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FROM CLEVELAND: 241-1650

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PERRY NUCLEAR POWER PLANT

Al Kaplan

VICE PRESIDENT
NUCLEAR GROUP

May 5, 1989
PY-CEI/NRR-1008 L

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

Perry Nuclear Power Plant
Docket No. 50-440
Commitment Extension Request
to Notice of Violation
50-440/87025-03

Gentlemen:

This letter requests a six month extension to the original commitment date of April 30, 1989 stated in our initial response to Notice of Violation 50/440/87025-03 submitted April 29, 1988 (PY-CEI/NRR-0845 L). Supplemental information to our original response letter was submitted June 20, 1988 (PY-CEI/NRR-0873 L) for completeness.

Presently the Reliability Information Tracking System (RITS) is being implemented manually and will be fully computerized by October 31, 1989. The objective of this program is to analyze component failures and based on the results, recommend corrective action to prevent recurrence.

Installation of the newly developed RITS program will be delayed to avoid any interruption of on-line computer systems needed to support the first refueling outage and minimize the risk of possible interfacing problems not previously identified. The RITS program interfaces with three major existing programs: Perry Plant Maintenance Information System (PPMIS), Perry Equipment Masterfile System (PEMS) and Perry Materials Management System (PMMS). Maintaining functional operability of these computer systems is important to the refueling outage tracking activities. We therefore, respectfully request an extension from April 29, 1989 to October 31, 1989 to allow time for post-outage activity update completion, production installation and training time for the new computerized RITS program.

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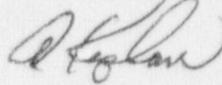
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May 5, 1989
PY-CEI/NRR-1008 L

We have included copies of the original response (Attachment 1) and supplemental information (Attachment 2).

If there are any further questions, please feel free to call.

Very truly yours,



Al Kaplan
Vice President
Nuclear Group

AK:njc

Attachments

cc: T. Colburn
Senior Resident Inspector
H. Miller, USNRC Region III

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VICE PRESIDENT
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April 29, 1983
PY-CEI/NRR-0845 L

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

Perry Nuclear Power Plant
Docket No. 50-440
Response to Notice of
Violation 50-440/87025-03

Dear Gentlemen:

This letter acknowledges receipt of the Notice of Violation contained within Inspection Report 50-440/87025 dated March 31, 1988. The report identified areas examined by Mr. W. Kropp and others during their inspection conducted from January 11, 1988 through February 9, 1988 of activities at the Perry Nuclear Power Plant, Unit 1.

Our response to Notice of Violation 50-440/87025-03 is attached. Please call should you have any additional questions.

Very truly yours,

Al Kaplan
Vice President
Nuclear Group

AK:cab

Attachment

cc: T. Colburn
K. Connaughton
H. Miller - USNRC, Region III

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- d. WO 87-9361 was performed to troubleshoot and repair a leak from a snubber located above an RHR pressure transmitter 1E12-N0050B. The WO Closing and Summary Sheet initially stated in the immediate failure cause summary, "steam leak at snubber". This was deemed insufficient and was revised to "Instrumentation tubing connection leaking. Loose connection" since the problem was identified as a loose tubing connection. This change has been incorporated into the PPMIS history file for this WO.
 - e. WO 87-9498 was performed to troubleshoot a Division II Diesel Generator failure to start during the performance of SVI-R43-T1318. The WO Closing and Summary sheet initially stated in the immediate failure cause summary, "Diesel Div. II did not see pneumatic start". This was deemed insufficient and was revised to "Not identified - Suspect solenoid start valves 1R43-F0037B and F0030B" since the troubleshooting failed to pinpoint the cause. This change has been incorporated into the PPMIS history file for this WO.
 - f. WO 87-9677 was performed to troubleshoot and repair incorrect level indication for a RHR heat exchanger. The WO Closing and Summary Sheet initially stated in the immediate failure cause summary, "RHR HX A level indication is low". This was deemed insufficient and was revised to "Level transmitter 1E12-N0008A out of calibration" since the calibration problem is the cause which would be utilized in Failure Analysis trending. This change has been incorporated into the PPMIS history file for this WO.
 - g. WO 87-10213 was performed to repair bad connectors for two LPRMs reading downscale. The WO Closing and Summary Sheet states in the immediate failure cause summary, "Bad connectors". This was deemed adequate since the problem was downscale LPRMs and the immediate cause was bad connectors. Identification of the cause of bad connectors would be part of the root cause evaluation as part of the Failure Analysis program and is thus outside the scope or requirements of PAP-0905.
4. WO 87-2249, 87-8746, 87-9361, 87-9677, 87-10390: Incorrect or incomplete WO closing codes.

The ineffectiveness of WO closing codes was identified by CEI during the INPO Maintenance Self Assessment which was completed in November of 1987. These codes were initially designed to aid in failure analysis. However, due to recommendations provided from the Failure Analysis committee and the ongoing development of the Reliability Information Tracking System (RITS), the decision was made to eliminate many of these PPMIS closing codes from the PAP-0905 work order process. The failure analysis program needs will be better supplied through a centralized evaluation of the existing WO closing summaries.

5. WO 87-4825, 87-8298, 87-8597, 87-9677: Incorrect or incomplete Master Part List (MPL) numbers.

The concern over MPL numbers chosen during WO initiation was identified by CEI during a QA audit report PIO 87-12, "Effectiveness of Corrective Action", issued July 29, 1987. PAP-0905 states that WOs should, when practical, address only one MPL number, and that single MPL numbers need not be addressed on WOs written to fill and vent instrumentation, for troubleshooting, or on standing WOs.

- a. WO 87-4825 was written to determine the cause of a Reuter-Stokes indexer failure. The MPL number utilized to open this WO was "N/A" since the indexer was not installed in the plant and thus had no MPL number. This indexer was removed from the field and replaced with a new indexer on March 26, 1987 in accordance with WO 87-2620. The MPL number used for WO 87-2620 was 1C51-J0002C and the failure cause was identified as "unknown, WO 87-4825 written to troubleshoot failed indexer". WO 87-4825 could have had a MPL number assigned to a salvaged component no longer installed in the field. However, to ensure identification of this WO during future trending or failure analysis, the work summary specified the MPL number of the component when it was installed in the field and also referenced WO 87-2620 as the WO which originally removed the component from the field. Therefore, we believe that this WO was written properly and is not an example of a violation.
- b. WO 87-8298 was written to troubleshoot a contact failure to open on relay 1E12-K42. The MPL number utilized to open this WO was the system MPL 1E12. The Plant Equipment Master-file System (PEMS) which ties into PPMIS to provide equipment data based on the MPL number input, does not contain MPL numbers for relays. Therefore, the identification number for this relay could not have been used as the WO initiating MPL number. However, to ensure identification of this WO during future trending or failure analysis, the work summary specified the problem as a relay 1E12-K42 failure to open. Therefore, we believe that this WO was written properly and is not an example of a violation.
- c. WO 87-8597 was written to troubleshoot a low temperature indication for the Division I Diesel Generator lube oil. Since the problem had not yet been identified, the MPL number utilized to open this WO was the DG lube oil system MPL 1R47. If a specific component were to be identified as the problem, the only way to change the MPL number would be to void the WO and then open a new WO with that MPL number. Nonetheless, troubleshooting failed to identify any problems. For future trending or failure analysis the suspected trouble components are well documented throughout this WO. Therefore, we believe that this WO was written properly and is not an example of a violation.

- d. WO 87-9677 was written to troubleshoot and repair incorrect level indication for a RHR heat exchanger. Since the problem was suspected to be the controller 1E12-R0604A, this MPL number was utilized to open this WO. Troubleshooting identified the level transmitter 1E12-N0008A as being out of calibration. Again, the only way to change a WO initiation MPL number is to void the WO and then open a new WO with the new MPL number. Since this is not required and extremely inefficient, this will not be done. However, to ensure identification of the WO during future trending or failure analysis, the corrective action identified in the Closing and Summary Sheet specifies the required recalibration of level transmitter 1E12-N0008A. Therefore, we believe that this WO was written properly and is not an example of a violation.
6. WO 87-9361: Inadequate closing summary on the WO Closing and Summary Sheet.

This WO was performed to troubleshoot and repair a leak from a snubber located above an RHR pressure transmitter 1E12-N0050B. The WO Closing and Summary Sheet initially stated in the closing summary, "No leakage anymore". This was deemed insufficient and was revised to "Reworked tubing fitting with reactor seal #5" since this was the actual work required to correct the problem. This change has been incorporated into the PPMIS history file for this WO.

- D. The concerns identified in Audit PIO 87-12 were listed as observations because they were subjective and related to effectiveness of implementation of the corrective action programs as opposed to compliance with the procedures. The Quality Assurance procedure, NQADI-1840, requires that each deficiency be documented on an Action Request (AR). As indicated in your report, our audit program has become more "performance related". The audit found compliance with the program to be adequate but the deficiency noted was "performance related". The line which separates deficiencies from improved performance is not well defined and is open to interpretation resulting in this deficiency being documented as a recommendation rather than an AR. As for your identified example, the audit organization has re-evaluated the effectiveness of the Condition Report program and noted an improvement in both number open and mean time for closure of Condition Reports. This improvement was partially due to actions taken as a result of the recommendations in Audit PIO 87-12.

Corrective Action To Avoid Further Violations

- A. The Preventive Maintenance Deferral Evaluation/Justification Sheet as discussed previously will be formally incorporated into IAP-0501 and PAP-0906, for Instrumentation and Control Section and Maintenance Section respectively, by June 30, 1988. The guidelines for performing a proper technical evaluation for rescheduling repetitive tasks will be provided to the appropriate engineers by May 30, 1988.

- B. 1. As discussed previously, procedure changes relative to the valve lubrications were completed January 29, 1988. Training for appropriate maintenance personnel to these procedure changes has also been completed.
2. The previously discussed revision to PMI-0030 to provide for documentation of retest completion will be complete by May 20, 1988.
- C. To ensure that the intent of the requirements of PAP-0905 is adequately met, the following corrective actions have been or will be implemented.
1. Training is being provided to work supervisors and planners emphasizing their WO review responsibilities and the importance of providing adequate summaries on the WO Closing and Summary Sheet. This effort will be complete by May 31, 1988.
2. A Reliability Information Tracking System (RITS) is being implemented manually and will be fully computerized by April 30, 1989. The objective of this program is to analyze component failures, and based on the results, recommend corrective actions to prevent recurrence. As a result of this program, changes are being made to PAP-0905, Work Order Process.
- a. A Program Change Request (PCR) has been initiated to provide a section on the WO Closing and Summary Sheet for MPL numbers of all affected equipment. This will ensure a greater capture percentage when trending for failure analysis or planning a WO on a particular component. This PCR will be complete by November 30, 1988.
- b. PAP-0905 was revised (effective March 1, 1988) to eliminate the need for the work groups to determine "Failure Category" and "Cause of Failure" closing codes. The RITS program will utilize the summaries within the WO package to consistently determine WO closing codes for trending purposes when deemed necessary.
- D. To ensure that the interpretation between deficiency and improved performance is made conservatively, QA guidelines have been revised to clarify the threshold for issuing ARs to include not only programmatic deficiencies or noncompliance, but also significant deficiencies which affect the effective implementation of processes. Appropriate QA personnel were trained to this change April 29, 1988.

Date of Full Compliance

Full compliance will be achieved upon full implementation of RITS by April 30, 1989.

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Al Kaplan

VICE PRESIDENT
NUCLEAR GROUPJune 20, 1983
PY-CEI/NRR-0873 LU.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555Perry Nuclear Power Plant
Docket No. 50-440
Followup Response to Notice Of
Violation 50-440/37025-03

Gentlemen:

This letter provides a followup to our response to Notice Of Violation 50-440/37025-03 contained within our letter PY-CEI/NRR-0845L dated April 29, 1988. Inspection Report 50-440/87025 dated March 31, 1988 identified areas examined by W. Kropp and others during their inspection conducted from January 11 through February 9, 1988 at the Perry Nuclear Power Plant. This additional information is provided as a result of discussions with Mr. S. Reynolds of your staff and the letter from you dated May 20, 1988 requesting additional information.

We have included the original response letter for completeness as Attachment 2 which addressed the identified violations of NRC requirements and provided our corrective actions to prevent recurrence. While we had evaluated the effects of these violations and concluded that no plant safety, operability, or reliability concerns existed, the content of these evaluations were not discussed in detail in the original response. As a result of the request for additional information, details of these evaluations are provided within the supplemental information, Attachment 1.

If there are any further questions, please feel free to call.

Very truly yours,

Al Kaplan
Vice President
Nuclear Group

AK:cab

Attachments

cc: K. Connaughton
T. Colburn
H. Miller - USNRC Region III

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- C. As a result of your request, a detailed review was performed within the last two weeks on a random selection of recently completed corrective maintenance WOs. It showed that the corrective actions to improve WO documents discussed in our original response are both appropriate and effective. In all cases, it was determined that the WO adequately described the work which was performed, the immediate failure cause, the corrective actions taken, and identified all affected components. Thus, actions already taken ensure the recording and availability of accurate maintenance history data for effective trending.

The many actions taken or being taken to improve the quality of maintenance history data as discussed during the maintenance inspection are reproduced below.

- Expanded Work Request form to prompt initiator to provide additional information useful in planning of the work order and in reproduction of plant conditions at the time of the concern. For example, the Work Request form now requires a written summary response for the work problem description, events/testing in progress, how the problem was identified, and system status/configuration. (Effective 1/18/88)
- Computer software changes to allow the "Work Summary" section of the PPMIS screen to be updated after work completion. This change was made because of an identified concern with the quality of information in the computer, based on pre-WO assumptions of the necessary work. Along with the software change, PAP-0905 has been changed so that the work planner or work supervisor has a "work summary" field to fill out during package closeout cycle. (Effective 6/30/87)
- Training of maintenance planners on the importance of entering accurate information into PPMIS work summaries. This was held since the WOs being trended continued to identify problems with the quality of work summaries versus actual work performed in the WO. (Training held end of September 1987)
- A "Failure Cause" section was added to the "Work Order Closing and Summary Sheet" in order to obtain improved failure descriptions. This used to be just a 2-letter failure code which was not utilized well. (Effective 6/30/87)
- The Work Order Process (PAP-0905) has also been changed to add a new "Work in Progress Description Log". This is a form used to document "as-found" conditions and to record the work performed and problems encountered. This form provides substantially more information to the reviewer of the package, and results in better closing summaries, better information to utilize in root cause determination and better ability to identify the scope of work that was actually performed. (Effective 12/17/87)

- Changes were made to the usage of the Troubleshooting Log so that I&C technicians now create a new log sheet for each shift, and better document the work performed during their shift. Continuing training has emphasized the need to provide documentation of actions performed to investigate and correct problems.
- Recent plant systems training has been held with selected maintenance and I&C supervisors and planners. This is a "Systems and Integrated Operations" course, which is a substantial plant systems overview, to improve the planners ability to plan and review WOs.
- Maintenance and I&C Training Programs continue to be implemented and improved as we work toward INPO Accreditation of this program.
- Continued emphasis on the quality of information provided on the work order closing and summary sheet, including work summaries. This is accomplished through feedback to the work groups as the information is input into RITS.

The RITS program as briefly discussed previously is the system at Perry which utilizes the maintenance history data and provides effective trending. The following additional information regarding the function and logistics of the RITS program is provided to resolve remaining questions on maintenance trending at Perry.

The PNPP Reliability Information Tracking System (RITS) is intended to improve overall plant reliability and reduce maintenance costs through identification of specific and generic equipment failure trends. The system extracts information from Corrective Maintenance WOs as they are completed. Each corrective action WO is independently reviewed by a Reliability Engineer to provide reasonable assurance that failure causes have been adequately evaluated.

Where appropriate, additional failure analysis or testing will be prescribed. Then, component identification and failure analysis data is transferred into the RITS data base. Using the Master Parts List (MPL) Numbers entered for the Work Order, equipment data is retrieved from the Perry Equipment Masterfile System creating a unique record in the RITS system for each corrective maintenance action. The record contains the manufacturer code, model number, serial number, and in service date. It also includes a description of the failure, corrective action to repair or replace and a space for entering the root cause. Failures, corrective actions and root causes are coded for sorting and trending purposes. The system provides failure data by generic failures on all safety and non safety related plant components. Examples of data to be trended would include gross failures by generic component, by manufacturer, MPL number, failure mechanism, corrective action and root causes. Each record includes appropriate dates so the failure statistics such as mean time between failure and rate of failure can be computed. Periodic reports are analyzed to determine if there are trends or patterns of common failure characteristics which could be eliminated or corrected.

The RITS program has been utilizing maintenance history data back to June 1, 1986, and has performed engineering reviews and accuracy verification of maintenance history data back to June 1, 1987. It should be noted that Perry did not become a commercial operating plant until September, 1987. In fact, participation in the Nuclear Plant Reliability Data System (NPRDS) was not required until commercial operation. Maintenance history data before this point would tend to skew equipment failure trending due to the many early life design and installation error type equipment failures that would not be a problem after the extensive preoperational and startup testing phases are complete.

Implementation of the RITS program has already proven to be a valuable and effective maintenance trending tool. Several trends have been identified that resulted in the performance of failure investigations. The system is being automated and expanded (approximately 50 percent complete) and is scheduled to be fully implemented by April 1989. In the interim a database of failures is being manually maintained on a stand alone computer.

- D. We agree that certain observations made in audit reports should have been documented as deficiencies on Action Requests (AR). To ensure that the interpretation between deficiency and improved performance is made conservatively, QA guidelines have been revised to clarify the threshold for issuing ARs to include not only programmatic deficiencies or noncompliance, but also significant deficiencies which affect the effective implementation of processes. Appropriate QA personnel were trained to this change.

The objective of our audit process is to assess the effectiveness of the processes controlled by our QA Program which are Performance related. As noted in your inspection report, our audit program has been in this mode for some time. The corrective action identified in our original response will preclude recurrence of this deficiency and ensure our established corrective action process meets the same guidelines as our performance based audit process. Additionally, a presentation was given to the maintenance inspection team during their visit in January discussing the numerous improvement initiatives taken as a result of the effectiveness of corrective action concerns. The project responsiveness to this concern exemplified that an AR is not necessary to ensure appropriate project attention to QA identified observations or deficiencies.

Overall Conclusion

In your letter requesting a followup written response you concluded that, "overall, your response did not address the salient points that impact plant system performance; instead you emphasized corrective actions that pertained to correction of instructions and documentation." We are concerned with this conclusion as it was not our intention to imply that we had not performed an assessment on plant system performance. The identified violations of NRC requirements involved insufficient instructions and/or documentation and similarly, our response focused on corrective action to prevent recurrence through permanent procedure changes and retraining. Our evaluations during and following the inspection assessed the impact on plant system performance and in no case did the violations have deleterious effects on plant safety, operability, or reliability. However, we recognize the need to document these impact assessments in future responses to identified concerns.