approximately 30 minutes, no damage was incurred by the pump. A similar event in 1983 (pre-license) resulted in an RHR pump running deadheaded for approximately 90 minutes with no adverse effects. Detroit Edison does not condone running an RHR pump deadheaded, but it is clear from experience and from informal calculations that the RHR pump is not immediately endangered by being deadheaded.

4. The practice of disabling the RHR minimum flow valve is common for Boiling Water Reactors with the plant in Cold Shutdown and RHR/SDC in operation. In a survey of five similar plants, it was found that four of these plants disable the minimum flow valve in some manner. The purpose of this is to prevent inadvertent draining of the vessel to the suppression pool via this flow path. This flow path will allow a flow of 500 to 1000 gpm. The inspection report suggests that total dependence for protection from an inadvertent drainage of the vessel be placed on the level 3 isolation trip. As stated in the inspection report and in NSAC-88, "Residual Heat Removal Experience Review and Safety Analysis (Boiling Water reactors)", this is an effective method for terminating a vessel drain down event. Detroit Edison agrees with the

importance of level 3 isolation signal, however, this isolation signal is not required to be in operation in OPCON-4 or 5 and could have been out of service at the time of the event. Had it not been in service then vessel level would have continued to decrease to level 1 at which point the low pressure ECCS would have initiated, but there would have not been an automatic isolation of the flow path. Further, a change is considered beneficial when it can be shown that it will reduce the probability of a challenge to an Engineered Safety Features (ESF) system (such as the level 3 isolation). In addition, if the plant was in OPCON-5 (refueling) the level 3 isolation trip would not prevent a reduction in shielding, or would not prevent the uncovering of the fuel while handling in transport since the level 3 trip is well below the reactor flange. Had the minimum flow valve been in service during the deadhead incident a vessel draindown would have occurred with only the level 3 isolation or operator action available to terminate it.

Technical Specification Violation:

The inspection report states in part 4.g.1 that, "... the Technical Specification Limiting Condition for Operation 3.5.2 and 3.4.9.2 were not complied with when the minimum flow valve was taken out of service." This position is apparently supported by the NRC Office of Nuclear Reactor Regulation. However, Detroit Edison disagrees with this position and maintains that the Technical Specifications were not violated when the minimum flow valve was taken out of service. The basis for this position is essentially the same as that given for the no unreviewed safety question. Specification 3.5.2 defines an operable flow path as the capability of taking suction from the suppression pool and transferring the water to the reactor vessel. An operable flow path implies that the minimum flow valve is required to be closed in order to maintain its integrity. This aspect was accomplished. Technical Specification 3.4.9.2 (Shutdown Cooling) also requires the integrity of the flow path. In addition, Technical Specification 3.4.9.2 requires alternate methods for shutdown cooling be available in the event that the primary method is lost. Consideration for alternate SDC methods was addressed in SE 88-0074.

B. Part B of the violation states:

"On February 4, 1988 engineering personnel failed to evaluate a change to the facility as described in the safety analysis report, addition of electrical load to the division 2 safety related battery under EDP 7964, to the criteria associated with an unreviewed safety question."

EDP 7964 changed the High Pressure Cooling Injection motor for valve E41-F006 from a 100 ft. lb. motor to 150 ft. lb. motor. Originally, the valve had a 150 ft. lb. motor with an electric brake. Due to problems with the qualification of the electric brake, an actuator with a mechanical brake was installed in October of 1984. At that time, Limitorque advised Detroit Edison that a 100 ft. lb. motor was adequate for E41-F006.

MOVATs valve signatures taken in September of 1987 indicated the valve was not developing sufficient thrust, so the decision was made, with Limitorque's concurrence, to change the motor to a 150 ft. lb. rated motor. This change was implemented in February 1988 via EDP 7964.

At the time EDP 7964 was being developed, a Preliminary Evaluation Checklist (PEC) was prepared and it was concluded that a full SE was not necessary. A statement was not provided in the PEC to establish whether the effects on the Division II Safety Related Batteries were considered. This was done as part of the design process.

Corrective Actions Taken:

At approximately the same time that EDP 7964 was being developed, Design Calculation O213 was revised which clearly established that the motor change out had not adversely impacted the capability of the Division II Safety Related Batteries to perform their design function.

Safety Evaluation 89-0175 was performed and approved, which documents that the resizing of the motor did not result in an unreviewed safety question.

Corrective Action Taken to Prevent Recurrence:

A detailed description of the actions taken or in progress to strengthen the safety evaluation process, is provided in the last section of this response.

Date When Full Compliance Will be Achieved

Fermi 2 is presently in full compliance with the requirements of 10 CFR 50.59.

C. Part C of the violation states:

"On July 17, 1989 the licensee failed to evaluate a change to the facility as described in the safety analysis report, replacement of a recorder with digital fluke meters to monitor circulating water temperature in the control room panels, to the criteria associated with an unreviewed safety question."

During the performance of a PEC review, it was incorrectly concluded that a full SE was not required. The temporary meters were being mounted in a seismic category I panel. Additionally, a figure in the Updated Final Safety Analysis Report specifically depicts the circulating water temperature monitor as it is mounted in the control room.

Corrective Actions Taken:

Safety Evaluation 89-0164 was prepared and approved. This SE documents that the condition did not constitute an unreviewed safety question.

The personnel involved in the initial PEC review were counseled as stated in the inspection report.

Corrective Actions Taken to Prevent Recurrence

A detailed description of the actions taken or in progress to strengthen the safety evaluation process is provided in the last section of this response.

Date When Full Compliance will be Achieved

Fermi 2 is presently in full compliance with the requirements of 10 CFR 50.59.

D. Part D of the violation states:

"On February 4, 1989, engineering personnel failed to establish adequate measures to correct a condition adverse to quality and changed the facility as described in the safety analysis report without identifying an unreviewed safety question in that the disposition of railcar door design deficiencies in Deviation Event Report 89-0219 improperly concluded that the consequences of a flood, a previously evaluated accident, would not increase with these deficiencies present."

At the time of the discovery of the design deficiency, engineering personnel performed a probabilistic evaluation of the potential for a loss of air concurrent with the 100 year site flood. The personnel did not consult the section which normally performs probabilistic risk analyses. It was incorrectly assumed that the two events were independent of each other and, therefore, the probabilities of each event were multiplied together for an overall probability of the scenario. Based upon the extremely low probability obtained, no actions were deemed necessary.

The 100 year site flood would cause a loss of offsite power, which in turn would cause a loss of air to the door seals. The air system's electrical feed was not a load automatically supplied by the Emergency Diesel Generators, however, the probabilistic evaluation mentioned that power could be manually restored from a local diesel source. In the event of the 100 year site flood, the air supply to the door seals would have been lost and operator actions, which were not identified in procedures, would have been necessary to restore the door's integrity.

Corrective Actions Taken:

The design of the door seal's air supply was upgraded such that a single failure will not cause a loss of door integrity.

The original probabilistic review has been rescinded and an appropriate probabilistic analysis of the event has been performed (NF-89-0134).

Corrective Actions Taken to Prevent Recurrence

A memo was issued to Plant Engineering personnel in August of 1989 which emphasized that probabilistic risk assessments shall be performed by the group dedicated to that purpose.

Additional actions taken or ongoing to strengthen the safety evaluation process at Fermi 2 are contained in the final section of this response.

Date When Full Compliance will be Achieved

Fermi 2 is presently in full compliance with the requirements of 10 CFR 50.59.

II. Response to Violation 89-017-02

In Reference 2, a six part Violation for failing to follow procedures was issued. Each of these instances will be addressed individually below:

A. Part A of the violation states:

"In January 1989 documented procedures prescribing activities affecting quality were not properly implemented in that the licensee performed a change to the facility by installing three digital fluke meters in the main control room panels without performing the required safety evaluations."

When three recorders failed in the control room, digital fluke meters were installed without initiating a temporary modification as required by procedure FIP-OP1-02, "Temporary Modifications". Therefore, the safety evaluation review required by the procedure was not performed. The affected systems were considered operable with the fluke meters installed, even though the appropriate documentation and evaluation had not been performed.

Corrective Actions Taken:

SEs 89-0161 and 89-0164 were performed and approved. These documented that the temporary conditions did not constitute an unreviewed safety question.

The repaired recorders were installed in January of 1989 which returned the control room panels to their normal configuration.

Corrective Actions Taken to Prevent Recurrence:

The Instrumentation and Control (I&C) foremen attended the site short course on 10 CFR 50.59. This training provided the foremen with the background information necessary to recognize issues relating to safety evaluations. The I&C foremen were counseled on the use of temporary modifications.

The licensed operators reviewed this incident in relation to the requirements for initiating temporary modifications under FIP-OP1-02 and the Fermi Management Directive on safety evaluations as it relates to temporary modifications and written safety evaluations.

FIP-OP1-02 was revised to more clearly delineate when temporary modifications must be initiated during maintenance activities.

Date When Full Compliance Will Be Achieved:

Fermi 2 is in full compliance with the requirements of its temporary modification program presently.

B. In Part B of the Notice of Violation, it states:

"Documented procedures prescribing activities affecting quality were not properly implemented in that the responsible organization for DER 89-108 did not accomplish the corrective actions within the prescribed time frames of the deviation event report."

When DER 89-108 was initially evaluated and dispositioned, the I&C Department determined the PEC review should be performed and allowed ten days for its completion. This required assistance from another group, Technical Engineering (Systems). The PEC reviews and SE were not completed within the timeframe established. Additionally, I&C committed to scheduling the I&C foremen in the short course on 10 CFR 50.59 by February 17, 1989. This training was completed on June 13, 1989.

Corrective Actions Taken:

As described previously, SEs 89-161 and 89-164 were prepared to verify that no unreviewed safety question existed.

Corrective Actions Taken to Prevent Recurrence:

The I&C and Technical Engineering personnel involved in this DER were counseled on the necessity of timely follow up to corrective actions.

In addition, the systems engineers have been instructed on work tracking systems available to them in order to track informal requests along with other work activities.

Date When Full Compliance will be Achieved:

Fermi 2 is in full compliance with the requirements of FIP-CA1-01, "Deviation and Corrective Action Reporting".

C. In Part C of the Notice of Violation, it states:

"Documented procedures prescribing activities affecting quality were not properly implemented in that personnel other than the director of plant safety granted corrective action extensions for DER 89-108."

When the corrective actions described in Part B of this violation were not completed on time, on three occasions the plant safety reviewer granted extensions without the concurrence of the Director of Plant Safety.

Corrective Actions Taken:

The sequence of events relating to DER 89-108 was discussed with the plant safety reviewers and required reading on this DER was completed. Therefore, reviewers are aware of the appropriate methods for granting extensions.

Corrective Actions Taken to Prevent Recurrence:

A formal extension request process which requires the signature of the Director of Plant Safety was incorporated into FIP-CA1-01.

In addition, the open DERs, with more than one extension granted, were reviewed by STA/SRO qualified individuals to determine if any operability/safety concerns existed when the concern was brought to Plant Safety's attention. No operability/safety concerns were identified from this review.

Date When Full Compliance Will be Achieved:

Fermi 2 is presently in full compliance since extensions to DER actions are being granted through a formal process specified in FIP-CA1-01.

D. In Part D of the violation, it states:

"Documented procedures prescribing activities affecting quality were not properly implemented in that the responsible organization for DER 89-0108 did not recommend corrective actions for the operating authority even though the operating authority authorized installation of the digital fluke meters."

Even though operations had restored the components to operable status without a temporary modification being prepared, the initial corrective actions did not address the deficiency on the part of the operators.

Corrective Actions Taken:

DER 89-0108 was re-evaluated and further corrective actions which included actions for the Operations Department were incorporated as described below.

Corrective Actions Taken to Prevent Recurrence:

As part of the 1989 Cycle 7 licensed operator training, the operators were reminded of the requirements of FMD-OP1 for temporary modifications and FMD-SR1 for safety evaluations.

As part of enclosure F to FIP-CA1-01, guidelines for reviewing DER responses are now provided. Included in the guidelines for rejecting DERs or DER actions are factors such as incomplete corrective actions, inadequately addressing generic concerns and unacceptable interim measures implemented.

Date When Full Compliance Will be Achieved:

Fermi 2 is in full compliance with the requirements for determination and review of corrective actions given in FIP-CA1-01.

E. In Part E of the violation, it states:

"The procedure governing the deviation event reporting program inadequately prescribed activities affecting quality in that it did not prescribe what constituted "adequate justification" and what was the format for submittal, review and approval/rejection of extension requests."

Corrective Actions Taken:

FIP-CA1-01 was revised to include guidelines for extending DER due dates in enclosure E. This provides clearly specified reasons for extensions. The procedure was also revised to formalize the extension process as discussed in part C of this violation.

Corrective Actions Taken to Prevent Recurrence:

Adherence to the procedural changes described above for FIP-CA1-01 will ensure adequate justification is given for DER extensions.

Date When Full Compliance Will be Achieved:

Fermi 2 is presently in compliance with requirements of FIP-CA1-01 for extending DER due dates.

F. In Part F of the violation, it states:

"On July 12, 1989 the licensee failed to initiate a deviation event report for a condition adverse to quality in that a report was not written when the C mechanical draft cooling tower fan was prematurely declared operable due to an improper safety review of temporary modification 89-0021."

When the temporary modification was developed, the system engineer incorrectly read the drawing. Drawing 6MN-2045 indicates that the cylinder mounting and flex hose portion of the system is QA Level II and Seismic Category I. Note 2 on the drawing states, unless otherwise noted, all equipment is QA Level I and Seismic Category I. The engineer wished to replace a leaking flexible hose with non-seismic piping. He incorrectly concluded that this was acceptable. OSRO review of the modification along with the assistance of Nuclear Engineering concluded that the non-seismic piping was unacceptable for the application. The piping was removed and the system restored to service.

Corrective Action Taken:

Once the failure to initiate a DER was brought to the attention of Technical Engineering, DER 89-1278 was written on November 1, 1989.

Corrective Actions Taken to Prevent Recurrence:

In order to make drawing 6MN-2045 easier to understand, a change to the drawing is being processed to eliminate the notes on QA Level and Seismic Class. This is expected to be completed by May 1, 1990.

The engineers involved in developing the temporary modification were counseled on the need to initiate DERs in situations where inadequacies in installed Temporary Modifications are found.

Date When Full Compliance Will be Achieved:

Fermi 2 is presently in full compliance with the requirements of FIP-CA1-01 for initiation of DERs.

### III. Improvements in the Safety Evaluation Program and Training

#### A. General Improvements to the Safety Evaluation Program:

1. Changes have been made in the manner in which safety evaluation training is administered. Details of these changes are given below.
2. Requalification training is now required to maintain qualifications per procedure FIP-SR1-01 to perform or review a safety evaluation.
3. Training material has been revised to include the general principles embodied in NSAC-125, "Guidelines for 10 CFR 50.59 Safety Evaluations."
4. The Independent Safety Engineering Group (ISEG) conducted a review of PEs per the request of the Nuclear Safety Review Group (NSRG). The conclusion of this review indicated one PE out of 79 reviewed should have resulted in a SE. The NSRG accepted the ISEG recommendation to continue reviewing a sample of PEs. The scope of this review would be limited to PEs for temporary modifications and EDPs and will continue until further direction is given by the NSRG.
5. The General Director, Nuclear Engineering in a letter dated July 21, 1989, required PEs prepared and approved for design changes which did not lead to an SE be reviewed by senior level engineering management personnel. The intent of this review was to provide increased management attention in an effort to more consistently implement the guidelines regarding PEs versus SEs and to further improve the safety review quality. This additional review continued through January 1990 at which time it was determined by Engineering Management that the goal of the letter had been achieved in that the quality of PEs had improved and no further significant issues had arisen.
6. A modified version of the safety evaluation course will be prepared and presented to the licensed operators starting with the second requalification cycle in 1990. This course is not intended to qualify the operators to do Safety Evaluations, but to give them insight into the SE process in order that they may be able to ascertain if a SE is needed for certain plant/equipment conditions.

#### B. Specific Improvements to the Safety Evaluation Training Program:

1. Safety evaluation training is now administered by Nuclear Training and therefore is controlled by Nuclear Training procedures. Course number TS-644 has been assigned to this training. By controlling the training via Nuclear Training procedures the following benefits are derived:

- a. Lesson plans and exam banks are required. The lesson plan and exam bank for the refresher training have been completed and approved. The lesson plan and exam bank for the initial training program will be completed prior to the next scheduled class, which is expected to be April 26, 1990.
  - b. As with other training programs administered by Training there is a formal review process for changes. Review by the Subject Matter Expert and Training Supervisor is required to approve revisions to the course material.
2. The 1990 training manual reflects the latest revision to procedure FIP-SR1-01 and it incorporates the general principles embodied in NSAC-125. Some material, which was included in previous versions to address specific problems, was deleted because the problems no longer exist.
  3. The program now includes a refresher course. This course will be presented on a biennial time frame and will be required for personnel to maintain qualifications. Refresher training will be completed by March 1, 1990.

Non-Q Purchase Order for Contractor's Services:

The inspector noted in his report that the contractor used for SE training was not obtained through a "Q" order. Detroit Edison does not believe that a "Q" order is necessary for this situation. The vendor was selected through a bid process from an approved vendor list as required by Detroit Edison procedures.