

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-341/84-41 (DRP)

Docket No. 50-341

License No. CPPR-87

Licensee: The Detroit Edison Company
2000 Second Avenue
Detroit, MI 48224

Facility Name: Enrico Fermi Nuclear Power Plant, Unit 2

Inspection At: Enrico Fermi 2 Site; Monroe, MI

Inspection Conducted: September 4-7 and September 10-14, 1984

Inspectors: *C. H. Scheibelhut*
C. H. Scheibelhut

9/28/84
Date

C. H. Scheibelhut for
V. J. Elsbergas

9/28/84
Date

Approved By: *J. McCormick-Borger for*
R. C. Knop, Chief
Project Section 1C

10/3/84
Date

Inspection Summary

Inspection on September 4-7 and September 10-14, 1984 [Report No. 50-341/84-41 (DRP)]

Areas Inspected: Routine safety inspection by regional personnel of licensee action on 10 CFR 50.55(e) items and evaluation of licensee action with regard to IE Bulletins and Circulars. This inspection involved a total of 128 inspector-hours onsite by two NRC regional inspectors, including 0 inspector-hours onsite during off-shifts.

Results: In the three areas inspected, no items of noncompliance or deviations were identified.

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Details

1. Persons Contacted

The Detroit Edison Company

J. M. DuBay, Director, Planning and Control
R. S. Lenart, Superintendent, Nuclear Production
G. M. Trahey, Director, Nuclear Quality Assurance
L. P. Bregni, Engineer, Licensing
S. E. Martin, Engineer, Licensing
F. H. Sandgeroth, Engineer, Nuclear Engineering
R. G. Rateick, Engineer, Nuclear Engineering

The inspectors also interviewed other licensee and contractor personnel during the course of the inspection.

2. Licensee Actions on 10 CFR 50.55(e) Items

- a. (Closed) 50.55(e) Item 37 (341/80-12-EE), "Fisher Control Valve Actuators". Control valves were purchased from Fisher Controls to Detroit Edison Specifications. During the seismic review process, the licensee determined that ten Fisher Control valve actuators could not meet seismic criteria. Cut-off frequencies had not been adequately specified to assure that seismic design of the valves was adequate for the peak response frequency.

The licensee wrote Design Change Notice (DCN) 5221, dated May 26, 1981, to revise the specification to include valve natural frequency criteria and to update seismic analysis requirements. Replacement actuators for the valves were procured using the revised specifications. The licensee wrote Field Modification Request (FMR) 4740A, dated July 18, 1983, to cover the work of removing the old actuators and installing the new actuators.

The DCN, FMR, revised specifications and a sampling of the QC records generated during the replacement were reviewed and found to be in order. The removed actuators were placed in spare parts storage, but are tagged "NQ" (not qualified for use in safety-related systems) so that they will not be inadvertently used in safety-related systems. This item is closed.

- b. (Closed) 50.55(e) Item 40 (341/81-03-EE), "Calibration of Torque Wrenches". An audit revealed that torque wrenches used by Wismer and Becker were not properly calibrated. Investigation of the torque wrench calibration programs of other site contractors did not reveal similar deficiencies.

To resolve the problem, all Wismer and Becker wrenches were recalled from the field and recalibrated. An investigation was carried out to determine where the defective wrenches were used and Deviation Disposition Requests (DDRs) were issued. A retorquing program was established to perform a 20% random sampling of the equipment in question. Wherever a failure rate of 2% or greater was found, a 100% retorquing was to be performed. The retorquing program has

been completed. The DDRs were closed and accepted by the licensee's Quality Assurance. This item is closed.

- c. (Closed) 50.55(e) Item 50 (341/82-01-EE), "5/8 Inch Parker-Hannifin Stainless Steel Tees". During the installation of a lot of 5/8 inch stainless steel tees, it was found that three of these tees had cracks open up during welding. This was reported in Surveillance Report #2147, dated January 7, 1982. Verification was made that all three were from the same heat, 215F. Linear indications (possible cracks) were found on a dye penetrant check test of new tees from the same heat which were still in the warehouse. The vendor, Parker-Hannifin, was notified. Subsequently, other Parker-Hannifin 5/8 inch tees were identified as having linear indications when dye penetrant tested (heat numbers 019F and 043F).

The licensee wrote Deviation Disposition Request (DDR) 7545B, dated February 9, 1983, to document and resolve the problem. All safety-related systems that could have utilized these tees were identified. A review of the documentation for these systems was performed and all tees from the affected heat numbers were dye penetrant tested and either accepted or cut out and replaced. Unused tees from the three heats were returned to Parker-Hannifin for examination. Parker-Hannifin determined that tees from heat 215F had a forging defect and issued a 10 CFR 21 notification to purchasers of the heat. They determined that tees with heat numbers 019F and 043F had superficial defects that could be removed by grinding. This method of repair is acceptable by the ASME Code Section III for this class of fitting (Class 2). However, the licensee elected not to use fittings with linear indications. A review of the DDR, work instruction sheets, and a sampling of QC records connected with the work was made and found to be in order. This item is closed.

- d. (Closed) 50.55(e) Item 55 (341/82-06-EE), "Defective Spot Welds in Powerstrut Support Material". The licensee's electrical subcontractor, L. K. Comstock, reported to the licensee that some Powerstrut combined channels of various configurations in stock at Fermi 2 exhibited poor fusion at the spot welds that join the channel sections. This material was being used to fabricate conduit and cable tray supports.

The licensee took the following actions:

- Suspended the purchase and installation of the material.
- Seventy-five representative samples were sent to Detroit Testing Laboratory, Inc. for peel tests, macro-etch tests, and shear strength tests. From the test results, new allowable load criteria were formulated for the material.
- Using the new criteria the installed supports were analyzed for adequacy. A total of 138 supports were found to be deficient. These supports were identified on DDR E-7366, dated August 19, 1982, and reinforced or replaced as required.

- The licensee had Sargent and Lundy Engineers review the cable tray supports taking into account the loading and design changes made after the Detroit Edison Engineering analysis. Sargent and Lundy determined that no further support modifications were required.
- The licensee revised the Electrical Engineering Standard Specifications to prohibit the use of Powerstrut channels.

The DDR, testing lab report, a sampling of the reanalysis, a sampling of the work instruction sheets, and a sampling of the QC records pertinent to the rework were reviewed and found to be in order. This item is closed.

- e. (Closed) 50.55(e) Item 61 (341/82-12-EE), "Undersized Battery Cables". During a licensee review of the DC battery power system at degraded voltage conditions, it was discovered that some cables were undersized. Licensee action on this item was described in Inspection Report 50-341/84-33. It was left open because it appeared that the nonconformance report (82-043) used to document the problem and provide the necessary corrective actions was improperly closed because the blanks "Describe cause of nonconformance" and "Describe action required to prevent recurrence" were marked "NA".

The licensee opened a new nonconformance report (NCR) 84-1426, dated August 27, 1984, to correct the problem.

A review of this NCR shows that a proper cause of the nonconformance was stated and reasonable action to prevent recurrence has been taken. This item is closed.

- f. (Closed) 50.55(e) Item 66 (341/82-17-EE), "Core Spray Pump Motor Damage". A gouge on the core spray pump motor was found while the motor was being prepared for installation. Because of the potential for internal damage, the motor was shipped to a General Electric (GE) repair shop for evaluation and repair. The inspection revealed that the shaft was bent and that there was damage to both the thrust and guide bearings and the bearing thermocouples.

All damaged parts in the motor were replaced and the motor was inspected and tested by GE. The motor was returned, released, and installed by the licensee. The repair documentation was accepted in accordance with the licensee's Quality Assurance Program. This item is closed.

- g. (Closed) 50.55(e) Item 68 (341/82-19-EE), "Defective Pipe Support Swivel Bearings". During construction activities, quality control identified various problems with sway strut installations. These were identified in NCRs 370 and 370A and included discrepancies such as loose or dislodged bearings, excessive gaps, and missing or inadequate washers. These problems are similar to the problems described in IE Circular 81-05.

To document the problem and provide a disposition, the licensee wrote Deviation Disposition Request (DDR) M-8086 (Revs. 0 and A) dated April 15, 1982. The following action was taken under the DDR:

- The licensee and appropriate vendors developed and implemented procedures to rework the affected bearings.
- Training sessions were conducted with craft, engineering, and QC personnel on the corrective measures delineated in the procedures.
- The licensee performed a 100% engineering evaluation of all sway strut (and hydraulic and mechanical snubber) installations.
- All rework actions identified by the evaluation program were documented on individual DDRs.

A review was made of the original DDR, a sampling of the corrective DDRs, the engineering evaluation, and a sampling of QC records pertinent to the rework. No discrepancies were found and all appeared to be in order. This item is closed.

- h. (Closed) 50.35(e) Item 72 (341/82-23-EE), "Loose Holding Stem Nut Keys on Remote Operated Powell Valves". During checkout and initial operation (CAIO) testing the keys joining the motor operated drive to the valve stem drive on two valves in the RHR system fell out rendering the valves inoperable.

The licensee wrote NCR 83-1131, dated November 11, 1983 to document the failure and provide for repair. DDR M-8647 (Revs. 0 and A) dated May 23, 1983 was written to determine the cause of failure, and provide a solution. It was determined that the valve operator orientation (downward) in connection with excessive piping vibration was the cause. The William C. Powell Company, the valve manufacturer, designed and fabricated a retainer for both valves to securely contain the keys which the licensee installed. The licensee modified the piping configuration by adding bypasses around the valves. This eliminated excessive pipe vibration during reduced flow operation. The licensee determined that there are no similar installations that have experienced this deficiency. The vendor has stated that this situation has not occurred elsewhere.

The NCR, DDR, and accompanying documentation were reviewed and found to be in order. This item is closed.

- i. (Closed) 50.55(e) Item 74 (341/82-25-EE), "Sway Strut Paddles Clamped Rigid". During the installation of various Power Piping Co. power sway struts, problems were encountered with the fitup of the strut paddle to the support clamp. Specifically, the squared corners of the clamp would not permit rotation of the sway strut to the proper load angle.

The licensee wrote DDR M-11824, dated June 30, 1983, to document the deficiency and provide a solution. The engineering evaluation noted in Item 68, above, identified the sway struts with clamp interferences. The licensee, in conjunction with the vendor developed corrective modifications for various installation conditions encountered. In addition, training sessions were conducted with craft supervisory and QC personnel in the proper techniques to be used during construction and inspection of this type installation.

The DDR and NCRs generated during the identification phase were reviewed and found to be in order. This item is closed.

- j. (Closed) 50.55(e) Item 75 (341/82-26-EE), "Rosemount Trip Units". During calibration of Rosemount model 510 DU trip units, a high percentage of the units exhibited erratic operation and could not be calibrated. Subsequent investigation revealed that this erratic operation was caused by oxidation of the silver plated contact of the wiper arm of the potentiometer to set the trip level.

To resolve the problem, the licensee replaced all Rosemount 510 DU trip unit potentiometers, manufactured with silver contacts, with potentiometers using gold contacts. The trip units were recalibrated and no additional problems were found during subsequent preoperational testing. This item is closed.

- k. (Open) 50.55(e) Item 76 (341/82-27-EE), "Limitorque Limit Switch Rotor Failures". While performing standard maintenance procedures on motor operated valves, maintenance personnel discovered 16 cracked limit switch rotors in Limitorque motor operators. The rotor makes and breaks the limit switch contacts. Failure of the rotor to operate the switch could result in the motor continuing to run until it fails.

Because of difficulties to replace only the rotors, the licensee chose to replace complete limit switch assemblies. The replacement is to include all Limitorque operators inside the drywell. Outside the drywell the replacement will include only the operators found with cracked rotors. The required documentation has been issued and the replacement effort is underway. The work also includes correcting other various deficiencies discovered during the inspection of the Limitorque operators. The item remains open pending the satisfactory completion of the work and subsequent review by the inspectors.

- l. (Closed) 50.55(e) Item 77 (341/82-28-EE), "1 inch 3000# Carbon Steel Pipe Couplings and Caps". During a warehouse inspection, QC personnel identified linear indications (by dye penetrant testing) in 1 inch 3000# carbon steel pipe caps and couplings. All were from the same heat, no. HT0680. Based on these inspections, all unstalled caps and couplings of this heat number were considered rejectable.

The licensee wrote NCR 83-1096, dated November 2, 1983, to document the nonconformance and provide a disposition. All heat number 0680

1 inch caps and couplings installed in safety-related systems were dye penetrant inspected. All showing rejectable indications were removed and replaced with acceptable fittings. The corrective actions were documented and implemented on DDRs in accordance with the QA program. The licensee wrote DDR MP 8750 (Revs. 0, A, and B) dated December 30, 1982, to disposition the unused fittings. They were collected and removed from the site.

The NCR and DDRs were reviewed and found to be properly closed. This item is closed.

- m. (Open) 50.55(e) Item 87 (341/83-01-EE), "Possible ITE Circuit Breaker Failures". On December 10, 1982, Brown-Boveri Electric (formerly ITE) informed the NRC of a potential problem with the ITE 480 volt circuit breakers equipped with solid state trip devices. A potentially defective capacitor, located in the trip devices could prevent the circuit breaker from opening when required.

Based on the Brown-Boveri information, the licensee surveyed all 480 volt circuit breakers at Fermi 2. A total of 130 breakers were identified as equipped with solid state trip devices having potentially defective capacitors. Seventy-three of these breakers are in safety-related switchgear. For these, the licensee decided to replace complete trip units. In the non-safety-related breakers, the capacitor only is to be replaced during scheduled maintenance. This is acceptable. The replacement of trip units in the safety-related breakers is underway. The item remains open pending the satisfactory completion of the work and subsequent review by the inspectors.

- n. (Closed) 50.55(e) Item 92 (341/83-06-EE), "Structural Steel Sliding Connections". A review of structural steel sliding connections construction practices revealed that the original method of defining bolt tightness on the design drawings for sliding connections was imprecise (i.e., "finger tight" or "hand wrench tight"). Although the original concern was loose bolted connections, an analysis indicated that the safety consideration was structural sliding connections that may have been overtightened and, therefore, could not slide.

The licensee wrote DDR M 11758, dated June 21, 1983, to document the deviation and provide a disposition. The design drawings were revised to require specific torque values for all bolted sliding connections. In addition, jam nuts torqued to a specified value were also required on these connections. All sliding connections were reworked to the new requirements and inspected and found acceptable.

The DDR was reviewed along with the revised drawings (7), and the associated "connection control sheets". All were found to be in order. This item is closed.

- o. (Open) 50.55(e) Item 105 (341/83-19-EE), "Thermal Separation Criteria Violations". In a number of places in the steam tunnel and

the drywell, the physical separation between electrical conduits and trays and process steam lines was found not to meet the requirements of Edison Specification 3071-33.

To resolve the separation problem where the specification requirements could not be met, the licensee's Engineering Research Department completed a study on heat transfer from steam pipes to conduits and trays. Methods to achieve the required thermal separation include adding insulation over steam pipes, installing mirror insulation between the steam pipes and conduits or trays, and relocating the steam pipes, conduits, and trays. The necessary documentation was issued and the required modifications were initiated in accordance with the licensee's Quality Assurance Program. The item remains open pending the satisfactory completion of the work and subsequent review by the inspectors.

- p. (Closed) 50.55(e) Item 106 (341/83-20-EE), "Reactor Building Crane Problems". The reactor building crane hoist could not be raised or lowered because of improper phase sequence of the power supply to one of the hoist motors. This resulted in the tandem hoist motors working in opposition.

An Incident Report No. 83-12C was issued to describe the cause of the incident and the corrective actions taken. Faulty wiring to the hoist motor was corrected. The failure of the hoist to move is considered by the licensee as not affecting plant safety and as such not a 50.55(e) item. However, to prevent deficiencies found during investigation possibly affecting safety-related components in the future, the licensee took corrective actions to revise administrative procedures in the processing of work packages and to include load-bearing parts of the crane in the Project Q-List. Training of personnel to ensure compliance with the procedures was also conducted. Corrective actions listed in Incident Report No. 83-12C were reviewed by the licensee's Quality Assurance Group for completion. This item is closed.

- q. (Closed) 50.55(e) Item 109 (341/84-01-EE), "Broken Valve Stem and Guide Pins on a 24 Inch Globe Valve". During checkout and initial operation of an RHR service water system, severe vibrations were experienced by the flow control valve. The valve was inspected and the guide pin found to have been broken off below the valve disk. This allowed the disk to vibrate and consequently the valve stem failed due to fatigue.

The licensee wrote NCR 83-1225 to determine the cause of failure (closed May 25, 1984). NCR 83-1287 was written to cover the valve repair (closed July 23, 1984). DCN E 11-55-9 was written to install flow limiting orifices in each loop of the RHR service water systems to reduce the pressure drop across the valves. The identical valve in the other service water system was inspected and found undamaged. The vibration was apparently caused by operation of the system with flow rates (low) that required throttling the valve outside of its optimum range. During subsequent preoperational testing of the systems, no significant valve vibration was

observed. Operating personnel have been made aware of the operating characteristics of the valves and the System Operating Procedure (SOP) was revised to limit valve operation outside the optimum throttling range.

The NCR, DCN, and revised SOP were reviewed and found in order. This item is closed.

- r. (Closed) 50.55(e) Item 113 (341/84-05-EE), "Linear Indications in Seams of ASTM A500 Grade B Tube Steel". During a support fabrication inspection, linear indications were found (by dye penetrant examination) in ASTM Grade B (2 x 2 x 1/4) tube steel (heat number A 11714). Similar indications were then found in stock tubing of the same heat number. The cracks were at the seam weld. The steel was used in the fabrication of cable tray hangers and conduit supports.

Nonconformance Report (NCR) 84-0057, dated January 18, 1984, was written to document the condition and provide a disposition. An investigation revealed that 37 supports had been fabricated and installed using the discrepant steel. These supports were removed and replaced with new supports fabricated from acceptable steel. The deficient stock steel was segregated and tagged as nonconforming. Receiving inspection of tube steel stock now requires a visual inspection of the welded seam.

The NCR, associated work orders, and a sampling of QC records associated with the rework were reviewed. The review showed that the problem was handled in accordance with the established QA program. This item is closed.

- s. (Open) 50.55(e) Item 119 (341/84-11-EE), "Design Deficiency in Conduit Support Standard ED-14-3". It was found that conduit supports type STD-ED-14-3 of Edison Specification 3071-128 may not have adequate structural capacity because seismic torsional stresses were not considered. A further investigation revealed that these stresses were also not considered for other supports in Specification 3071-128.

To correct the deficiency, the allowable loads for the supports were recalculated. As a result, a number of supports were found to require rework. The design changes necessary for rework were issued. The rework is underway. The item remains open pending the satisfactory completion of the work and subsequent review by the inspectors.

- t. (Closed) 50.55(e) Item 120 (341/84-12-EE), "NPS Industries (NPSI) Inc. Pipe Support Components with the Same Part Number". During installation of two NPSI sway strut rear brackets (Part No. SRS-24), it was discovered that these brackets had the same part number but different base plate dimensions. Subsequently it was learned that the physical dimensions, material, and load bearing capacities of other supports manufactured by NPSI may have changed while the catalog number remained the same.

Following the disclosure of the problems with the identification of supports, the licensee carried out an investigation of all components supplied by NPSI. The investigation concluded that no design deficiencies have occurred because of use of the NPSI published support data. Actually, the only components found as not conforming to the design were two SRS-24 brackets noted initially, one of which with a smaller base plate was installed but was subsequently replaced with one of the old designs. To prevent a similar situation in the future possibly affecting plant safety, the licensee has revised the procurement process to ensure that the components are ordered based on the appropriate design data rather than on the catalog number. This item is closed.

- u. (Closed) 50.55(e) Item 123 (341/84-15-EE), "Inadequate Weld Symbol on Standard EB-5.7". In fabricating cable tray supports a horizontal unistrut member is sometimes welded between two vertical angle iron members. Standard EB-5.7 is a cable tray connection detail showing this type of joint. The detail requires six welds total; two vertical and four horizontal (two top and two bottom). However, depending on how the weld symbol was interpreted, either four or six welds were actually made. A case where only four welds were made was discovered by a weld inspector and documented in NCR 84-0399, dated March 11, 1984. Investigation of this NCR revealed this interpretation problem.

There are three unistrut sizes approved for use with these connections. Calculations showed that only four welds would develop the full strength of the smallest size while six welds were necessary to develop the full strength of the two larger sizes. Document Change Notice (DCN) 10541, Rev. A, was issued to revise Standard EB-5.7 to remove the ambiguity and show the required number of welds for the three sizes. In the design of hangers of this type, a conservative approach is taken and the full strength capability of members is rarely approached. Therefore, a representative sample of the connections has been analyzed and have been determined to be adequate with two vertical and two horizontal welds per connection. Enough samples were analyzed to satisfy MIL-STD-105D for a 95/95 confidence/reliability requirement. To add to the conservatism of the review, Sargent and Lundy engineers selected specific hanger connections that are known to be the most heavily loaded in lieu of a random selection. All connections analyzed were determined to be adequate and satisfy the design required for seismic qualification of the cable tray hangers.

The NCR was reviewed and found to have been processed in accordance with the QA plan requirements. A review was made of the reanalysis program and the methodology and conclusions were agreed with. This item is closed.

- v. (Open) 50.55(e) Item 125 (341/84-17-EE), "Environmental Unqualified Terminal Block in Limitorque Valve Operators". A letter from the NRC listed the Marathon 6000 series terminal block as not qualified for use in harsh environment (100% RH/steam).

In response to the information from the NRC, the licensee determined that there are a total of 88 Limitorque valve operators in Fermi 2 which require harsh environment qualification. An inspection of these operators and replacement of found Marathon 6000 series terminal blocks with qualified blocks is underway. The item remains open pending the satisfactory completion of the work and subsequent review by the inspectors.

- w. (Open) 50.55(e) Item 126 (341/84-18-EE), "Underrated Terminal Blocks in Limitorque Valve Operators". As a result of an inspection for all NUREG-0588, Appendix E, Category 2A and 2B Limitorque operators, the licensee found that 12 operators had Beau Products No. 76000 series terminal blocks which were underrated for their application. These terminal blocks were used in 480V AC motor termination, but had an Underwriter Laboratory (UL) rating of 150V AC.

To correct the problem, the licensee chose to replace the underrated Beau terminal blocks with Marathon 300 series blocks, as recommended by the Limitorque Corp. In four operators, the space was found to be inadequate for the new terminal blocks. In these operators, hard wiring using Raychem terminations within Crouse Hinds LR form 8 conduit bodies was used. Replacement of terminal blocks in other operators is underway. The item remains open pending the satisfactory completion of the work and subsequent review by the inspectors.

- x. (Closed) 50.55(e) Item 128 (341/84-20-EE), "Loctite 242 in Scram Solenoid Pilot Valves". As reported by the General Electric (GE) Co. to the NRC, Loctite 242, used as thread locking material, escaped to the plunger of the scram solenoid pilot valves and resulted in bonding of the plunger to the solenoid base assembly. This prevented the solenoid valve from venting air from the scram valve upon deenergization.

The licensee has determined that the only opportunity for the use of Loctite 242 in the subject valves would have been during maintenance activities to refurbish the pilot valves in the fourth quarter of 1982. The licensee's review of the procedures and work packages pertaining to this activity found no use of Loctite 242. To prevent possible problems in the future, a warning has been added to the procedure used for the refurbishment of the pilot valves, that GE has recommended discontinuing the use of Loctite 242. This item is closed.

- y. (Closed) 50.55(e) Item 131 (341/84-23-EE), "Weldolets Lacking Complete Chemical Documentation". The licensee received a notification under 10 CFR 21 requirements that certain tee fittings were supplied with incomplete documentation and lacking the chemical overcheck requirements of the ASME Code. Upon investigation, the licensee determined that two of the tees had been installed in a safety-related system.

The licensee wrote NCR 84-0965 to document the problem and provide a disposition. A boat sample was taken from one of the fittings and

submitted for chemical analysis. This work was done in accordance with ASME Section XI requirements. The results of the chemical analysis showed that the material met the chemical requirements of SA234-WPB steel and matched the ladle analysis. This, therefore, meets the chemical overcheck requirements of Para. NCA-3867.4(e)(2) of Section III of the ASME Code and the material was judged to be acceptable.

The NCR, chemical analysis results, pertinent sections of the ASME Code, and a sampling of QC records were reviewed. The review showed the actions taken were in accord with ASME code requirements and the licensee's QA program. This item is closed.

- z. (Closed) 50.55(e) Item 133 (341/84-25-EE), "Improper Welds on Pipe Whip Restraints". During an inspection by the Construction Assessment Team, some pipe whip restraints were found to have fillet welds in certain areas where full penetration welds were specified. The restraints were supplied by GE as part of the NSSS contract.

The licensee wrote NCR 84-0933 to document the condition and determine a disposition. Since GE supplied the items they were asked to disposition the nonconformance. Accordingly, GE wrote Field Deviation Disposition Request (FDDR) KH 1-477 to investigate the situation. GE made an evaluation of the welds and determined that the suspect fillet welds were adequate where installed. Therefore, the FDDR was dispositioned "accept as is" and also caused the design drawing showing the welds to be changed to accept the fillet weld. The licensee's NCR was, therefore, dispositioned "accept as is" and closed.

A review of the NCR, FDDR, and analysis of the fillet welds showed that the substitution of certain fillet welds in primary pipe restraints for full penetration welds caused no degradation of the reliability or strength of the restraints and therefore had no safety significance. We agree that the item is not reportable under 10 CFR 50.55(e). This item is closed.

No items of noncompliance or deviations were noted.

3. Evaluation of Licensee Action with Regard to IE Bulletins

For the IE Bulletins listed below, the inspector verified that the Bulletin was received by licensee management and reviewed for its applicability to the facility. If the Bulletin was applicable the inspector verified that the written response was within the time period stated in the Bulletin, that the written response included the information required to be recorded, that the written response included adequate corrective action commitments based on information presented in the Bulletin and the licensee's response, that the licensee's management forwarded copies of the written response to the appropriate onsite management representatives, that information discussed in the licensee's written response was accurate; and that corrective action taken by the applicant was as described in the written response.

- a. (Closed) IE Bulletin 80-15 (341/80-15-BB), "Possible Loss of Emergency Notification System (ENS) with Loss of Off-Site Power". There have been at least two instances where a loss of off-site power has resulted in a loss of communications between a power reactor facility and the NRC Operations Center via the Emergency Notification System (ENS). In the bulletin, the NRC required action to be taken on six items. The licensee responded as follows:

Item 1. Verification of the power source of the ENS. The licensee verified that the ENS power source was on-site power and not telephone company supplied.

Item 2. Facilities using on-site power must provide a reliable supply of power for the ENS if the normal supply fails. The licensee is providing two back-up supplies for the three ENS packages located at the site. One ENS package is located in the Nuclear Operations Center (NOC) and supplies communications for the Emergency Operations Facility (EOF). The NOC has an emergency diesel generator serving it. The diesel is run biweekly and has sufficient capacity (300 kW) to easily carry the building.

Two ENS packages are located in the main plant area. One package serves the NRC office while the other package serves the control room and Technical Support Center (TSC). There are four 16 MW electric Combustion Turbine Generator (CTG) units at the Fermi site that are a primary part of the Fermi 2 power restoration plan. Originally used as peaking units by Detroit Edison, these units have a proven record of reliability and have now been included in the Fermi 2 maintenance and surveillance programs. They are tested monthly on a routine basis and during a recent test, one unit carried the entire site.

Item 3. All facilities were to conduct a test to verify that all extensions of the ENS would remain fully operable in the event of a loss of off-site power.

This has been accomplished with both emergency power supplies.

Item 4. If it is determined that an ENS package is not supplied with a reliable power supply, the NRC Operations Center is to be notified within 24 hours.

All ENS packages at Fermi 2 are provided with reliable backup power.

Item 5. Prepare and issue an administrative procedure or directive which requires notification to the NRC Operations Center by commercial telephone or relayed message within one hour of the time that one or more extensions of the ENS are found to be inoperable. Fermi 2 Plant Order EFO-8056 complies with this requirement. In addition, it requires the weekly testing of the ENS to determine operability.

Item 6. Required the preparation of a written report describing the results of the reviews and testing required by Items 1, 2, 3, and 5 above. A copy of this report EF2-72728, dated July 26, 1984, and signed by M. A. Zinink was made part of the data package.

A review of the report and accompanying documentation showed adequate reliability of the ENS power supply. This was accomplished by a redundant supply -- one for each of two locations -- and the fact that Fermi 2 personnel have at least three other options for getting a message to the NRC Operations Center. They are commercial telephone, the Detroit Edison Company radio system, and microwave system. The last two systems could be used to relay messages to an operable commercial telephone. Based on the above, this item is closed.

- b. (Closed) IE Bulletin 81-03 (341/81-03-BB), "Flow Blockage of Cooling Water to Safety System Components by Corbicula SP. (Asiatic Clam) and Mytilus SP. (Mussel)". The licensee's action with regard to this bulletin was presented in Inspection Report 50-341/84-33. The item was left open pending review of an approved implementation plan. Implementation Plan 100/R308B/10.0, Rev. 0 approved September 13, 1981, "Fermi-2 Program for Detection, Prevention, and Control of Corbicula (Asiatic Clam)" was reviewed.

The review indicated compliance with the requirements of the Bulletin and the further concerns expressed in NUREG/CR-3054 pertaining to the closeout of the Bulletin. This item is closed.

- c. (Closed) IE Bulletin 83-06 (341/83-06-BB), "Nonconforming Materials Supplied by Tube-Line Corporation Facilities at Long Island City, New York; Houston, Texas; and Carol Stream, Illinois". Nonconforming materials were supplied by Tube-Line from several of its facilities to nuclear plants under construction.

In response to the bulletin, the licensee conducted an extensive investigation of purchase order and receiving inspection files of its own and site organizations conducting safety-related work who could have purchased or received Tube-Line products during the period in question. No Tube-Line product documents were found in the files reviewed. Bulletin 83-06 did not list Fermi 2 as a recipient of Tube-Line Products.

A file was reviewed which contained the details of the search of the files of the licensee and subcontractors for evidence of products manufactured by Tube-Line. The review indicated that a thorough search for evidence of order or receipt of Tube-Line Products was made. No such evidence was found. This item is closed.

- d. (Closed) IE Bulletin 74-12 (341/74-12-BB), "Incorrect Coils in Westinghouse Type SG Relays at Trojan". During preoperational testing at the Trojan nuclear power plant it was found that some of the Westinghouse Type SG relays labeled for operation at 125 V DC, had 48 V DC coils.

As discussed in Inspection Report No. 50-341/84-33 (DRP) the licensee has stated that procedures are included in the testing program to verify the relay type and correctness of the coils. The inspector's review of these procedures, however, concluded that the method used does not allow positive identification of coils of lower voltage than specified on the nameplate. In response to the inspector's concern, the licensee considered adding in the test procedures, a measurement of coil DC resistance. This, however, was found not to be practical since this data is normally not shown on the nameplate and is not always readily available. To resolve the concern, the inspector reviewed test results of several multi-contact relays. The test data shows that the pickup voltage for Type SG 120V DC Westinghouse relays is about 58-71 volts. The pickup voltage for a relay with a 48V DC coil should be approximately 30-35 volts. Since the test results are independently reviewed by a Discipline Engineer and a Startup Test Engineer, it can be reasonably expected that such a low pickup voltage value would be noted. This item is closed.

- e. (Open) IE Bulletin 84-02 (341/84-02-BB), "Failures of General Electric Type HFA Relays in Use in Class 1E Safety Systems". The bulletin informed licensees of failures of General Electric (GE) Type HFA relays with Nylon or Lexan coil spools.

As discussed in Inspection Report No. 50-341/84-33 (DRP), the licensee identified and replaced a total of 358 Type HFA relays. Subsequently, an old-style HFA relay was inadvertently reinstalled in a safety-related system. Because of this, the inspector was concerned about the disposition of the 358 relays that were replaced. Although no documentation about the disposition is available, it can be reasonably concluded, based on discussion with the licensee's cognizant personnel, that the relays were scrapped. Also, the HFA relays were included in the Restricted Engineered Components List, #11.00.122, Rev. 2, as not to be used in Fermi 2. The replacement of the HFA relay that was reinstalled is underway. The item remains open pending the satisfactory completion of the work and subsequent review by the inspectors.

No items of noncompliance or deviations were noted.

4. Evaluation of Licensee Action with Regard to IE Circulars

For the IE Circulars listed below, the inspector verified that the Circular was received by the licensee management, that a review for applicability was performed, and that if the Circulars were applicable to the facility, appropriate corrective actions were taken or scheduled to be taken.

(Closed) IE Circular 81-03 (341/81-03-CC), "Inoperable Seismic Monitoring Instrumentation". Earthquakes were not properly recorded at several nuclear power plants because the seismic monitoring instrumentation was malfunctioning or inoperable. The circular recommends that the licensees review their surveillance testing and calibrations programs for the seismic instrumentation to limit the potential for having the entire monitoring system inoperable during all plant modes of operation.

There are four procedures pertaining to the surveillance of the seismic monitoring instrumentation. These plant operations manual procedures are 44.090.01, "Active Seismic Monitoring System Functional Test (six-month interval)", 44.090.02, "Active Seismic Monitoring System Calibration (18-month interval)", 44.090.03, "Active Seismic Monitoring System Channel Check (Monthly interval)", and 44.090.04, "Passive Triaxial Peak Shock Recorders Calibration (18-month interval)". The procedures are considered to satisfactorily address the concerns of Circular 81-03. This item is closed.

No items of noncompliance or deviations were noted.

5. Exit Interview

The inspectors met with the resident inspectors and licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on September 14, 1984. The resident inspectors summarized the scope and findings of the inspection. The licensee acknowledged the inspectors' findings.