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NRC-94-0017

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

References: 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

2) NRC Inspection Report 92016
dated November 30, 1992

3) Detroit Edison Response to
Unresolved Items 92016-01 and 02
dated December 30, 1992

4) NRC Inspection Report 93023
dated January 27, 1994

Subject: Response to Unresolved Items 92016-02 and 93023-01, and Inspector Followup Item 93023-02

Enclosed is Detroit Edison's response to Unresolved Items (URI) 92016-02 and 93023-01, and Inspector Followup Item (IFI) 93023-02. URI 92016-02 was a request for additional information on establishing two different calibration tolerances strategies. URI 93023-01 concerns the effectiveness of corrective actions on a process radiation monitor. Finally, IFI 93023-02 concerns the vendor manual control program.

If you have any questions, please contact Elizabeth A. Hare, Senior Compliance Engineer, at (313) 586-1427.

Sincerely,

DRGipson

Enclosure

cc: T. G. Colburn
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RESPONSE TO UNRESOLVED ITEMS 92016-02, 93023-01 AND OPEN ITEM 93023-02

In Reference 4, the NRC requested that Detroit Edison provide the results of the review regarding two Unresolved Items (URI), 92016-02, 93023-01 and an Inspector Followup Item (IFI) 93023-02. Detroit Edison's response to both URIs and the IFI is discussed under separate headings in the following text.

Unresolved Item 92016-02

"This item related to having many instruments not meeting "As-Found" acceptance criteria during loop checks. The previous concern noted in Reference 2, was the licensee's inadequate evaluation of the reasons for the instruments falling out of tolerance and not trending such instruments. The inspectors evaluated the licensee's response and the basis for establishing a tight calibration tolerance. The licensee used a tight calibration tolerance to have a large margin for the associated technical specification limit. In order to incorporate the human factors requirement for the control room chart recorders and indicators, the licensee calibrated many such instruments. A combination of tight calibration tolerance and this process caused many instruments to fall out of calibration.

The tight calibration tolerances were calculated for specific instruments, which were even smaller than the vendor suggested values. The licensee used one instrument to demonstrate the self-imposed tolerance versus the vendor suggested value. The inspectors examined the calculated calibration tolerance for another instrument, and noted that the vendor recommended tolerance and the calculated value were identical. There was no apparent justification for establishing two different calibration tolerance strategies for two different safety-related instruments. Justify the different calibration tolerances for different safety related instruments."

Detroit Edison Response to URI 92016-02

Instrument loop calibrations are performed to ensure that the output will respond within the necessary accuracy to known values of the parameter which the channel monitors. The surveillance procedures governing the performance of the loop calibrations contain Technical Specification Acceptance Criteria which include a tolerance range. The loop calibration utilizes the loop As Found Tolerance values given in the design calculation. This is a clarification to the statement given in Detroit Edison's original response to URI 92-016-02 in Reference 3, top paragraph of page 4. It stated that "many surveillances are written with as found loop tolerances tighter than required by design calculations." It concluded that "since the As Found loop Tolerances are tighter, a greater number of 'failures' occur" due to this self imposed criteria. This item is better clarified in the following discussion.

The As Found Tolerance for a loop is calculated as the Square Root of the Sum of the Squares of the As Found Tolerance of the individual instruments comprising the loop. If the As Found loop Tolerance is not achieved during the calibration, each instrument in the loop is individually calibrated as necessary. Each instrument is calibrated to within its specific As Left Tolerance. This increases the probability that the loop will perform satisfactory while in service.

As noted by the NRC inspectors, different calibration tolerances for different safety related instruments may exist. The method used to determine the calibration tolerances are documented in the design calculations for the instrument loops associated with the Technical Specification surveillance. The established method to calculate the As Left Tolerance for the instruments used in the surveillance required to meet Technical Specifications is based on vendor accuracy. Vendor accuracy was acknowledged in Reference 2 as a conservative approach for component calibration tolerances.

The As Found Tolerance for an instrument is calculated as the Square Root of the Sum of the Squares of two error allowances, the vendor accuracy and drift. The As Found Tolerance is equal to the As Left Tolerance where the drift is either considered negligible or is removed as determined in the design calculation.

Due to the variance that can be obtained in the calculation of the individual instruments' As Found Tolerance values, there will be instances where the calibration tolerance for a loop is different than a similar safety related loop but would be the same for instruments performing the same function. The design calculation for their associated instrument loops are the governing document that defines all the different tolerances that have been discussed.

Unresolved Item 93023-01

The inspectors reviewed three work packages for low flow/failure of the Control Center HVAC, Division II emergency air north inlet radiation monitor. The work requests were to correct the associated frequent alarms in the Control Room. The inspectors consider the corrective actions inadequate in the repair of the process radiation monitor. Discuss the effectiveness of the corrective actions.

Detroit Edison Response to URI 93023-01

During a seven month period starting in November of 1992, three work requests were initiated to troubleshoot a green indicating light for low flow/failure alarm in the control room. During the performance of the first two corrective maintenance (CM) activities, the largest contributor to the repetitive alarm was not identified. The corrective actions taken during the first two work packages alleviated some problems associated with the alarm condition. Both times when the work packages were completed, the alarm had reset indicating that the problem was eliminated.

When the third work request was initiated, maintenance replaced the radiation monitor pump due to external electrical interference. This pump had been replaced in the initial work request (WR) and the I&C maintenance group was concerned that replacing the pump again would not correct the problem. The group initiated a Deviation Event Report (DER) for Technical Engineering to evaluate the effectiveness of the pump changeout.

DER 93-0346 determined two possible root causes of the failure trip. The most likely root cause of the failure trip was the opening of a safety loop due to poor wiring on the flow switch condulet causing the alarm. This was corrected in the third work package. The other possible failure was the centrifugal starter switch in the motor. The failure mechanism was either faulty switch contacts or centrifugal weights. This was difficult to resolve during the first two CM packages because the alarm would clear and provide a positive indication that the problem was resolved. Although the actual root cause was masked during performance of the first two WRs, the work performed during these WRs was necessary for continued good system performance and unfortunately actual root cause was masked.

The third occurrence indicated a negative trend in performance and the initiation of a DER to evaluate the effectiveness of corrective actions was an appropriate measure. There have been no further problems associated with the safety loop, which caused the green failure light to extinguish, since the corrective action to DER 93-0346 was taken. It would have been optimum to have resolved the problem during the initial Work Request. Since it was not, the Corrective Action Program was utilized to resolve this recurring corrective maintenance to ensure a proper evaluation was performed on this system. No additional work on this monitor has resulted from the evaluation of DER 93-0346.

Inspector Followup Item 93023-02

Asea Brown Boveri supplied Detroit Edison two copies of maintenance and surveillance manuals in June and July of 1993 for medium and low voltage breakers. The manuals recommended total disassembly of the breaker arming mechanism in order to inspect for hardened grease. The inspectors determined that the vendor manual had not been sent to the maintenance organization. The vendor document control group had over 29 various vendor documents which were not distributed to various responsible organizations six months after they had received them. There were even some vendor documents not being processed a year after they had been received.

The inspectors were concerned with the licensee's vendor document control program. This control applied to manuals, drawings and calculations. The licensee's position was that this condition was due to limited resources.

Detroit Edison Response to IFI 93023-02

Vendor manual backlog reduction at Fermi 2 has been an ongoing task over the last five years. In 1993, the backlog population was reduced from 90 manuals in January to 33 manuals by the end of December. A total of 147 manual updates were processed over the course of the year. Emphasis was placed on issuing the manuals and updates which were applicable to QA 1 and QA 1M equipment. As progress was made, non Q manual tracking was added as part of the backlog population reduction effort.

A list of unapproved vendor manuals was provided to the inspectors during the NRC Maintenance Inspection. The list contained 71 manuals of which 46 applied to QA 1 or QA 1M equipment. Of the 46 manuals, 29 had been in the backlog for more than 6 months at the time of the inspection. As of March 25, 1994, 31 of the 46 Q manuals have been reviewed, approved and issued for use by Maintenance. Of the original 71 manuals only 15 Q manual remain and are currently in the review process.

In order to assure the use of the most recent vendor information by the Maintenance Department, Plant Engineering will revise procedure NEP-CM1-05, "As-Built Notices". This procedure revision will allow "posting" of vendor submitted updates against a vendor manuals. The affect of this change will be that users of controlled manuals will be made aware of a pending change to a QA 1 or QA 1M vendor manual. Plant personnel would then contact Plant Engineering to obtain details of the pending change. By using this approach, vendor manuals a month or more old will have pending changes posted against them. This procedure change is expected to be completed by March 31, 1994.

During the Maintenance Inspection, the programmatic weakness identified and discussed with the NRC inspectors was the vendor manual backlog. Vendor drawings and calculations are not reviewed and approved under the same program. These areas are not discussed as part of this response due to no NRC concern in this area. Mr. K. Salehi was contacted prior to issuance of this response and was made aware of the clarification between the two programs.