

October 2, 1997

Mr. D. R. Gipson
Senior Vice President
Nuclear Generation
Fermi 2 Nuclear Power Plant
The Detroit Edison Company
6400 North Dixie Highway
Newport, Mi 48166

SUBJECT: NOTICE OF VIOLATION (NRC INSPECTION REPORT 50-341/97005(DRS))

Dear Mr. Gipson:

This will acknowledge receipt of your supplemental letter dated September 3, 1997, in response to our letter dated June 19, 1997, transmitting a Notice of Violation associated with testing of the diesel driven fire pump, maintenance of fuse disconnect switches, and an engineering evaluation to determine the suitability of a turbo charger blower cover gasket for the emergency diesel generator. We have reviewed your corrective actions and have no further questions at this time. These corrective actions may be examined during future inspections.

Sincerely,

Original Signed By
John A. Grobe, Acting Director
Division of Reactor Safety

Docket No. 50-341

Enclosure: Ltr dtd 9/3/97 D. P. Gipson
Fermi to USNRC

cc w/encl: N. Peterson, Supervisor of Compliance
P. A. Marquardt, Corporate Legal Department
James R. Padgett, Michigan Public
Service Commission
Michigan Department of Environmental Quality
Monroe County, Emergency Management Division

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D. R. Gipson

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Detroit Edison



September 3, 1997
NRC-97-0081

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

- References: 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF- 43
- 2) NRC Maintenance Inspection Report
No. 50-341/97005,
Dated June 19, 1997
- 3) Detroit Edison Letter
NRC-97-0067,
Dated July 21, 1997

Subject: Supplemental Information: Violations (97005-01, 97005-02, 97005-04)

Enclosed is information which supplements Detroit Edison's response contained in Reference 3. This additional information is provided subsequent to the discussions held at NRC's Region III Offices on August 6, and with the Region III Staff during a teleconference on August 12, 1997.

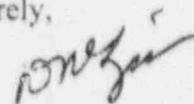
The following new commitment is made in this letter:

A training case study will be prepared which will reinforce on an on-going basis the events and the lessons learned from the diesel driven fire pump issue. This will be presented in first quarter 1998 training and will include appropriate Operations, Engineering, Maintenance, and Work Control personnel.

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If there are any questions, please contact Norm Peterson, Licensing Director, at (313) 586-4258.

Sincerely,

A handwritten signature in black ink, appearing to read "Norm Peterson". The signature is written in a cursive style with a prominent "N" and "P".

Enclosures

cc: A. B. Beach
G. A. Harris
M. J. Jordan
A. J. Kugler
M. V. Yudasz, Jr.
Region III
Wayne County Emergency Management Division

Supplemental Information - Notice of Violation 50-341/97005-01

Statement of Notice of Violation:

Fire Protection Procedure 28.504.003, "Fire Suppression Water System Simulated Automatic Actuation Test," Revision 3, Section 5.2, required verification that the engine speed met acceptable limits of 2100 to 2300 rpm.

Contrary to the above:

- a. On May 11, 1997, the licensee failed to perform adequate post-maintenance testing (PMT) to ensure that a new deficiency was not created due to maintenance. Specifically, the completed maintenance on the diesel driven fire pump included reducing the engine speed from 2440 rpm to 2150 rpm. However, the licensee's PMT did not verify that the resultant pump pressure and flow would still meet requirements such that the pump would still perform its intended function.
- b. On May 2, 1997, the licensee failed to verify that the engine speed was operating within the acceptable limits of 2100 to 2300 rpm. Specifically, the licensee accepted Section 5.2 of the surveillance as satisfactory with the engine speed documented as 2440 rpm. No technical justification for this acceptance was provided.

Supplemental Response to Violation

Part (b) of the violation is addressed first to present the information in the proper chronological order. The events of May 2 as described in Part (b) were a factor in the decisions made for the post maintenance test (PMT) as referenced in Part (a) of the Violation.

Supplemental Response to Part (b)

As stated in Part (b), no technical justification for accepting the test was provided. The concern of the Fermi 2 Diesel Fire Pump (DFP) running at a speed higher than the range in the test procedure had been identified, reviewed, questioned, and an investigation initiated two weeks prior to the test referenced in Part (b). A justification documented in the test would have been appropriate; however the higher speed had previously been determined to be acceptable.

Based on a review of records since 1993, the diesel fire pump engine tachometer had been reading in the range of 2150 to 2250 RPM. On April 14, 1997, during performance

of the weekly operability test, (Procedure 28.504.02) the tachometer failed. It had been reading 2150 RPM while operating prior to failure. A calibrated hand held Strobotac was used to determine engine speed, and speed was recorded as 2400 RPM. The higher engine speed was discussed with system engineers previously responsible for the DFP and a local Cummins diesel engine representative. It was concluded that the indicated speed of 2400 RPM was not significantly high to have concern for long term degradation of the engine. Additionally, the engine is protected by the overspeed trip. An investigation was initiated to determine the cause of the speed change and to determine the optimum speed at which to operate the engine.

On April 30, 1997, the Fire Suppression Water System Simulated Automatic Actuation Test (Procedure 28.504.03) referenced in Part (b) of the violation was performed and was subsequently signed off on May 2, 1997. Section 5.2 (measurement of flow at various discharge pressures) of procedure 28.504.03 was performed with all acceptance criteria steps completed satisfactorily. At the end of Section 5.2, the DFP engine was cooled down by reducing the engine speed to idle for 5 minutes, then the engine was returned to full speed prior to shutdown. The speed recorded was 2440 RPM which was outside the range of 2100-2300 RPM specified in the procedure. The out of specification speed was noted as a discrepancy on the performance form. Engine speed is not an acceptance criteria in this procedure; therefore, the out-of-range speed did not cause the test to be unacceptable.

The existing acceptance criteria is based on measured flow, which is directly related to pump speed and engine speed. The existing acceptance criteria will therefore, reflect adverse changes in the engine speed. The engine speed is only documented to verify the engine throttle is set at the proper full speed setting prior to shutting down the engine. This ensures that when the pump is next required to start, it will start at its full speed. As mentioned above, the out-of-range engine speed discrepancy was noted on the April 30 test procedure Performance Form (PF); however, a satisfactory resolution was not documented on the PF. The expectation is that if the discrepancy can be readily resolved, the resolution should be noted on the PF. If the resolution cannot be readily resolved, a Work Request, a DER, or a Document Change Request, as applicable, should be initiated. Subsequent reviews of the test documentation during closeout failed to identify the inadequate resolution of the discrepancy.

Supplemental Response to Part (a)

Please note that the actual dates are given to establish a time line for the events which preceded the May 11, 1997 PMT. As stated in Part (a) of the Violation, the maintenance completed on May 10 included reducing the diesel engine speed from 2440 RPM to 2150 RPM. Due to a series of equipment failures, it was believed that the previous PMT was performed at an engine speed of 2150 RPM. The change from 2440 to 2150 RPM was

considered to be correcting a temporary condition by returning the engine speed to its previous value. The fact that the higher speed was not a temporary condition, and had probably existed for years, was not known by the personnel involved in the decisions made with respect to the PMT on May 11.

On May 9, 1997 it was determined that the speed sensing switch was defective and may have been one of the causes of the overspeed trips on April 30 and May 7. A new speed sensing switch was installed and adjusted by Maintenance personnel on May 10. During adjustment of the speed sensing switch, it was noticed that the engine speed was higher than the engine full speed of 2150 RPM listed in the System Operating Procedure (SOP 23.501.01). The Maintenance foreman attempted to call the System Engineer (SE) to discuss lowering the engine speed to the procedural speed of 2150 RPM. The current speed of 2440 RPM seemed too close to the overspeed trip setting of 2760 RPM. The Maintenance foreman was unable to contact the primary SE during the weekend and therefore contacted the backup SE. The Maintenance foreman brought the issue to the attention of the Nuclear Shift Supervisor (NSS) who had a concern that changing the engine speed would affect pump flow. Additionally, the Maintenance foreman documented this concern in the work package. At that time, neither the Maintenance foreman nor the backup system engineer were aware of the status of the investigation being performed by the primary system engineer into the cause of the higher speed condition. The Maintenance foreman and the NSS had a conference call with the backup SE and it was concluded that lowering the engine speed to 2150 RPM would be acceptable for the following reasons:

1. The diesel fire pump (DFP) engine full speed recorded from the installed tachometer was approximately 2150 to 2250 RPM and had been that speed since 1993. Previous weekly operability tests and flow tests were documented as being performed at an engine speed of 2150 RPM based on the installed tachometer readings; therefore, it was believed that lowering the engine speed would still allow the pump flow to meet acceptance criteria.
2. System Operating Procedure (SOP) 23.501.01 documents the DFP engine full speed as 2150 RPM. Diesel Fire Pump Engine Operability Test Procedure 28.504.02 documents the DFP engine full speed range as 2100 to 2300 RPM. Lowering the engine speed from 2440 rpm to 2150 RPM would be returning the speed to comply with procedure guidelines.
3. Lowering the DFP engine speed would improve the system reliability by reducing the risk of future overspeed trips.

Based on the discussion described above, the NSS's concern was lined out in the work package and work proceeded to lower the DFP engine speed. The original specified PMT, which performed the Diesel Fire Pump Engine Operability Test (Procedure

28.504.02), was based on the work scope of replacing the speed sensing switch and was adequate for that work scope. It was subsequently determined that the DFP engine speed had been running at a faster than indicated speed; therefore, the assumption on May 10 that the speed was being returned to its previously tested speed was erroneous. The May 11 PMT was inappropriately accepted as valid since the pump had not previously been tested at the lower actual speed of 2150 RPM.

Based on concerns identified by the NRC Inspection Team, Engineering performed an evaluation which calculated approximate pump flows corresponding to the lower speed. As documented on May 27 in Deviation Event Report (DER) 97-0857, this evaluation determined that the predicted flow may not have met the acceptance criteria at the lower speed. (Note: The point that the criteria "may not" have met the criteria was not clear in the July 21 letter, Reference 3, due to a typographical error.) In the DER, Engineering stated that the corrected data is theoretical and may vary from actual measured data and the data should not be used to classify the diesel fire pump as inoperable. Engineering recommended, based on the evaluation that the full flow test be performed again to determine whether the pump was operable at the lower engine speed. After reviewing the information, the NSS declared the pump inoperable.

The new PMT was performed on May 28 at the actual engine speed of 2150 RPM and the fire pump met all acceptance criteria. Engineering performed an operability determination and concluded that the DFP had continued to be Operable since the engine speed reduction on May 10.

Procedure 28.504.03 "Fire Suppression Water System Simulated Automatic Actuation Test" has been revised to clarify that the 2100 to 2300 RPM range is not an acceptance criteria. The engine speed is recorded to verify the engine is at full speed after cooldown and prior to shutdown.

The Corrective Steps That Will Be Taken to Avoid Further Violations:

Strict compliance with written procedures is an expectation at Fermi-2. For the below listed examples, this expectation was not met:

1. A Temporary Change Notice (TCN) was not written to permit use of the Strobotac for measuring diesel engine speed.
2. The resolution of the engine speed out-of-range discrepancy was not adequately documented on the tests performed April 30 and May 5. These test procedures identified a range of 2100 to 2300 RPM for the engine speed. The out-of-range speed had been identified on April 14, and had been determined to be acceptable at that time. The higher than normal speed, however, was not documented in the April 14

test package as that test did not specify a range for the engine speed. Justification was provided verbally to the operating shift; however, it was not included in the test documentation. The expectation is that this basis for the acceptability of the higher speed should have been documented on the April 30 and May 5 tests.

3. The Maintenance Foreman lined out the NSS's concern in the work package without properly documenting the justification. The concern had been discussed and resolved to the satisfaction of the NSS; however, the documentation of the resolution was not included in the work package.

These deficiencies have been identified and will be tracked within the Deviation Event Report (DER) program. The individuals involved with the events participated in the investigation, resolution, and lessons learned of the human performance deficiencies identified above. These deficiencies included procedural requirements, responsibilities of reviewers, and the importance of detailed work package documentation.

A site wide stand-down meeting was held August 28, 1997 to review human performance issues. This meeting was held to heighten personnel awareness and to re-emphasize basic human performance tools. The focus was to reinforce self-checking, communication, procedural adherence, and supervisory techniques.

A Maintenance Department Instruction (MDI) is being prepared to provide additional focus on work package documentation. This will be completed by September 30, 1997. Work package expectations will continue to be emphasized by the maintenance first line supervisors during work package briefings.

Maintenance Conduct Manual MMA11, "Post-Maintenance Testing Guidelines," will be revised to include guidance on performing a flow test whenever any work performed on the engine that affects engine speed. This will be completed by October 31, 1997.

A training case study will be prepared which will reinforce on an on-going basis the events and the lessons learned from the diesel driven fire pump issue. This will be presented in first quarter 1998 training and will include appropriate Operations, Engineering, Maintenance, and Work Control personnel.

Date When Full Compliance Will be Achieved:

Full compliance was achieved upon completion of the diesel fire pump flow PMT at the lower engine speed on May 28, 1997.

Supplemental Information - Notice of Violation 50-341/97005-02

Statement of Notice of Violation:

10 CFR Part 50, Appendix B, Criterion V, "Instruction Procedures, and Drawings," required, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Contrary to the above, on April 28, 1997, electrical maintenance personnel put defective parts back in, cleaned, lubricated, and exercised the fused disconnect switch in motor control center (MCC) 72E-5A, Position 5C, without work instructions appropriate to the circumstances. Specifically, while troubleshooting and replacing switching mechanisms on MCC 72E-5A Position 3C under Work Request No. 000Z974256, personnel went beyond the scope of the work request to perform maintenance on the switch at position 5C.

Supplemental Response to Violation:

Work Request (WR) 000Z974256 was initiated to inspect and clean MCC 72E-5A Position 3C after an Operator encountered problems positioning the rotary switch to "ON". Work was initially performed on April 24, 1997 at which time the Electrical Maintenance Personnel were unable to get the MCC fused disconnect switch to function properly. The Work Package was then revised to replace the fused disconnect switch by either obtaining needed parts from the Warehouse or from a spare position on the MCC. The revision also instructed the Electrical Maintenance Personnel to initiate a Work Request Initiation Form (WRIF) "to work the spare position when parts were returned after refurbishment". The intent of the WRIF was to document that the "refurbished" parts were returned and the switch operated correctly.

On the night shift of April 28, 1997 the revised work package was worked. The Electrical Maintenance Personnel removed the fused disconnect switch from spare MCC Position 5C and installed it into Position 3C in accordance with the work package. The Electrical Maintenance Personnel performed the cleaning and lubrication steps but were unable to resolve the closure problem. The cleaning and lubrication portion of the work was monitored by a Quality Control (QC) Inspector. The Inspector documented an "unsatisfactory" condition on Quality Control Inspection Report (QCIR) 97-0512 and in the work package since the closure problem had not been resolved. The QC Inspector did not stop work because the condition was documented and, therefore, required QC review before the work package could be closed.

After the QC Inspector left the job site the Electrical Maintenance Personnel returned the equipment to normal which included installing the fused disconnect switch that was removed from MCC Position 3C into Position 5C. Revision 1 of the work package did not approve this specific action. The work package was returned to the Electrical Maintenance Shop with the intention that a WRIF would be written to send both fused disconnect switches off site for refurbishment.

On April 29, 1997 a day shift Electrical Maintenance Supervisor reviewed the package prior to sending the fused disconnect switches off site. He determined that the cleaning and lubrication steps should be re-performed. A minor package revision was made. Electrical Maintenance Personnel subsequently returned to MCC Position 3C and were successful in resolving the closure problem. In addition, they performed the cleaning and lubrication steps and exercised the fused disconnect switch in spare MCC Position 5C. It then functioned properly. The minor revision to the work package did not include authorization to perform work on the spare position.

After completion of the MCC work, to close the unsatisfactory QCIR condition and allow the Electrical Maintenance work group to close the work package, a second QC Inspector reviewed the completed work package. No field work was observed but the unsatisfactory condition was resolved via a document review. The proper snapping action was documented in the work package and the QCIR was closed. The cleaning and lubrication of the spare fused disconnect switch was documented in the work package, but was not recognized by the QC Inspector.

The Corrective Steps That Have Been Taken and the Results Achieved:

The initial response to this violation, Reference 3, did not focus on individual performance issues because the concern was deemed to be a process problem which involved a broader scope than the individuals involved.

DER 97-1045 was written to document corrective actions taken to address work performed outside the scope of the work package. MWC02 "Work Control" applies to maintenance and modification activities and controls the initiation and documentation of a WRIF including the scope of work. This procedure was reviewed and determined to be adequate. The expectation is that work activities are not to exceed the scope delineated in the work package. The work package authorized work to be performed on MCC Position 3C and spare parts to be removed from a MCC spare position.

Maintenance personnel and the QC Inspector involved in this event were coached with respect to expectations of work package documentation and procedure step adherence. In

In addition, this event was reviewed at a Quality Control group meeting at which time these expectations were reviewed.

Quality Assurance Desk Top Instruction "Fermi 2 I&S Work Instruction, I&S-WI-07" was revised on August 4, 1997 to require the QC Inspector to assign a hold point whenever a QCIR identifies an unsatisfactory step in a work request. This will allow the QC Inspector to identify potential work outside the scope of the package before it is completed.

A site wide stand-down meeting was held August 28, 1997 to review human performance issues. This meeting was held to heighten personnel awareness and to re-emphasize basic human performance tools. The focus was to reinforce self-checking, communication, procedural adherence, and supervisory techniques.

The Corrective Steps That Will Be Taken to Avoid Further Violations:

A Maintenance Department Instruction (MDI) is being prepared to provide additional focus on work package documentation. The Maintenance Superintendents will discuss the lessons learned from this event with their respective first line supervisors. Work package expectations will continue to be emphasized by the maintenance first line supervisors during work package briefings.

Date When Full Compliance Will Be Achieved:

Full compliance will be achieved when the Maintenance Department Instruction is issued and the lessons learned are discussed to the first line supervisors. This will be accomplished by September 30, 1997.

Supplemental Information - Notice of Violation 50-341/97005-04

Statement of Notice of Violation:

10 CFR 50, Appendix B, Criterion III "Design Control" required, in part, that measures be established for the selection and review for suitability of application of materials, parts, equipment and processes that are essential to the safety-related functions of structures, systems and components.

Contrary to the above:

- a. On May 13, 1997, a nonsafety-related turbo charger blower cover gasket was installed on safety-related emergency diesel generator (EDG) 12 without performing an adequate engineering evaluation which addressed the suitability of application of the part to the safety-related functions of the EDG and EDG components.
- b. On May 20 and 27, 1997, the licensee continued to install the same type turbo charger gasket identified as inadequate on May 13, 1997, in EDGs 13 and 14 without revising the engineering evaluation to support the use of the gasket. As a result, inadequately evaluated nonsafety-related parts continued to be used in safety-related equipment until May 27, 1997.

Supplemental Response to Violation:

Supplemental Response to Part (a)

Plant procedures require an engineering evaluation of parts used for the repair or modification of safety-related equipment as required by 10CFR50, Appendix B, Criterion III. Evaluations are performed to determine the applicability of a part for a specific plant application. For example, if a part is used in more than one application in the plant, each application is evaluated individually.

An Engineering Evaluation Checklist (EEC) was completed on August 2, 1989 for the subject gasket. By today's standards, the form was brief; however, it contained the information required to document a determination. The evaluation was performed for the particular application of the hand hole cover gasket and concluded that the gasket does not perform a critical function on the safety-related emergency diesel generator (EDG). Thus, the gasket was classified as nonsafety-related and assigned a procurement code of NQ.

The vegetable fiber gasket is used on the scavenge air blower portion of the EDG. On the scavenge air blower, the manufacturer has placed a bearing housing cover that surrounds the blower bearings and supporting components. The purpose of the bearing housing cover is to protect the blower rotor bearing seals, small oil lines, and other associated components from inadvertent damage by personnel in the area. The bearings themselves are sealed and integral to the blower, forming part of the pressure boundary between the super charged air inside the blower and the area enclosed by the bearing housing cover. When the diesel engine is operating, the area enclosed by the bearing housing cover does not come in contact with the air entering or leaving the air blower.

The bearing housing cover has a hand hole cover used for inspection and maintenance purposes. The subject gasket is installed between the bearing housing cover and the hand hole inspection cover. Since the area enclosed by the bearing housing cover is not in contact with the air entering or leaving the blower, failure of the gasket would not affect the scavenge air blower pressure boundary. Additionally, if a failure of the pressure boundary caused a failure of the subject gasket, the higher pressure of the blower would cause the gasket material to be blown away from the blower. There is no credible way for the gasket to be sucked into the blower; therefore, failure of the gasket would have no impact on the ability of the blower to perform its safety function. Thus, the operation of the EDG would not be affected in any way by a failure of the subject gasket, and the gasket was appropriately classified as nonsafety-related in the 1989 evaluation.

NRC's inspection report indicates that five questions in the EEC for the blower inspection cover gasket were inappropriately marked "NA". The five questions were:

- Is Vendor on ASL? (ASL is the Fermi Approved Suppliers List)
- Does the item need environmental qualification?
- If Harsh, does the item need upgrade to Category 1?
- Does item need seismic qualifications?
- Does item need commercial grade dedication?

The intent of these questions was to ensure that a safety-related item had the required qualifications prior to installation in the plant. These five questions are not applicable for nonsafety-related items. The previous step in the EEC determined that the item did not perform a critical function in the operation of the EDG and was, therefore, nonsafety-related. The form should have included a not applicable, "NA" check box to be checked for nonsafety-related items. It contained, however, only "Yes" and "No" check boxes, and the evaluator wrote in "NA" in response to the questions. In summary, a mediocre 1989 form resulted in the evaluator writing in "NA" where a check box should have been provided. The appropriate response for the subject gasket was "NA" however, and the evaluator's action did not result in an inadequate evaluation.

The EEC for the subject gasket was revised on June 2, 1997; however, the revision did not change the conclusion that the application of the gasket is non safety-related, and the bearing housing cover inspection gaskets installed in all four EDG's are suitable for the application.

In summary, the subject gasket was evaluated and determined to be suitable for use on the safety-related EDG's, as required by 10CFR50, Appendix B, Criterion III. Although the 1989 evaluation may be brief, the nonsafety-related classification of the subject inspection gasket was correct, and the parts approved for use are suitable for their application.

The Corrective Steps That Have Been Taken and the Results Achieved:

The brief nature of the older evaluations had been identified as a concern in Deviation Event Report (DER) 96-0903, written on August 7, 1996 as a result of a self-assessment. It was written to self-identify weaknesses found in the documented basis of safety classifications of parts documented in an Engineering Evaluation Checklist (EEC), especially in older packages.

The DER identified that the written basis for safety classifications of nonsafety-related items needed strengthening. Furthermore, the applicability of internal engineering memos, when used as a basis, was not always well documented.

Actions completed by Material Engineering for DER 96-0903 to address the nonsafety-related classification of gaskets are summarized below in the order in which they were completed:

- In order to ensure that future safety classifications include a stronger documented basis, enhanced procedural guidance was established. New procedure MMM16, "Parts Quality Classification Evaluation," was written to provide detailed guidance for material engineers to perform safety classifications of parts. Procedure MMM16 was written following the guidance provided in EPRI NP-6895, "Guidelines for the Safety Classification of Systems, Components, and Parts Used in Nuclear Power Plant Applications (NCIG-17)."
- Procedure MMM03, "Technical Evaluation of Procurement Documents," was revised to include additional guidance for material engineers when providing documentation of the classification of parts as nonsafety-related.
- A standard Parts Quality Classification Evaluation (PQCE-S-001) was created to document a generic position for the safety classification of gaskets. This evaluation was completed in accordance with new procedure MMM16.

- A review of Environmental Qualification documentation was performed to ensure that all gaskets identified as being required for environmental qualification of a safety-related component were stocked at the appropriate qualification level. It was found that all gaskets identified in Environmental Qualification documentation were stocked as safety-related with appropriate qualifications.
- A UFSAR search was performed to determine if the UFSAR specifically described the use of gaskets on any system, structure, or component. It was found that UFSAR Section 6.2.3.6 contained specifications for gaskets in the Standby Gas Treatment System (System T4600). A review of all gasket stock codes approved for an application in the T4600 system were reviewed, and it was found that the specifications of UFSAR Section 6.2.3.6 were being appropriately met.
- The generic approvals were suspended for all nonsafety-related gasket stock codes where the generic approval could potentially allow use of a nonsafety-related gasket on a safety-related component. The conclusions and requirements of PQCE-S-001 were considered when determining which approvals to turn off.
- A report was generated to identify all nonsafety-related gaskets that had been issued for use on safety-related components. A total of 383 stock codes were identified. A review of engineering evaluation checklists (EEC's) for the 383 nonsafety-related gaskets was performed. As a result, approvals were suspended for 64 stock codes that had evaluations which warranted further review. Approvals were left in place for the other 319 stock codes. The initial review of evaluations for those 319 stock codes indicated that the nonsafety-related classification in the EEC was supported by an adequate basis or it was clearly a nonsafety-related application. Approvals for the gasket that was the subject of this Notice of Violation were left on, i.e., the gasket continued to be used, because the application was deemed to be clearly a nonsafety-related application.
- A second, more detailed, independent review was performed on all 383 gasket stock codes to provide additional assurance that the nonsafety-related classification was correct. This second review focused on the actual classification of the item rather than the documented basis that was provided. It was concluded that all 383 gasket stock codes, including those 64 that previously had approvals suspended, were correctly classified as nonsafety-related.

All approvals that were suspended as part of the DER corrective actions will remain suspended until a new documented basis is in place.

It was determined that the weak documented bases in previous EEC was not a safety concern based on the extensive review performed by Material Engineering and the corrective actions described above which were initiated as a result of that review. The DER 96-0903 review focused on gasket stock codes as they were considered high risk. As a result of the investigation and reviews performed on the gasket stock codes, it was concluded that nonsafety-related gaskets approved for use on safety-related components were all correctly classified as nonsafety-related. No instance has been found where a safety-related item was inappropriately classified as nonsafety-related. The reviews have found that the documented bases provided on older evaluations have been weak in some cases, but the safety classification was correct in every case. All actions for DER 96-0903 were completed prior to the inspection period, and the DER close-out summary was being written during the inspection period. The DER was closed on June 3, 1997.

Additional Corrective Steps That Will Be Taken:

All classifications for all stock codes included in a Bill of Material (BOM) Evaluation will be re-evaluated as part of the BOM Project, which is an ongoing initiative. A BOM Evaluation is model based and is created by Material Engineering. It is a design output document, in accordance with ANSI N45.2.11, which provides the following model configuration information:

- Plant applications (components) for which the model is approved
- Stock codes (parts) approved for use in the plant applications linked to the model
- Item configuration data (technical, quality assurance, supplier documentation, inspection, special testing and dedication requirements) for the linked stock codes
- Reference documents which serve as the basis for the information contained in the BOM Evaluation.

A BOM Evaluation serves as one of the mechanisms implemented by Fermi 2 to comply with ANSI N45.2.13 and 10CFR50, Appendix B, Criterion III, IV and VII.

Per procedure MMM17, a BOM Evaluation assesses the suitability of parts (stock codes) that are essential to the safety-related function of each plant application (component) to which it is linked, as required by 10CFR50, Appendix B, Criterion III.

Among other things, completion of a BOM Evaluation reconsiders the parts classification determined in previous evaluations, and ensures a more detailed basis is provided for parts classified as nonsafety-related for use on safety-related components. Parts classified as nonsafety-related for use on safety-related components must be classified based on an approved design document, or evaluated by completion of a Parts Quality Classification

Evaluation (PQCE). The PQCE must be performed in accordance with the new procedure MMM16, which ensures a strong documented basis is provided for all items classified nonsafety-related.

The Bill of Material Project will systematically address safety classifications of previous evaluations. As of August 15, 1997, BOM Evaluations have been completed for 1,074 safety-related plant components and 3,135 stock code to safety-related component links have been evaluated. No parts have been found inappropriately classified as nonsafety-related.

The BOM Evaluation for the EDG engines is currently underway, and will be completed in the fourth quarter of 1997. At this time the review of EDG engine parts has not identified any part which had been misclassified as nonsafety-related in a previous evaluation.

- In accordance with procedure MMM17, "Bill of Material Evaluation," all parts to be approved for use on safety-related components which are classified nonsafety-related must be evaluated in accordance with new procedure MMM16, or an approved design document. The guidance in MMM16 ensures that a strong documented basis is provided for all parts assigned a classification of nonsafety-related.
- If any parts are found to have been incorrectly classified as nonsafety-related in a previous evaluation, the BOM process will ensure appropriate actions are performed. In accordance with requirements of procedure MMM17, when the classification of an item is upgraded, i.e., from nonsafety-related to safety-related, a review shall be performed to ensure a non-conforming part is not installed in the plant. If such a case is found, the nonconformance will be identified and corrected as required by 10CFR50, Appendix B, Criterion XVI, using Fermi's corrective action process.

In summary, poor forms and weak procedures of the past have led to weak documented bases for part classifications in some engineering evaluations. However, reviews performed for DER 96-0903 and other self-initiated reviews have indicated that nonsafety-related items are appropriately classified. No instance has been found where a part was inappropriately classified as nonsafety-related.

Supplemental Response to Part (b)

Part (b) of the Violation indicates that the gasket identified as inadequate by NRC during the inspection- continued to be installed in the emergency diesel generators (EDG) 13 and 14 without revising the evaluations. As stated in the response to Part (a), the evaluation which documented the review of the gasket had been reviewed prior to the NRC Inspection and had been determined to be adequate. The conclusion documented in the

EEC, stated that the nonsafety-related classification was appropriate. At no time during the inspection was the gasket ever considered to be inadequate. It was decided that revising the evaluations to upgrade the format and content of the older EECs would not result in a change to the documented conclusions. This was, therefore, not considered to be safety significant and was not given a high priority. The review in accordance with MMM17 discussed above was planned to address these older evaluations. This was deemed to be the appropriate level of timeliness for revising the older evaluations.

The EEC for the EDG blower handhold inspection cover gasket has now been revised; however, the revision did not change the conclusion that the application of the gasket is nonsafety-related.

Date When Full Compliance Will Be Achieved:

Full compliance was achieved when the EEC for the EDG gasket was reviewed and determined to be correct during the self-initiated review of older evaluations.