



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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March 6, 2012

Mr. Eric Larson, Acting Site Vice President
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P. O. Box 97, 10 Center Road, A-PY-A290
Perry, OH 44081-0097

**SUBJECT: PERRY NUCLEAR PLANT - NRC PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT 05000440/2012007**

Dear Mr. Larson:

On January 27, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed a Problem Identification and Resolution (PI&R) team inspection at your Perry Nuclear Power Plant. The enclosed inspection report documents the inspection results which were discussed on January 27, 2012, with Mr. V. Kaminskis and other members of your staff.

The inspection is an additional inspection of your Problem Identification and Resolution processes authorized by Inspection Manual Chapter 0305, "Operating Reactor Assessment Program," Section 10.02c.5, for plants that have entered Action Matrix Column 3, "Degraded Cornerstone." The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the inspection sample, the inspection team concluded that the implementation of the corrective action program and overall performance related to identifying, evaluating, and resolving problems at Perry Nuclear was adequate. Licensee-Identified problems were entered into the corrective action program at a low threshold. Problems were generally prioritized and evaluated commensurate with the safety significance of the problems and corrective actions were generally implemented in a timely manner. Corrective actions were generally implemented in a timely manner commensurate with their importance to safety and addressed the identified causes of problems, although there were examples where causes of problems were not effectively addressed. Lessons learned from industry operating experience were generally reviewed and applied when appropriate. Audits and self-assessments were effectively used to identify problems and appropriate actions.

Based on the results of this inspection, no findings were identified. However, If you disagree with a characterization of an issue in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III; and the NRC Resident Inspector at the Perry Nuclear Power Plant.

E. Larson

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and the response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

John B. Giessner, Chief
Branch 4
Division of Reactor Projects

Docket No. 50-440
License No. NPF-58

Enclosure: Inspection Report 05000440/2012007
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-440
License No: NPF-58

Report No: 05000440/2012007

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Perry Nuclear Power Plant, Unit 1

Location: Perry, Ohio

Dates: January 9, 2012, through January 27, 2012

Inspectors: J. Rutkowski, Project Engineer, Team Lead
T. Hartman, Resident Inspector
C. Brown, Regional Inspector
Z. Falevits, Senior Regional Inspector

Approved by: John B. Giessner, Chief
Branch 4
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

Inspection Report (IR) 05000440/2012007; 01/09/2012 – 01/27/2012; Perry Nuclear Power Plant, Unit 1; Non-Routine Problem Identification and Resolution Inspection.

This inspection was performed by three NRC regional inspectors and the Perry resident inspector. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Problem Identification and Resolution

On the basis of the activities selected for review, the team concluded that implementation of the problem and identification process and the corrective action program (CAP) at Perry Nuclear Plant had varying elements of effectiveness. The licensee normally had a low threshold for identifying problems and entering them in the CAP with some instances of condition reports not generated until after identification by the resident inspectors. Items entered into the CAP were screened and prioritized in a timely manner using established criteria and were evaluated commensurate with their safety significance. However, the thoroughness and effectiveness of some evaluations was found deficient by the team and by licensee audits and self-assessments. The issues with the effectiveness of evaluations including the effectiveness of identifying root and contributing causes, contributed to corrective actions not consistently correcting conditions. The team concluded the licensee's overall implementation of actions that correct issues and prevent recurrence of issues was marginally effective. The team noted that the licensee reviewed Operating Experience (OE) for applicability to station activities. Audits and self-assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of interviews conducted during the inspection, workers at the site expressed freedom to enter nuclear safety concerns into the CAP or to report them to supervision.

A. NRC-Identified and Self-Revealed Findings

No findings were identified.

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution (71152B)

The activities documented in Sections .1 through .4 constituted one sample of problem identification and resolution as defined in Inspection Procedure (IP) 71152.

.1 Assessment of the Corrective Action Program Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's Corrective Action Program (CAP) implementing procedures and attended CAP meetings to assess the implementation of the CAP by site personnel.

The inspectors reviewed risk and safety significant issues in the licensee's CAP since the last NRC Problem Identification and Resolution (PI&R) inspection in November 2010. The selection of issues ensured an adequate review of issues across NRC cornerstones. The inspectors used issues identified through NRC generic communications, department self assessment, licensee audits, operating experience reports, and NRC documented findings as sources to select issues. Additionally, the inspectors reviewed condition reports (CRs) generated for equipment issues and as a result of facility personnel's performance in daily plant activities. In addition, the inspectors reviewed licensee self assessments and a selection of completed investigations from the licensee's various investigation methods, which included root cause, apparent cause, equipment apparent cause, and common cause investigations.

The inspectors selected Emergency Power Systems, which included the plant's emergency diesel generators, to review in detail. The inspectors' review was to determine whether the licensee staff were properly monitoring and evaluating the performance of these systems through effective implementation of station monitoring programs including the licensee's implementation of their Maintenance Rule Program. A 5 year review on the emergency diesel generators and associated systems was undertaken to assess the licensee staff's efforts in monitoring for system degradation due to aging aspects. The inspectors also performed partial system walkdowns of low pressure core spray and emergency closed cooling water. A walkdown of select radioactive waste storage areas was also conducted.

During the reviews, the inspectors determined whether the licensee staff's actions were in compliance with the facility's corrective action program and 10 CFR Part 50, Appendix B requirements. Specifically, the inspectors determined if licensee personnel were identifying plant issues at the proper threshold, entering the plant issues into the station's CAP in a timely manner, and assigning the appropriate prioritization for resolution of the issues. The inspectors also determined whether the licensee staff assigned the appropriate investigation method to ensure the proper determination of root, apparent, and contributing causes. The inspectors also evaluated the timeliness and effectiveness of corrective actions for selected issue reports, completed investigations, and NRC findings, including non-cited violations.

b. Assessment

(1) Effectiveness of Problem Identification

Based on the information reviewed, including initiation rates of CRs and interviews, the inspectors concluded that the threshold for identifying issues and initiating CRs or work orders was appropriate and normally consistent with licensee's procedural requirements. The team did determine that it appeared that deviations from stated standards for equipment were not always identified and documented in the CAP. The inspectors noted that the licensee reviews trends in equipment and human performance on a regular basis. However, trend numbers that address rework are not accurate.

Observations

The licensee stated that about 6000 CRs are written per year with many being of relatively low significance. About 2500 of the 6000 CRs are of sufficient significance to track to completion. From interviews plant personnel knew they were expected to write CRs for safety-related issues and would either write CRs or refer the issue to a supervisor. The team did not observe any issues that would indicate that sensitivity for issues that should be addressed in CRs was inappropriate but noted that the resident inspectors had identified instances where CRs were not written until after questions from the resident inspectors. However, inspectors found that licensee personnel were usually identifying issues and documenting the severity of the issues at the appropriate level.

The team noted that the licensee initiated several condition reports in response to questions posed by the inspectors including one CR that acknowledged that the licensee did not initiate a CR for an NRC identified non-cited violation. For this particular past finding the inspectors did find actions that technically addressed the missed issue because of a similar finding that was investigated. There were also several CRs written for plant conditions identified by the inspectors.

During a walkdown of the low pressure core spray system, the inspectors noted heavy rust on a cooling water supply to the room cooler which had not been noted previously. The rust was identified at a location where a water catch device was previously installed (portions of a tie-wrap and flange clamps remained). The licensee staff had not entered the condition into the CAP. Although the external rust did not represent an operability risk, it did need cleaning and preservation to prevent becoming a future risk. The licensee generated CR 2012-1257, "Emergency Closed Cooling Piping Supplying Water to the LPCS Room Cooler Has Rust on Outside of Pipe," to document this issue.

During a walkdown of a portion of the emergency closed cooling water system, the inspectors identified a leaking sample valve with a bucket positioned below the valve to catch the leaking water. There was no tag to indicate that a CR or work order had been initiated. The licensee found that the valve could be further closed to stop the leaking and initiated CR 2012-1290, "Emergency Closed Cooling Loop "B" Sample Valve 1P42F0528B Found Leaking."

During a walkdown of radwaste storage areas, the inspectors found building and storage conditions that appeared inconsistent with licensee desired equipment standards. The licensee initiated CR 2012-1421, "Building Housekeeping Standards Do Not Appear

to Meet Management Stated Expectations” and CR 2012, “Warf/Risb Radioactive Material Tag Faded.”

CR 2011-5285, “Review of Orders Associated with SUT Showed Documentation and Resolution Issues,” was initiated on November 11, 2011, to document that several of the work-in-progress (WIP) logs used in work orders (WOs) during the Unit 1 startup transformer (SUT) maintenance outage in September 2011 identified system deficiencies, but no documentation was generated to evaluate and correct the noted deficiencies. In response to questions, the licensee also stated that a CR and a maintenance deferral request should have been initiated when relay surveillance work associated with the transformer outage was not completed as scheduled.

The team also observed an apparent problem with identifying the true number of rework items within the total station. Issues with rework identification are addressed in Section 4OA2.1(2), “Effectiveness of Prioritization and Evaluation of Issues.”

Findings

No findings were identified.

(2) Effectiveness of Prioritization and Evaluation of Issues

The team found there was adequate consideration of operability and reportability requirements. The team found that the licensee’s timeliness of initial classification of CRs was appropriate and that guidelines for the level of classification were routinely followed. The team reviewed prioritization of issues as reflected in assigned due dates and concluded there was appropriate consideration of risk in prioritizing and evaluating issues and assignments appeared consistent with procedural requirements. However, the team found several instances of multiple extensions of corrective actions. The team also reviewed the work order process and determined that the process appeared appropriate to support scheduling and correction of identified equipment issues. The number of open CRs and open online work orders appeared reasonable although the team did question the age of some work orders.

Although the team did not identify any other specific issues with prioritization of issues, the team found indications that evaluations could be improved. The indications were developed from the team’s review of CRs and cause evaluations and were reinforced by the fact that actions developed to correct several issues had not prevented recurrence of issues. Issues with corrective actions are addressed in Section 4OA2.1(3), “Effectiveness of Corrective Actions.” The team also found several issues with the licensee’s evaluation of rework issues.

The team reviewed some cause evaluations that were completed prior to licensee’s recent efforts to improve evaluations. The team determined that the more recent cause evaluations appeared to be an improvement from earlier evaluations. However, for the majority of recent evaluations, there has not been sufficient time to determine if the evaluations were sufficient to identify true root causes and from those causes develop corrective actions that will sustain improved performance.

Observations

The team noted that the licensee had several CRs with corrective action extensions. A licensee-provided summary of extensions showed that most extensions were requested with less than 7 days before the due date with many of these requested within 1 day of the due date. In review of CR 2010-85992, "2010 PI&R; NRC Questions Regarding WARF, RISB, OSSC Yard," the inspectors noted that one of the corrective actions, which had an original due date of January 2011, had been extended five times and was completed in January 2012. Another corrective action was extended four times from February 2011 to January 2012. The inspectors did not identify any extensions that significantly affected plant processes or equipment.

During the period of January 1, 2011, to January 6, 2012, approximately 2400 CRs of significance were generated. During this same time period the number of open CRs increased from 413 to 692. The average age of CRs decreased from about 233 days to 155 days. Also during this period the number of concurrent limited and full apparent causes increased from about 93 to about 171. Root cause evaluations also increased from one to eight. Site resources to accomplish the significant increase in evaluations were augmented with offsite licensee resources and contract personnel.

The inspectors reviewed the licensee's on-line equipment work order numbers. The number of items classified as "critical" appeared consistent with industry norms. Although the inspectors did not identify any specific issue of concern, the inspectors questioned the age of the overall backlog. The inspectors noted that there were about 1300 open on-line work order items. About 300 of those were classified as "corrective" with an average age of 700 days; about 1000 were classified as "deficient" with an average age of 280 days. There were a few work orders that were over 5 years old. The inspectors noted that the licensee recently reclassified work orders under a new industry-sponsored classification scheme.

The licensee's rework process was described in procedure NOBP-WM-5014, dated October 31, 2011. The inspectors noted that this procedure contained significant responsibilities that did not appear to be well understood by plant organizations other than the maintenance department. Also, it was not clear which of the items designated as rework by the licensee were truly rework items. For example, in December 2011 a large number of items designated as rework by various plant personnel including the Management Review Board were investigated and determined by the maintenance department's rework coordinator to not be rework. The inspectors noted that other departments were not informed by the maintenance rework coordinator when items originally classified as rework were changed to non-rework.

The inspectors reviewed the licensee's "Maintenance Human Performance Rework" Performance Indicator as it existed in December 2011. The indicator was Red in May and October 2011 and White for the 12 month rolling average in 2011 which indicated an ongoing issue with rework attributable to human performance. Licensee CR 2011-05341 was issued to review past human performance related rework to determine the causes and identify corrective actions.

CR 2011-97327, "Maintenance Rework Program Reporting Deficiency," was issued by the FENOC Internal Oversight group during special assessment PY-PA-11-02 to document missed or incorrect "Rework" (Human Performance Related) and "Other Rework" (Design, Vendor, Parts, Operation, etc.) evaluations which impact the resolution

of issues that affect plant reliability. This CR documented numerous examples where CRs were not correctly categorized as requiring rework evaluation. The CR concluded that rework and other work categories could not be appropriately trended or resolved for impact on equipment reliability. As part of the corrective actions, the licensee revised procedure NOBP-WM-5014 (Station Rework Program) and shared lessons learned with plant personnel. Effectiveness reviews to evaluate the corrective actions were not yet conducted at the close of the inspection.

The inspectors reviewed WO 200458296 and identified that the WO's "Closure/Feedback Sheet" incorrectly identified the failure of Division 2 diesel generator's high volume air regulator as normal wear. This did not match the failure mechanism identified in CR 2011-94137 and 2011-94208 which documented that the regulator was found installed backwards. The licensee initiated CR 2012-01192, "Failure mechanism of WO 200458296 Does Not Match that in CR 2011-94137 and CR 2012-01173," to correct the existing information and station documents. As a result of the inspectors' observations, the licensee planned to conduct training on the rework process.

The inspectors noted that Perry Fleet Oversight Outage Summary Report for 2011 documented that a large amount of rework was performed. The report identified missed or incorrect rework and other rework evaluations that impacted the resolution of issues that affected plant reliability.

By review of CR 07-24775, "Division 1 Diesel Overspeed Trip," in combination with discussions with licensee personnel, the inspectors determined that the 2007 root cause analysis team had not determined the root cause of the event. The inspectors also determined that several of the developed corrective actions were modified after completion of the initial analysis or were closed without completion of corrective actions. Team organization may have contributed to an incorrect root cause determination. The team had only three members and two members had less than 8 months experience. The assigned cause evaluator and the system engineer had a disagreement which was not resolved prior to completing the cause evaluation. Additionally the team was structured to have co-leads. The licensee initiated CR 12-00716, "Division 1 Diesel Generator Overspeed Trip Lessons Learned," to document the inspectors' observations. Other than recent condition reports and recent evaluations not identifying corrective and preventive actions that prevented or minimized recurrence of issues, the inspectors did not identify recent root cause team organization issues similar to those of the 2007 analysis team. The inspectors did not identify any issues with the current operability of the Division 1 Diesel.

Findings

No findings were identified.

(3) Effectiveness of Corrective Actions

The team reviewed the effectiveness of the corrective actions which included reviewing if developed and implemented corrective actions reduced or minimized the recurrence of issues. The team found, in general, that the licensee could develop and implement corrective action and use risk insights in prioritizing corrective actions. However, in addition to licensee-identified ineffective corrective actions associated with recurring substantive cross-cutting issues, the team identified additional condition reports and

issues that indicated problems with consistently implementing effective corrective actions. The team identified that during several of previous refueling outages the licensee experienced similar sump flooding problems. The team also identified that the licensee had a long-standing issue with the use and quality of WIP logs.

Observations

CR 2011-2030, "Inability to Close Human Performance Substantive Cross-Cutting Issue for Eight NRC Assessment Periods," provided a narrative of the problems the licensee had in developing and implementing corrective actions to address a long standing NRC-identified substantive cross-cutting issue. The inspectors' review of the root cause for this CR indicated that the licensee had completed a more thorough analysis of the problem and had developed corrective actions that appeared more comprehensive than those previously developed to address the substantive cross-cutting issue. However, the licensee was still in the process of implementing the corrective actions and their effectiveness was still to be shown.

CR 2012-1516, "CAP Was Performance Rated Marginally Effective for the Third Trimester of 2011", documented the results of a licensee internal assessment of the CAP by the licensee's Internal Oversight organization. The assessment report (PY-PA-12-01) was generally consistent with previous assessment reports by the Internal Oversight organization and specifically mentioned CR 2011-2030 and other CRs that supported the organization's overall conclusion. The inspectors' review of the assessment did not identify any disagreements with the conclusions independently reached by the inspectors. At the conclusion of the inspection, licensee actions were not yet formulated in response to the CR.

The team noted that the licensee had repeated issues with controlling evolutions related to water inventory. In 2005, 2007, 2009, and again in 2011, the licensee inadvertently transferred water from plant systems to undesired locations. All four evolutions resulted in contaminating normally clean areas of the plant. An apparent cause evaluation was performed in 2005 which failed to minimize the rate of occurrence. Another apparent cause evaluation was completed in July 2011 under CR 2011-95107, "Aux Building Flooded During RHR Water Leg Pump Test." The long term corrective actions and effectiveness reviews for that CR were not completed prior to the completion of this inspection.

During review of CR 07-24755, "Division 1 Diesel Overspeed Trip," and an associated work order, number 200277351, "Replace K1 and K2 Relays in Div 1 Diesel Panel," the inspectors noted that the licensee identified issues with inadequate WIP log documentation, which appeared to adversely impact the licensee's root cause evaluation and identification of the issues that caused the diesel overspeed trip. On January 20, 2012, CR 2012-01002, was initiated for lack of documentation in the WIP logs of WOs that were used to tighten loose electrical connections identified during thermography since 2008. From 2007 to the current time frame, more than 17 CRs were generated identifying instances of errors in WO WIP logs including WIP log entries providing technical directions, initiating or stopping work; and not providing sufficient detail for proper machinery history documentation. The team found that the directions for WIP log use were scattered through many sections of NOP-WM-4300, "Order Execute Process." The licensee initiated CR 2012-1284, "Improvement Opportunity for NOP-WM-4300 WIP Log Requirements" to document this issue.

Findings

No findings were identified.

.2 Assessment of the Use of Operating Experience

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the facility's Operating Experience (OE) program. Specifically the inspectors attended program meetings to observe the use of OE information and reviewed implementing operating experience program procedures, completed evaluations of OE issues and events, and select assessments of the OE composite performance indicators. The inspectors' review was to determine whether the licensee was effectively integrating OE experience into the performance of daily activities, whether evaluations of issues were proper and conducted by qualified personnel, whether the licensee's program was sufficient to prevent future occurrences of previous industry events, and whether the licensee effectively used the information in developing departmental assessments and facility audits. The inspectors also assessed if corrective actions, as a result of OE experience, were identified and effectively and timely implemented.

b. Assessment

The operating experience program at Perry was generally implemented effectively with some support issues that, if corrected, might strengthen the overall program.

Observations

The OE program focused Self-Assessment has not been performed at the 3-year frequency as required by OE program documents and FENOC self-assessment strategy. Additionally a number of 2011 OE evaluations assigned to be completed by FENOC fleet personnel were noted to be overdue with no new approved justification for extensions.

The licensee's root cause assessment team that performed the root cause for CR 2011-02030, "Concerns with Inability to Close Human Performance Cross-Cutting Issues for Eight NRC Assessment Periods," conducted a review of industry OE items related to human performance and stated that they identified what they believed to be Perry plant missed opportunities to identify and correct issues related to the ongoing human performance cross-cutting issue. However, the inspectors noted lack of communication in that the root cause team did not share those potential findings with the Perry OE Coordinator who stated disagreement with these OE related findings.

CR-2011-06019 documented that managers do not evaluate the effectiveness of actions related to significant operating experience reports. The licensee implemented corrective actions to address this issue; however, an effectiveness review of the corrective actions was not completed at the conclusion of the inspection.

The inspectors observed good interaction among Operations, Maintenance, and Engineering staff members during attendance at a weekly OE meeting. There was no FENOC Fleet participation during the meeting.

Findings

No findings were identified.

.3 Assessment of Self-Assessments and Audits

a. Inspection Scope

The inspectors assessed the licensee staff's ability to identify and enter issues into the CAP, prioritize and evaluate issues, and implement effective corrective actions through efforts from departmental assessments, independent assessments, and audits.

b. Assessment

The inspectors concluded that self-assessments and audits were typically accurate, thorough, and effective at identifying most issues and enhancement opportunities at an appropriate threshold level. The inspectors concluded that these audits and self-assessments were completed by personnel knowledgeable in the subject area. The inspectors determined that the licensee did not conduct some assessments on a schedule prescribed by their program. Most notable was that the once per 3 year assessment of the Operating Experience program was not accomplished and the assessment of the Self-Assessment Program had not been accomplished for 3 years.

The inspectors also observed that issues identified in self-assessments and audits were captured in the CAP.

Findings

No findings were identified.

.4 Assessment of Safety Conscious Work Environment

a. Inspection Scope

The inspectors assessed the licensee's safety conscious work environment through the reviews of the facility's employee concern program implementing procedures, discussions with the coordinator of the employee concern program, interviews with personnel from various departments, and reviews of issue reports. The inspectors also reviewed the results from a 2010 Independent Safety Culture Assessment, a 2011 Safety Culture Assessment, and a separate 2011 Safety Conscious Work Environment Survey (SCWE).

The inspectors interviewed approximately 23 individuals from various departments to assess their willingness to raise nuclear safety issues. The individuals were selected to provide a distribution across the various departments at the site. The sample was of individuals predominantly at first-line supervision and below first-line supervision. In addition to assessing individuals' willingness to raise nuclear safety issues, the interviews also addressed:

- knowledge and understanding of the CAP;
- effectiveness and efficiency of the CAP;

- willingness to use the CAP; and
- management's support of the CAP.

b. Assessment

The inspectors' reviews and interviews indicated that the licensee had an environment where people will raise nuclear safety related issues. Most people interviewed said that if they have an issue they will write a CR or talk to their supervisor. However the reviewed survey identified that some plant departments have a higher than desired belief that retaliation might occur from raising an issue (questions 14 and 15 of the SCWE survey) and that the CAP (predominantly questions 32, 33, 34 of the SCWE survey) is not effective at resolving issues. These issues and others were identified in the licensee's most recent Safety Culture Assessment dated December 21, 2011. CRs were generated to initiate action to review the issues. From the small sample of interviewed personnel, the inspectors did not identify any specific issue that was at variance with licensee's overall conclusions on the state of their culture or their work environment.

Observations

From the interviews, the inspectors found that two themes seemed to be recurring. The first theme, which was the least predominant of the two themes, was that personnel believed that there was not clear alignment through the organization, from top to bottom, on what needs to be done to improve performance. Expressed by several of the interviewees was that the issue was not at the top or the bottom of the organization but that mis-alignment was caused by intervening layers of the organization. This theme did not seem inconsistent with the results of the licensee's safety culture assessments and the SCWE survey.

The other theme was that a number of the people interviewed believed that many of the issues in the plant were due to not having sufficient resources to accomplish properly all the tasks that were needed. It was expressed that issues with work coordination between and among groups were due to not having sufficient resources to take the time to work out issues with other groups; if time was taken to work with other groups, this time detracted from the normal required group work. Some interviewed personnel mentioned that they believed that some corrective actions were ineffective because there were not sufficient resources to properly design and then implement corrective actions. The inspectors also reviewed some licensee self-assessments that stated or inferred that resources were not adequate for some desired or required tasks.

While the inspectors did not attempt to draw any conclusions on the adequacy of licensee resources to accomplish what is being asked of the plant, the team noted that several of the interviewed personnel, believing that plant performance issues were due to insufficient resources, might refrain from trying other methods to improve performance.

Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On January 27, 2012, the inspectors presented the inspection results to Mr. V. Kaminskas, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

K. Brandt
R. Coad
C. Elberfeld
R. Lach
T. Lentz
A. Mueller, Jr.
R. Swartz
L. Zerr

Nuclear Regulatory Commission

M. Marshfield

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

PLANT PROCEDURES		
<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
FTI-F0036	Post Maintenance Test Manual	9
HPI-K0009	Operation of the WARF, RISB and OSSC Yard	01
NOBP-LP-2001	FENOC Self-Assessment/Benchmarking	18
NOBP-LP-2010	FENOC Trend coding	10
NOBP-LP-2011	FENOC Cause Analysis	13
NOP-ER-3004	FENOC Maintenance Rule Program	1
NOP-LP-2001	Corrective Action Program	29
NOP-OP-1001	Clearance/Tagging Program	17
NOP-WM-1001	Order Planning Process	14
NOP-WM-1003	Nuclear Maintenance Notification Initiation, Screening, and Minor Deficiency Monitoring Processes	05
NOP-WM-4300	Order Execute Process	10
NORM-ER-2001	Preconditioning Structures, Systems, and Components	00
PAP-1125	Monitoring the Effectiveness of the Maintenance Rule Program	9
RPI-1301	Movement of Radioactive Material/Waste Outside of Radiologically Controlled Areas and Onsite Interim Storage	10

CONDITION REPORTS REVIEWED	
<u>Number</u>	<u>Description or Title</u>
2007-24775	Division 1 Diesel Generator Overspeed Trip
2008-32435	Test Report - ABB/NLI Contactor Relay (K1)
2008-34453	Root Cause for CR 07-24775 Recommended to be Reopened
2008-35096	Work Order Lacked Proper Documentation Prior to PMT Performance
2008-36650	PY-C-08-10 Pedestal Lug Installed in Wrong Location
2008-46210	Design Basis Description of the WARF/RISB Facility, NRC Identified

CONDITION REPORTS REVIEWED	
<u>Number</u>	<u>Description or Title</u>
2008-47868	FL-SA-08-108 – Issues Identified During Snapshot on Self Assessment Process
2009-55043	PY-PA-09-01 Order 20026620 for LPRM Work Missing WIP Log Entry for HU Error
2009-56304	PY-PA-09-01 Incomplete WIP Log Entries and Order Updates
2009-63850	2009 Area for Improvement (EN.1-1)
2010-79624	NRC Identified Concern for Pre-Conditioning Valve During Surveillance Testing
2010-84915	NRC Identified Concern Potential Preconditioning of Valves During SVI-E22-T2001
2010-85239	Unexpected Recirculation Flow Control Valve Runback Due to Inadequate Work Plan
2010-85514	2010 PI&R; HPI-K0009 50.59 Rad Potential Inappropriate Use of Admin Exemption
2010-85820	NRC NCV, Unacceptable Preconditioning of RHR A Minimum Flow Valve
2010-85992	PI&R; NRC Questions Regarding WARF, RISB, OSSC Yard
2010-86289	01 NCV Failure to Follow Procedures Results in Unplanned Half Scram
2010-86463	2010 Annual Safety Culture Meeting – Measure 2A.1 Rated Red
2010-86979	2010 DB Safety Culture Annual Assessment - 2A.2
2011-00473	NRC Potential Violation – Discrepant Performance Indicator for April 2011
2011-01479	Effectiveness Review for CR 09-83850 – Delinquent PMs
2011-02306	NRC Radwaste Inspection Identified WARF/RISB/OSSC Yard Design Basis
2011-03446	SN-SA-2011-0116” Critical Component Failure Determinations are Overly Conservative
2011-03733	Interim Effectiveness Review Found Less than Fully Effective Results (in Clearance Program Improvement)
2011-03841	Fuel Oil Spill at the Fire Training Grounds From an Underground Pipe
2011-05285	Review of Order Associated with Startup Transformer Showed Several Documentation Deficiencies and Proper Resolution
2011-05566	Unapproved Commercial Grade Part Received from Vendor
2011-06019	Managers do not Evaluate the Effectiveness of Actions Related to Significant Operating Experience Reports
2011-06031	Maintenance Consistent Use of Procedures and Work Orders as Written
2011-06531	10 CRF Part 21 – Undersized Spring Clips Used as Seismic Restraints on Two RCIC Flow Controllers
2011-06804	Work Completion Unable to be Verified
2011-06919	OE Program Gap for Transmission, Grid, and Switchyard E vents
2011-07358	2011 Annual Safety Culture Assessment Measure 4e.1, Challenging Non-Conservative Decisions, was Rated Red by Employee Concerns

CONDITION REPORTS REVIEWED	
<u>Number</u>	<u>Description or Title</u>
2011-07368	Annual Safety Culture Assessment Measure 7f.1, Worker Confidence in Corrective Action Process, was Rated Yellow
2011-92397	Potential 10 CRF Part 21 for ASCO NH90 Hydromotor Rotor Shaft Assemblies
2011-94137	Suspected Regulator Failure on Division 2 Diesel Generator
2011-94687	Missed Opportunity by Fleet Oversight
2011-95236	Mechanical Maintenance Morale
2011-97327	PY-PA-11-02 Finding Maintenance Rework Program Reporting Deficiency
2012-00764	Order 200414376 Has the Wrong Grease Listed in the Work Steps for the Lubrication of the HPCS Water Leg Pump Motor
2012-01019	Work Order Closure Less Than Adequate
2012-01054	Unable to Isolate Hotwell Pump C for Future Maintenance Window
2012-01144	No Leak Check Performed Following Hotwell Pump C Discharge Valve Internal Work
2012-01309	Unworkable Addendum to Work Package

ROOT CAUSE and APPARENT CAUSES	
<u>Number</u>	<u>Description or Title</u>
2007-24775	Root Cause Analysis Report -- Division 1 Diesel Overspeed Trip
2007-24775 Addendum	Division 1 Diesel Over Speed Trip, CR Number 07-24775 Addendum, addressing CR 08-32435 and 34453, Dated April 14, 2008
2008-32435	Root Cause Analysis Report Addendum -- Division 1 Diesel Overspeed Trip
2008-34453	Root Cause Analysis Report Addendum -- Division 1 Diesel Overspeed Trip
2010-85341	NRC ID – Potential Pre-Conditioning During SVI-E22-T2001
2010-86270	Electrical Maintenance Craft Respirator Quals Drop to Below 50% Minimum
2010-86474	2010 Annual Safety Culture Assessment Rated Attribute 7F.1 as Yellow
2010-87081	Circulation Water Pump B Trip
2011-01352	PY-PA-11-02 Approval of Chemistry Samples and Instrumentation Tasks is Deficient
2011-02030	Concern with Inability to Close Human Performance Substantive Cross-Cutting Issue
2011-88868	Evidence of a Negligent Discharge of a Security Weapon Discovered
2011-94269	Rigging Clamp Failed While Rigging CRD Mechanism from DW 599 to DW 583 AA
2011-94302	Clearance Event Fuse Improperly Installed
2011-95107	Aux Building Flooded During RHR Water Leg Pump Test
2011-96784	Common Cause Evaluation of RFO13 Local Leak Rate Testing Failures
2011-97305	Potential Part 21 Issue on Appendix R Design for Breaker Ammeters

AUDITS, ASSESSMENTS, SELF-ASSESSMENTS, AND EVALUATIONS		
<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
	Periodic Assessment of Maintenance Rule Program Perry Nuclear Power Plant, Cycle 12, May 14, 2007 through May 13, 2009	10/08/2010
2009-55368	QC ID: Division 1 Diesel Generator Deficiencies	03/13/2009
2011-3	System Health Report, System E21 – Low Pressure Core Spray	12/02/2011
2012-00106	PY-PA-11-03: Ineffective Implementation of Prevent Recurrence Corrective Actions from Root Cause CR 10-85080 (Poor Preparation for Divisional Outages) Revealed During Execution of Division 1 Allowed Outage Time (AOT) Outage	01/04/2012
2012-00220	FO-SA-2011-0018 Deficiency Identified – Decisions Made in the Corrective Action Program at Perry Nuclear Power Plant Give Inadequate Consideration to Risk	01/06/2012
2012-00221	FO-SA-2011-0018 Deficiency Identified – Management Support Needed to Adequately Implement the Corrective Action Program Is Less Than Adequate	01/06/2012
2012-00312	Results of Effectiveness Review indicate Mechanical Maintenance Training Was Not Effective in Resolving Issue	01/09/2012
FL-SA-08-104	Review of the FENOC Self-Assessment Process	10/15/2008
FO-SA-11-19	Corrective Action Program PI&R Preparation	12/14/11
FO-SA-2011-0018	Assessment of the Design and Implementation of the Corrective Action Program at the Perry Nuclear Power Plant	10/17/2011
MS-C-11-02-22	Fleet Oversight Audit Report	2/18/through 4/11/2011
PY120102821	Quality Field Observation – Training Observations	1/4/2011
PY120112857	Quality Field Observation – Training Assessment	8/31/2011
PY120222875	Quality Field Observation – Missed and Learning Opportunities	9/16/2011
PY-PA-11-02	Perry Fleet Oversight Trimester 2011	5/11 through 8/31/2011
PY-PA-11-02	Perry Fleet Oversight Outage Summary Report 2011	7/13/2011
PY-PA-11-02	Corrective Action Program	10/05/11
SN-SA-10-372	PNPP Safety Culture Assessment	11/29/10
SN-SA-11-072	ACAD 02-001 Objective 6 – Conduct of Ongoing Program Evaluation Activities	03/25/2011
SN-SA-2012-0045	PNPP Safety Culture Assessment	12/21/11

CONDITION REPORTS GENERATED DURING INSPECTION	
<u>Number</u>	<u>Description or Title</u>
2012-0573	Operating Experience Program Focused Self-Assessments have not been performed in accordance with NOP-LP-2100, Operating Experience, and NOBP-LP-2034, FENOC Self-Assessment Strategy
2012-0582	Overdue Fleet OE Evaluations
2012-0584	Condition Report not yet initiated to document NRC NCV
2012-0587	WIP log issues with root cause CR 2007-24775
2012-0716	CR 07-24775, Division 1 Diesel Generator Overspeed Trip" lessons learned
2012-0987	Question on Fluctuation of Generator Load (1R43R0015A) lacks adequate disposition in Order 200433420 WIP Log
2012-1095	Validity of some dates on condition report printouts is questionable
2012-1173	Station Rework Program Implementation
2012-1174	NRC questioning accuracy of rework list that was provided to them
2012-1192	Failure mechanism of 1R43F0551B as documented in Work Order 200458296 closure / feedback sheet does not match the failure mechanism identified in CR 2011-94137 Investigation Summary
2012-1257	Piping upstream of valve Emergency Closed Cooling Valve 1P42F0537 at a structural hanger has rust on the outside of the ECC piping
2012-1262	Areas for Improvement noted by the NRC during Post Job Brief of LPCS Walkdown Inspection
2012-1266	Potential Step Conflicts in NOP-WM-4300 about Work Additions and Adding Scope
CR 2012-1282	Closed Repair Tag found hanging on wrong component during NRC walkdown in DIV I Diesel Room
2012-1284	Improvement Opportunity for NOP-WM-4300 WIP Log Requirements
2012-1290	Emergency Closed Cooling Loop "B" Sample Valve 1P42F0528B found leaking
2012-1301	Warf/Risb Radioactive Material Tag Faded
2012-1421	Building Housekeeping Standards Do Not Appear to Meet Management Stated Expectations
2012-1424	Inadequate documentation/evaluation for Unit 1 Start-up Transformer relays found out of calibration and subsequently being reinstalled
2012-1427	Interview's Identified Qualified Personnel May Not Be Performing T+4 Walkdowns
2012-1436	Improvement Opportunity for Instructions for Order Closure / Feedback Sheet

MISCELLANEOUS		
<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
	SEPT 2011 Validated Backlog Industry Comparison	09/11
	Monthly Performance Report – Maintenance Backlog	12/11
	Management Alignment and Ownership Meeting Package	1/26/12
	OSSC Inventory	1/19/12
	Perry System Health Report 2011-03 System--R43 - Div 1 and 2 Standby Diesel Generator	12/2/2011
	Perry System Health Report 2011-04 System--R43 - Div 1 and 2 Standby Diesel Generator	1/24/2012
2010-79187	Effectiveness Review – Operations Department Procedure Backlog	
302-0621-00000	Emergency Closed Cooling Procedure Drawing	SS
AP-913	Equipment Reliability Process Description	3
AP-928	Work Management Process Description	3
DCR 600730490	Add K1 Shim Adjustment to Obtain the Correct Gap Setting for the Roller on Mechanical Latch Mechanism.	1/16/2012
NOP-LP-4003-03	10CFR50.59 Evaluation of HPI-K8/K9, RPI-1301, USAR update, Calc 3.2.19, 1&2	01/20/12
NOP-WM-2001-12	On-line Work Week Report Card	1/19/12
PIF 98-264	The Field Breaker Trip Latch Mechanism (part of K1 breaker) for Division 2 Diesel Generator Became Misaligned and Caused a MPFF.	2/12/1998
P-MWM-01	Performance Indicator -- Maintenance Human Performance Rework	12/2012
P-MWM-01	Performance Indicator -- Maintenance Human Performance Rework	12/2012
P-MWM-02	Performance Indicator – Other Rework	12/2012
PYOV-11-00004	Elevation Letter to Site Operations	03/03/11
PYOV-11-00005	Escalation Letter to Perry Operations	05/10/11
PY-REV-08-2653	Repetitive Maintenance – Revision Request Form	10/16/2008
PY-REV-08-2654	Repetitive Maintenance – Revision Request Form	11/14/2008
PY-REV-08-2654	Repetitive Maintenance – Revision Request Form	11/14/2008
QAD-11-80001	Escalation Letter to Fleet Operations Support	05/16/11
System P42 – ECC	System Health Report	3rd Qtr, 2010

OPERATING EXPERIENCE		
<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
	Perry Operating Experience Monthly Repot	7/12/2011
	Perry Operating Experience Monthly Repot	1/5/2012
	OE Reports to Management for 1 st and 2 nd half of 2011.	Undated
	Open Operating Experience Tasks	12/30/2011 and 1/11/2012
G202-PY	Plant Summary Report (Use of OE)	12/1 to 12/31/2011
OE 2011-0033	Design Engineering to Perform a Subject Expert Screen of this OE to Determine if an OE Evaluation is Required.	3/31/2011
OE 2011-0749-3	Recent OE Identified a Potential for Air Intrusion Into CCW System. Other issues have also been identified that impact the performance of CCW systems.	12/16/2011

WORK ORDERS		
<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
200277351	Replace K1 and K2 Relays in Div 1 Diesel Panel 1H55P0055A	8/9/2007
200280708	Verify/Adjust K1 Relay Mech. Latch Gap	1/30/2008
200295688	Div 2 Diesel Generator Governor Speed Adjustment	1/30/2008
200342671	Verify/Adjust Mech. Latch Gap	1/27/2010
200345316	Verify/Adjust Mech. Latch Gap	11/10/2010
2004458296	High Volume Air Regulator 1R43F551B Pegs High and Air Blows out of the Bonnet.	5/6/2011
600555548	Component Engineering Improvement Plan	
600657467	NOP-ER-2302, Preconditioning	
98-013040-000	Replace Obsolete K1 Field Breaker IAW ECP 99-8009	3/10/1999

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Report
FENOC	FirstEnergy Nuclear Operating Company
IMC	Inspection Manual Chapter
NRC	U.S. Nuclear Regulatory Commission
OE	Operating Experience
PARS	Publicly Available Records System
PI	Performance Indicator
PI&R	Problem Identification and Resolution
SCWE	Safety Conscious Work Environment
SDP	Significance Determination Process
WIP	Work in Progress

E. Larson

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Sincerely,

/RA/

John B. Giessner, Chief
Branch 4
Division of Reactor Projects

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Letter to E. Larson from J. Giessner dated March 6, 2012.

SUBJECT: PERRY NUCLEAR PLANT - NRC PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT 05000440/2012007

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