

December 22, 2005

Mr. W. Pearce
Acting Vice President
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
10 Center Road, A290
Perry, OH 44081

SUBJECT: PERRY NUCLEAR POWER PLANT
CONFIRMATORY ACTION LETTER (CAL) FOLLOWUP INSPECTION
PHASE 2 PERFORMANCE IMPROVEMENT INITIATIVE REVIEW
NRC INSPECTION REPORT 05000440/2005014

Dear Mr. Pearce:

The purpose of this letter is to provide you with Inspection Report (IR) 05000440/2005014, detailing the results of our recent review of your Phase 2 Performance Improvement Initiative (PII). You and other members of your staff attended the December 14, 2005, public exit meeting held at the Quail Hollow Resort in Painesville, Ohio, during which the results of this CAL followup inspection activity were presented.

As a result of poor performance, the Nuclear Regulatory Commission (NRC) designated the Perry Nuclear Power Plant as a Multiple/Repetitive Degraded Cornerstone column facility in the NRC's Action Matrix in August 2004.

By letter dated September 30, 2004, FirstEnergy advised the NRC that actions were underway to improve plant performance. To facilitate these performance improvements, FirstEnergy developed the Perry Performance Improvement Initiative (PII). As part of the NRC's IP 95003 supplemental inspection, the team conducted a detailed review of the PII.

As documented in IP 95003 Supplemental Inspection Report 50-440/2005003, in the assessment of the performance improvements planned and implemented through the PII, the NRC determined that the PII had a broad scope and addressed many important performance areas. The IP 95003 inspection team also observed that, although substantially completed, the PII had not resulted in a significant improvement in plant performance in several areas. There were a number of reasons identified as why this occurred, one being that the PII was largely a discovery activity, and as such, many elements of the PII did not directly support improving plant performance. Instead, the problems identified through the PII reviews were entered into the corrective action program and the proper resolution of these problems depended upon the proper implementation of the corrective action program. During the IP 95003 inspection, the NRC identified that in some cases the corrective action program had not been implemented adequately to address the concerns identified during PII reviews. In addition, the team identified that although many PII actions had been completed, some of the more significant assessments, such as in the area of human performance, were still in progress at the end of

the IP 95003 inspection. Overall, based on the factors discussed above, the NRC was unable to draw any definitive conclusions regarding the overall effectiveness of the Perry PII. As a result, further reviews were deemed to be necessary to determine whether the PII was sufficient to address and resolve the specific issues identified.

By letters dated August 8, 2005, and August 17, 2005, you responded to the findings contained in the NRC's IP 95003 supplemental inspection report. As discussed in these letters, the Perry leadership team reviewed the achievements realized by the PII, the NRC IP 95003 inspection report, and the conclusions from various assessments, and developed updates to the PII. The Perry leadership team restructured the PII (Phase 2 PII) into six new initiatives with the overall purpose of implementing lasting actions to improve the overall performance at the Perry Nuclear Power Plant.

During this inspection, the NRC reviewed your Phase 2 PII with the following objectives:

- 1) Determine whether all Phase 1 PII items that were not completed have been properly dispositioned;
- 2) Determine whether the Commitments and Action Items identified in the August 8, 2005, and August 17, 2005, letters adequately address the issues identified during the NRC's IP 95003 supplemental inspection;
- 3) Determine whether the Phase 2 PII performance indicators in the corrective action program and human performance areas are adequate to measure the success of the revised performance initiatives contained in the Phase 2 PII;
- 4) Determine whether the process and procedures for accomplishing, monitoring, and revising the Phase PII are adequate; and
- 5) Determine whether the Perry Phase 2 PII, if implemented as written, is sufficient to address the performance issues at Perry.

Based on the results of this inspection, no findings of significance were identified.

The NRC determined that if implemented as written, your Phase 2 PII was sufficient to adequately address the performance issues at Perry. Notwithstanding this broad conclusion, the NRC identified some instances where issues that were identified in the Perry IP 95003 supplemental inspection report were not clearly translated into the Phase 2 PII. We note, however, that these issues appeared to be addressed either directly or indirectly through your accomplishment of actions within or outside of your Phase 2 PII and therefore did not appear to rise to a substantial level of concern.

However, to confirm our conclusions in this matter, you are requested to respond within 30 days of the date of your receipt of this letter. Your response should describe the specific actions that you plan to take to address the observations identified in this inspection report. In particular, if you intend to or have revised your planned actions as a result of the observations in this report, please describe for us the changes you intend to make and provide a basis for those changes.

Alternatively, if you do not intend to take any additional actions to address an observation in this report, other than those already planned and/or accomplished, please provide us with a discussion of your basis for that decision as well.

The NRC will continue to provide increased oversight of activities at your Perry Nuclear Power Plant, including your actions to improve your Phase 2 PII and its implementation, until you have demonstrated that your corrective actions are lasting and effective. Consistent with Inspection Manual Chapter (IMC) 0305 guidance regarding the oversight of plants in the Multiple/Repetitive Degraded Cornerstone column of the NRC's Action Matrix, the NRC will continue to assess performance at Perry and will consider at each quarterly performance assessment review of the following options: (1) declaring plant performance to be unacceptable in accordance with the guidance in IMC 0305; (2) transferring the facility to the IMC 0350, "Oversight of Operating Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns" process; and (3) taking additional regulatory actions, as appropriate. Until you have demonstrated lasting and effective corrective actions, Perry will remain in the Multiple/Repetitive Degraded Cornerstone column of the NRC's Action Matrix.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document 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/

Mark A. Satorius, Director
Division of Reactor Projects

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

Enclosures: Inspection Report No. 05000440/2005014
w/attachments

1. Supplemental Information
2. Perry Performance Background
3. Perry IP 95003 Inspection Results
4. Summary of Phase 2 PII Initiatives
5. Summary of Phase 1 PII Initiatives
6. List of Key Performance Indicators

See Attached Distribution

See Previous Concurrences

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W. Pearce

-4-

cc w/encls: G. Leidich, President - FENOC
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-440

License No: NPF-58

Report No: 05000440/2005014

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Perry Nuclear Power Plant

Location: 10 Center Road
Perry, Ohio 44081

Dates: November 7-10, 2005; November 14-18, 2005

Inspectors: M. Bielby, Lead Inspector, RIII
M. Franke, Perry Resident Inspector
R. Ruiz, Reactor Engineer

Approved by: E. Duncan, Chief
Branch 6
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000440/2005014; 11/7/2005 - 11/18/2005; Perry Nuclear Power Plant; Confirmatory Action Letter (CAL) Followup Inspection - Phase 2 Performance Improvement Initiative Review

This report covers a 2-week period of supplemental inspection by resident and region-based inspectors that reviewed the Perry Phase 2 Performance Improvement Initiative (PII). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealed Findings

None.

B. Licensee-Identified Violations

None.

REPORT DETAILS

1.0 Development of Perry Phase 2 Performance Improvement Initiative (PII)

By letters dated August 8, 2005, "Response to NRC Inspection Procedure 95003 Supplemental Inspection, Inspection Report 05000440/2005003" (ML052210512), and August 17, 2005, "Corrections for Response to NRC Inspection Procedure (IP) 95003 Supplemental Inspection, Inspection Report 05000440/2005003," (ML052370357) Perry Nuclear Power Plant (PNPP) responded to the inspection results discussed in the NRC's IP 95003 supplemental inspection report. A summary of the performance issues that resulted in the IP 95003 inspection is discussed in Attachment 1, "Perry Performance Background," of this report. A summary of the IP 95003 inspection results is discussed in Attachment 2, "Perry IP 95003 Inspection Results," of this report.

As discussed in these letters, the PNPP leadership team reviewed the achievements realized by the PII, the results of the NRC's IP 95003 supplemental inspection activities, and the conclusions from various additional assessments, and developed updates to the Perry PII. The Perry leadership team restructured the PII (Phase 2 PII) into the following six initiatives that are briefly described in Attachment 3, "Summary of Phase 2 PII Initiatives," of this report:

1. Corrective Action Program Implementation Improvement
2. Excellence in Human Performance
3. Training to Improve Performance
4. Effective Work Management
5. Employee Engagement and Job Satisfaction
6. Operational Focused Organization

The purpose of the Phase 2 PII, as described in the licensee's letters, was to implement lasting actions to improve the overall performance at the Perry Nuclear Power Plant.

In addition to a discussion of the Phase 2 PII, the licensee's August 8 and August 17 letters also included actions planned to address the NRC's findings and observations detailed in the IP 95003 supplemental inspection report. Attachment 2, "Actions to Address Key Issues Identified in the IP 95003 Inspection Report," of these letters focused on the following areas and summarized the actions that FirstEnergy Nuclear Operating Company (FENOC) had taken or planned to take to address those issues:

- Implementation of the Corrective Action Program
- Human Performance
- Performance Improvement Initiative
- IP 95002 Inspection Followup Issues
- Emergency Planning

2.0 Inspection Scope

To assess the overall adequacy of the Perry Phase 2 PII, the scope of this inspection included the following activities:

- 1) Determine whether all Phase 1 PII items that had not been completed had been properly

disposed;

- 2) Determine whether the Commitments and Action Items identified in the August 8, 2005, and August 17, 2005, letters to the NRC adequately addressed the issues identified in the NRC's IP 95003 supplemental inspection;
- 3) Determine whether the licensee's performance indicators in the corrective action program and human performance areas were adequate to measure the success of the revised performance initiatives contained in the Phase 2 PII;
- 4) Determine whether the licensee's process and procedures for accomplishing, monitoring, and revising the Phase 2 PII were adequate; and
- 5) Determine whether the Perry Phase 2 PII, if implemented as written, was sufficient to address the performance issues at Perry.

3.0 Review of Dispositioned Phase 1 Performance Improvement Initiative Items

a. Inspection Scope

The process that governed the Phase 2 PII was described in PYBP-PII-0006, "Performance Improvement Initiative Process." Included in this process was the closure of Phase 1 PII Action Items that remained open when the Phase 2 PII was being developed. Section 4.3, "Dispositioning of PII Phase 1 Action Items," of PYBP-PII-0006 specified a review by PII personnel of all Action Items from the Phase 1 PII (Revision 3 of the Detailed Action and Monitoring plan (DAMP)). Section 4.3 also prescribed that each Action Item be categorized to ensure all items were addressed in the transition to the Phase 2 PII.

The inspectors reviewed Revision 3 to the Phase 1 PII DAMP and determined whether the Action Items that had not been completed had been properly dispositioned in accordance with Section 4.3 of PYBP-PII-0006 during the transition to the Phase 2 PII.

b. Observations and Findings

No findings of significance were identified.

Section 4.3, "Dispositioning of PII Phase 1 Action Items," of PYBP-PII-0006 specified the review by PII personnel of all Action Items from the Phase 1 PII (Revision 3 of the DAMP). Section 4.3 also prescribed that each Action Item be categorized to ensure all items were addressed in the transition to the Phase 2 PII.

Section 4.3 of PYBP-PII-0006 required that all items were placed in one of the following categories and that when placed in a particular category, the actions specified for that category be implemented:

- Closed: This category consisted of Action Items that had been previously categorized as "Complete" under the Phase 1 PII process. No further action was

required in the Phase 2 PII process.

- Pending: This category consisted of Action Items that were previously categorized as "Pending" under the Phase 1 PII process. To disposition these items, a PII team member was required to determine the required level of closure. A "two level" graded approach of item closure was created based upon the significance of the item.
- Transition to Normal Work Process: This category contained Action Items that did not reach a level of significance to warrant tracking within the PII, but rather could be tracked using the normal work process.
- Non-Initiative DAMP Appendix Item: This category contained significant Action Items that warranted a higher priority within the work management program and additional oversight by the licensee's management team.
- New Initiative Item: This category contained significant Action Items from the Phase 1 PII that warranted a high priority and directly aligned with the Phase 2 PII Initiative.

Of the approximately 270 Phase 1 PII Action Items, 90 remained open and were required to be dispositioned per Section 4.3 of PYBP-PII-0006 when Perry began the transition towards Phase 2 PII implementation.

The inspectors reviewed the licensee's database that identified the category of each of the 90 open items and selected a sample of 39 total items for review.

The inspectors determined that all items reviewed were appropriately categorized in accordance with Section 4.3 of PYBP-PII-0006.

No deficiencies were identified.

4.0 Review of Commitments and Action Items to Address IP 95003 Inspection Findings

a. Inspection Scope

By letters dated August 8, 2005, "Response to NRC Inspection Procedure 95003 Supplemental Inspection, Inspection Report 05000440/2005003," and August 17, 2005, "Corrections for Response to NRC Inspection Procedure 95003 Supplemental Inspection, Inspection Report 05000440/2005003," Perry Nuclear Power Plant responded to the findings contained in the NRC's IP 95003 supplemental inspection report.

Attachment 2, "Actions to Address Key Issues Identified in the IP 95003 Inspection Report," to the licensee's August 8 and August 17 letters focused on the following areas and summarized the actions that FENOC had taken or planned to take to address those issues:

- Implementation of the Corrective Action Program
- Human Performance
- Performance Improvement Initiative
- IP 95002 Inspection Followup Issues
- Emergency Planning

Attachment 3, "Summary of Regulatory Commitments," to the licensee's August 8 and August 17 letters identified those actions committed to by FENOC. A total of 13 commitments were included with a schedule that prescribed completion of the final commitment by December 2006.

During this inspection, the inspectors reviewed the Commitments and Action Items specified in the licensee's August 8 and August 17 letters and determined whether these Commitments and Action Items adequately addressed the issues identified in the IP 95003 inspection report.

b. Observations and Findings

No findings of significance were identified. The inspectors had the following observations associated with the following two issues:

Issue 1: The inspectors noted that some issues identified in the Perry IP 95003 inspection report were not specifically addressed by Commitments and/or Action Items in the licensee's August 8 and August 17 response letters. However, upon detailed review, the inspectors identified that although specific actions to address the issues in the IP 95003 inspection report were not addressed in these letters, actions were contained in some form in either the revised PII, the correction action program, or through departmental initiatives independent of a formal program. The following specific examples were identified:

Observation: The licensee's response letters addressed an observation in the IP 95003 inspection report that corrective actions for issues entered into the corrective action program were frequently narrowly focused.

Resolution: The inspectors noted that the action items listed in the response letters did not specifically address the issue of narrowly focused corrective actions. The licensee credited a corrective action associated with CR 05-07223 to address the issue. This corrective action prescribed a 5-day root cause training course. It was unclear to the inspectors or to interviewed licensee personnel how the addition of this root cause class to the licensee's training program addressed the issue of narrowly focused corrective actions. Through interviews, the inspectors determined that the revised PII Human Performance and Corrective Action Program initiatives generally addressed improvement of standards associated with the corrective action process and therefore indirectly addressed the issue.

Observation: The licensee's response letters addressed an observation in the IP 95003 inspection report of a lack of a questioning attitude for off-normal

conditions.

Resolution: The inspectors noted that the action items listed in the response letters did not specifically address a lack of a questioning attitude for off-normal conditions. The licensee identified four condition reports that were associated with events related to the issue. The inspectors noted that these condition reports lacked corrective actions that addressed questioning attitude. Through interviews, the inspectors determined that the revised PII Human Performance and Corrective Action Program initiative actions included training that generally addressed improvement of standards associated with problem identification and therefore indirectly addressed the issue.

Observation: The licensee's response letters addressed an observation in the IP 95003 inspection report that a lack of technical rigor in engineering products resulted in incorrect conclusions, and that a weakness in the communications between engineering and other organizations hindered the resolution of problems.

Resolution: The Phase 2 PII Detailed Action and Monitoring Plan included general action items for training on engineering rigor and conduct; however, the inspectors noted that more substantial action items, including the development of engineering procedures to address the specific issues, were being accomplished outside of the Phase 2 PII and the corrective action program. As such, actions that more substantially addressed IP 95003 issues were not formally tracked by the Phase 2 PII or by the corrective action program. The licensee entered this issue into their corrective action program as CR 05-07675.

Observation: The IP 95003 inspection report identified the following issues related to the use of the corrective action program to address action items in the Phase 1 PII: (1) while PII action items may be considered closed, the corrective actions to address the problems may not have been fully identified or implemented; and (2) in some cases the corrective action program had not been adequately implemented to address the concerns identified during the Phase 1 PII reviews.

Because closed Phase 1 PII action items were not reviewed by licensee staff to determine whether the items had been adequately accomplished and because the IP 95003 inspection identified that some action items were not adequately addressed, the inspectors questioned whether the completed Phase 1 PII action items had been adequately accomplished.

Resolution: In response to the inspectors' concerns, the licensee reviewed a sample of closed Phase 1 PII action items to assess whether there were items that were not captured in the transfer process due to inappropriate Phase 1 closure. The licensee found no issues with the sample of Phase 1 closed items that were reviewed. The NRC planned to conduct independent reviews of closed Phase 1 PII action items and determine

whether those actions had been adequately accomplished during future CAL followup inspection activities.

Issue 2: The inspectors identified that, in some cases, corrective action items for issues were flexible in nature and relied heavily upon particularly high standards or rigor of implementation, which was considered a potential vulnerability. The following specific examples were identified:

Observation: The licensee's response letters addressed an observation in the IP 95003 inspection report that multi-disciplinary assessment teams were not required for root cause evaluations, leading to potential inadequate reviews.

Resolution: The inspectors noted that as part of one of the licensee's completed actions in the response letters, licensee personnel revised procedure NOP-LP-2001, "Corrective Action Program," to address multi-disciplinary root cause teams. The inspectors noted that although NOP-LP-2001, Revision 12, addressed multi-disciplined Corrective Action Review Board membership and Management Review Board membership, this procedure did not address multi-disciplinary root cause evaluation teams. Subsequently, the inspectors determined that the procedure change addressing multi-disciplinary root cause team members had been relocated to business practice NOBP-LP-2011, "FENOC Cause Analysis," Revision 3. NOBP-LP-2011 included a statement to provide multi-disciplined team members as needed. The business practice also stated that members may serve more than one role. As a result, NOBP-LP-2011 provided flexibility that allowed a single-member root cause team. At the end of the inspection, licensee management planned to consider what additional actions, if any, should be implemented to address this issue.

Observation: The licensee's response letters addressed an observation in the IP 95003 inspection report that corrective actions to address identified problems were not always properly prioritized, leading to untimely implementation.

Resolution: An action item established corrective action program performance as a standing agenda item at the senior management team meetings. An additional action item prescribed an improvement in the timeliness of corrective action program actions. Through procedure review and interviews, the inspectors determined that actual corrective action prioritization was left to the discretion of the action owner. The licensee's expectation was that problems should be prioritized by safety significance. The inspectors noted that this expectation, with the lack of additional guidance for implementation, was extremely subjective.

Overall, the inspectors concluded that although some instances were identified where issues that were identified in the Perry IP 95003 supplemental inspection report were not clearly translated into the Phase 2 PII, these issues were not significant, and generally appeared to be addressed either directly or indirectly through the

accomplishment of actions within or outside of the Phase 2 PII process.

5.0 Review of Performance Indicators

a. Inspection Scope

To provide a basis to assess the overall effectiveness of implementation of each of the licensee's performance improvement initiative areas, the licensee planned to select or develop appropriate performance indicators.

The inspectors reviewed the performance indicators that the licensee selected or developed to assess the effectiveness of their implementation of actions to address problems in the corrective action program and human performance areas. The inspectors determined whether these performance indicators provided an adequate measure of the success of the revised performance improvement initiatives in the corrective action program and human performance areas of the Phase 2 PII.

A complete listing of the performance indicators reviewed in these areas is included as Attachment 5, List of Key Performance Indicators (KPIs) and Perry Safe Plant Operations (P-SPO) Performance Indicators," to this report.

b. Observations and Findings

No findings of significance were identified.

For the corrective action program and human performance program performance indicators (PIs) that were reviewed, the scope and thresholds of those indicators appeared to be acceptable.

At the end of the inspection, the corrective action program and human performance program PIs were being revised.

With regard to the corrective action program performance indicators, FENOC made a decision to decrease the number of corrective action program PIs from 17 to 11 and to replace the 6-month rolling average report with a document that reported actual monthly data. The revised PIs were also intended to combine FENOC indicators with facility-specific performance measures. Specific identification of the new PIs and associated thresholds were not available at the end of the inspection. The licensee planned to implement the revised PIs by December 2005.

With regard to the human performance program performance indicators, during the inspection the licensee met with an Institute for Nuclear Power Operations (INPO) working group to develop revised industry human performance program PIs. The licensee identified that the current plant human performance program PIs for site and department clock resets would be retained. However, since these PIs were reactive in nature, the licensee planned to develop additional PIs that incorporated individual and process error rates to be more predictive in nature. For example, the licensee expected predictive performance indicators to be developed in areas such as operator workarounds, rework, and procedure backlogs. The licensee expected to implement

these revised human performance program PIs by January 2006.

As a result, the inspectors were unable to assess whether these revised performance indicators provided an adequate measure of the success of the revised performance improvement initiatives in the corrective action program and human performance areas of the Phase 2 PII. The NRC planned to review the revised PIs during future inspections.

6.0 Review of Processes and Procedures for Accomplishing, Monitoring, and Revising the Phase 2 PII

a. Inspection Scope

The PII process was implemented through the following procedures:

- PYBP-PII-0001, "PNPP Performance Improvement Initiative";
- PYBP-PII-0002, "PII Detailed Action & Monitoring Plan";
- PYBP-PII-0003, "PII Program Review Process";
- PYBP-PII-0004, "Perry Performance Overview Panel Charter";
- PYBP-PII-0005, "Perry Closure and Validation of PII Actions"; and
- PYBP-PII-0006, "Performance Improvement Initiative Process"

Each of the six individual initiatives of the Phase 2 PII was comprised of Action Plans to address identified areas for improvement. The Action Plans were categorized by the respective PII area, and their status was tracked in Perry Business Plan PII procedure PYBP-PII-0002, "Detailed Action & Monitoring Plan." Each Action Plan was comprised of Action Items with corresponding due dates.

The inspectors reviewed the licensee's process and procedures for accomplishing, monitoring, and revising the PII and determined whether these processes and procedures were adequate.

b. Observations and Findings

No findings of significance were identified.

Of particular note, the inspectors determined that the licensee established procedure PYBP-PII-0006, "Performance Improvement Initiative Process," to implement the revised PII. The inspectors viewed this action as an improvement to the overall process since this procedure more formally prescribed the process of accomplishing, monitoring, and revising the PII than what existed during the development and implementation of the Phase 1 PII.

7.0 Assessment of Adequacy of the Perry Phase 2 PII

a. Inspection Scope

The inspectors reviewed each of the licensee's revised individual performance initiatives and determined whether the Perry Phase 2 PII, if implemented as written, was sufficient to resolve and address the performance issues at Perry.

In particular, the inspectors focused on those initiatives associated with the corrective action program and the human performance areas since these areas were specifically identified in the NRC's IP 95003 inspection as areas warranting significant attention and improvement.

A complete discussion of the individual initiatives that comprised the Phase 2 PII is contained in Attachment 3, "Summary of Phase 2 PII Initiatives," of this report.

b. Observations and Findings

No findings of significance were identified.

The inspectors review of the individual performance initiatives in the Perry Phase 2 PII concluded that the licensee's general approach to addressing the identified performance problems appeared to be reasonable.

Based on the conclusion that the dispositioning of open Phase 1 PII items was adequate, the overall scope of the Phase 2 PII was adequate, and the Phase 2 PII process and procedures were adequate, the inspectors concluded that overall, the Phase 2 PII was adequate and that if implemented as written, could be effective in addressing the performance issues at Perry.

8.0 Exit Meeting

On December 14, 2005, the inspectors presented the inspection results to Mr. W. Pearce, Acting Vice President, and other members of his staff, who acknowledged the findings and observations.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

G. Leidich, Chief Nuclear Office, FENOC
D. Pace, Senior Vice President, Fleet Engineering and Services, FENOC
J. Hagan, Chief Operating Officer, FENOC
J. Rinckel, Vice President, Oversight, FENOC
W. Pearce, Acting Vice President, Perry
F. von Ahn, Plant Manager, Perry
F. Cayia, Director, Performance Improvement, Perry
K. Howard, Manager, Design, Perry
J. Lausberg, Manager, Regulatory Compliance, Perry
T. Lentz, Director, Performance Improvement Initiative, Perry
J. Messina, Manager, Operations, Perry
J. Shaw, Director, Engineering, Perry
M. Wayland, Director, Maintenance, Perry

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 team 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.

Performance Improvement Initiative Plans

Perry Nuclear Power Plant Performance Improvement Initiative; Corrective Action Program Implementation Initiative; Revision 2
Perry Nuclear Power Plant Performance Improvement Initiative; Effective Work Management; Revision 1
Perry Nuclear Power Plant Performance Improvement Initiative; Training to Improve Performance; Revision 2
Perry Nuclear Power Plant Performance Improvement Initiative; Excellence in Human Performance; Revision 2
Perry Nuclear Power Plant Performance Improvement Initiative; Employee Engagement and Job Satisfaction; Revision 1
Perry Nuclear Power Plant Performance Improvement Initiative; Operational Focused Organization; Revision 1
Performance Improvement Initiative - Corrective Action Program Implementation Effectiveness, Revision 2, dated September 27, 2005
Performance Improvement Initiative - Excellence in Human Performance, Revision 2, dated September 19, 2005
Performance Improvement Initiative - Training to Improve Performance, Revision 2, dated September 20, 2005
Performance Improvement Initiative - Effective Work Management, Revision 1, dated September 22, 2005
Performance Improvement Initiative - Employee Engagement and Job Satisfaction, Revision 1, dated September 22, 2005
Performance Improvement Initiative - Operational Focused Organization, Revision 1, dated September 16, 2005

Condition Reports (CRs)

CR 05-03986; Corrective Action Implementation Effectiveness; dated May 3, 2005
CR 05-06219; NRC Observations From IP 95003 Inspection Report - Procedure Quality; dated August 23, 2005
CR 05-02517; Human Performance Cross Cutting Issue; dated March 21, 2005
CR 05-07497; Untimely Documentation Package Closure of Phase 1 PII Actions; dated November 8, 2005
CR 05-07535; Incorrect Version of Root Cause Report in CREST; dated November 9, 2005
CR 04-04059; Site Human Performance Barriers May Be Lost During Stressful Times; dated August 5, 2004

CR 05-07675; Develop And Implement A Conduct Of Engineering Document; dated

November 11, 2005
CR 05-07223; CAP PII Action Plan Documentation; dated October 20, 2005

Procedures

PYBP-PII-0001; Performance Improvement Initiative; Revision 3
PYBP-PII-0002; Perry Nuclear Power Plant Performance Improvement Initiative Detailed Action and Monitoring Plan; Revision 4
PYBP-PII-0003; Performance Improvement Initiative Program Review Process; Revision 0
PYBP-PII-0004, Perry Performance Overview Panel Charter, Revision 1, dated September 23, 2005
PYBP-PII-0006; Performance Improvement Initiative Process; Revision 1
NOBP-LP-2008; FENOC Corrective Action Review Board; Revision 4
NOBP-LP-2011; FENOC Cause Analysis; Revision 3
NOBP-LP-2018; Integrated Performance Assessment/Trending; Revision 1
NOP-LP-2001; Corrective Action Program; Revision 12
NOBP-LP-2603; Human Performance Tools and Verification Practices; Revision 0
NOBP-LP-2604; Job Briefs; Revision 0
NOBP-LP-2602; Human Performance Success Clocks; Revision 1
NOBP-LP-2601; Human Performance Program; Revision 0
NOPL-LP-2008; Human Performance; Revision 00
NOP-LP-2601; Procedure Use and Adherence; Revision 0
PYBP-SITE-0042; Corrective Action Closure Board Charter; Revision 3
PYBP-SITE-0045; Initial Screening Committee; Revision 0
PYBP-SITE-0046; Corrective Action Program Implementation Expectations; Revision 2
PYBPP-PII-0006, Form 3; Action Item Transition Form, for the following Phase 1 PII items:
A.2.5, A.2.5.1, A.2.5.2, A.2.5.3, A.2.5.4, A.7, B.1.10, B.1.10.1, B.1.20, B.1.20.1, B.2.2.3,
B.2.2.5, C.2.6, C.3.1.1, C.3.3, C.5.1, C.5.2, C.5.3, D.1.6, D.10.2, D.10.5, D.10.6, D.10.7, D.11.1,
D.2.8, D.4.5, D.6.2, D.6.4, D.9.2, E.1.1, E.1.6, E.1.7, E.3.4, E.4.2, E.4.5, E.4.6, E.8.2, and E.8.3.

Performance Indicators (PIs)

Common FENOC CAP KPIs and Criteria; dated August 29, 2005
FENOC CAP KPI and MPR Report, dated October 2005
Key Performance Indicator Report; dated November 3, 2005

Other Documents

Assessment of Closed Phase 1 PII Packages; dated November 16, 2005
GAP Analysis of NRC Inspection Report 2005003; Update October 2005
Matrix Showing the Disposition of PII Phase 1 Action Items; Created Mid-2005
List of PII Phase 1 Action Items, dated November 8, 2005
FENOC 0024; Training Performance Monitoring Card; Revision 00
FENOC 0023; Operations Performance Monitoring Card; Revision 00
FENOC 0012; Field Observation Card; Revision 02
FENOC Training Enrollment; Corrective Action Program Continuing Training; dated November 8, 2005

FENOC Letter PY-CEI/NRR-2897L; Response to NRC Inspection Procedure 95003

Supplemental Inspection, Inspection Report 05000440/2005003; dated August 8, 2005
FENOC Letter PY-CEI/NRR-2902L; Corrections for Response to NRC Inspection
Procedure 95003 Supplemental Inspection, Inspection Report 05000440/2005003; dated
August 17, 2005

LIST OF ACRONYMS USED

CAL	Confirmatory Action Letter
CAQ	condition adverse to quality
CAP	Corrective Action Program
CARB	Corrective Action Review Board
CFR	<i>Code of Federal Regulations</i>
CR	condition report
DAMP	Detailed Action and Monitoring Plan
ESW	Emergency Service Water
FENOC	FirstEnergy Nuclear Operating Company
HPCS	High Pressure Core Spray
IMC	Inspection Manual Chapter
INPO	Institute for Nuclear Power Operations
IP	Inspection Procedure
IR	Inspection Report
KPI	Key Performance Indicator
LPCS	Low Pressure Core Spray
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PI	Performance Indicator
PII	Performance Improvement Initiative
PNPP	Perry Nuclear Power Plant
P-SPO	Perry Safe Plant Operations
RHR	Residual Heat Removal
SCAQ	significant condition adverse to quality
SDP	Significance Determination Process
SHR	System Health Review
TS	Technical Specification

ATTACHMENT 2 - PERRY PERFORMANCE BACKGROUND

As discussed in the Perry Annual Assessment Letter dated March 4, 2004, plant performance was categorized within the Degraded Cornerstone column of the NRC's Action Matrix based on two White findings in the Mitigating Systems cornerstone. An additional White finding in the Mitigating Systems cornerstone was subsequently identified and documented by letter dated March 12, 2004.

The first finding involved the failure of the high pressure core spray (HPCS) pump to start during routine surveillance testing on October 23, 2002. An apparent violation of Technical Specification (TS) 5.4 for an inadequate breaker maintenance procedure was identified in IR 05000440/2003008. This performance issue was characterized as White in the NRC's final significance determination letter dated March 4, 2003. A supplemental inspection was performed in accordance with IP 95001 for the White finding and significant deficiencies were identified with regard to the licensee's extent of condition evaluation. Inspection Procedure 95001 was re-performed and the results of that inspection were documented in IR 05000440/2003012, which determined that the extent of condition reviews were adequate.

The second finding involved air-binding of the low pressure core spray(LPCS)/residual heat removal (RHR) 'A' waterleg pump on August 14, 2003. A special inspection was performed for this issue and the results were documented in IR 05000440/2003009. An apparent violation of TS 5.4 for an inadequate venting procedure was identified in IR 05000440/2003010. This performance issue was characterized as White in the NRC's final significance determination letter dated March 12, 2004.

The third finding involved the failure of the 'A' Emergency Service Water (ESW) pump, caused by an inadequate maintenance procedure for assembling the pump coupling, which contributed to the failure of the pump on September 1, 2003. An apparent violation of TS 5.4 was documented in IR 05000440/2003006. This performance issue was characterized as White in the NRC's final significance determination letter dated January 28, 2004.

As documented in IP 95002 Supplemental Inspection Report 05000440/2004008, dated August 5, 2004, which reviewed the licensee's actions to address these issues, the NRC concluded that the corrective actions to prevent recurrence of a significant condition adverse to quality (SCAQ) were inadequate. Specifically, the same ESW pump coupling that failed on September 1, 2003, failed again on May 21, 2004. This resulted in the ESW pump White finding remaining open.

As a result, Perry entered the Multiple/Repetitive Degraded Cornerstone column for Mitigating Systems in the Reactor Safety strategic performance area for having two White inputs for five consecutive quarters. Specifically, for the third quarter of 2004, the waterleg pump finding remained open a fourth quarter while the ESW pump finding was carried open into a fifth quarter as a result of the findings of the IP 95002 supplemental inspection.

ATTACHMENT 3 - PERRY IP 95003 INSPECTION RESULTS

As a result of poor performance, the Nuclear Regulatory Commission (NRC) designated the Perry Nuclear Power Plant (PNPP), owned and operated by FirstEnergy Nuclear Operating Company, as a "Multiple/Repetitive Degraded Cornerstone Column" facility in the NRC's Action Matrix¹ in August 2004. Accordingly, a supplemental inspection was performed in accordance with the guidance in NRC Inspection Manual Chapter (IMC) 0305 and Inspection Procedure (IP) 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input."

In addition, the scope of the IP 95003 inspection included the review of licensee actions to address deficiencies identified during a previous IP 95002 inspection. In particular, the NRC reviewed the licensee's root cause and corrective actions to address the areas of procedure adequacy, procedure adherence, and training deficiencies identified in the previous IP 95002 inspection; as well as the problem identification, root cause review, and corrective actions to address repetitive emergency service water (ESW) pump coupling failures.

By letter dated September 30, 2004, FirstEnergy advised the NRC that actions were underway to improve plant performance. To facilitate these performance improvements, FirstEnergy developed the Perry Performance Improvement Initiative (PII). As part of the NRC's IP 95003 inspection, the team conducted a detailed review of the PII.

As documented in IP 95003 Supplemental Inspection Report 50-440/2005003, the NRC determined Perry was being operated safely. The NRC also determined that the programs and processes to identify, evaluate, and correct problems, as well as other programs and processes in the Reactor Safety strategic performance area were adequate. Notwithstanding these overall conclusions, the NRC determined that the performance deficiencies that occurred prior to and during the inspection were often the result of inadequate implementation of the corrective action program (CAP) and human performance errors.

The team identified that a number of factors contributed to CAP problems. A lack of rigor in the evaluation of problems was a major contributor to the ineffective corrective actions. For example, in the engineering area, when problems were identified, a lack of technical rigor in the evaluation of those problems at times resulted in an incorrect conclusion, which in turn affected the ability to establish appropriate corrective actions. The team also determined that corrective actions often were narrowly focused. In many cases a single barrier was established to prevent a problem from recurring. However, other barriers were also available that, if identified and implemented, would have provided a defense-in-depth against the recurrence of problems. The team also identified that problems were not always appropriately prioritized, which led to the untimely implementation of corrective actions. A number of programmatic issues were identified that have resulted in the observed CAP weaknesses. For example, the team identified a relatively high threshold for classifying deficiencies for root cause analysis. As a result, few issues were reviewed in detail. In addition, for the problems that were identified that required a root cause evaluation, the team found that the qualification requirements for root cause evaluators were limited and multi-disciplinary assessment teams were not required. The

¹The NRC's Action Matrix is described in Inspection Manual Chapter 0305, "Operating Reactor Assessment Program."

team also identified that a lack of independence of evaluators existed. This resulted in the same individuals repeatedly reviewing the same issues without independent and separate review. In addition, the team identified weaknesses in the trending of problems, which has hindered the ability to correct problems at an early stage before they become more significant issues. Finally, the team determined that a lack of adequate effectiveness reviews was a barrier to the identification of problems with corrective actions that had been implemented. Overall, the NRC concluded that while some limited improvements may have been realized, there had been no substantial improvement in the licensee's implementation of the corrective action program since Perry entered the Multiple/Repetitive Degraded Cornerstone column of the NRC's Action Matrix.

In the area of human performance, the team determined that a number of self-revealed findings relating to procedure adherence occurred that had a strong human performance contribution. These findings emanated from events that have resulted in an unplanned engineered safety feature actuation, a loss of shutdown cooling, an unplanned partial drain down of the suppression pool, inadvertent operation of a control rod (a reactivity event), and other configuration control errors. The team reviewed the events that occurred during the inspection and identified that the procedure adherence problems had a number of common characteristics. In a number of cases, personnel failed to properly focus on the task at hand. Although pre-job briefings were held prior to many events, and procedures were adequate to accomplish the intended activity, personnel failed to sufficiently focus on the individual procedure step being accomplished and performed an action outside of that prescribed by the procedure. In some cases, the team determined that a lack of a questioning attitude contributed to the procedure problems that occurred. Although information was available to personnel that, if fully considered, could have prevented the procedure adherence issues that occurred, that information was not sought out or was not questioned. The presence of supervisors with the necessary standards to foster good procedure adherence could have acted as a significant barrier to prevent some of the problems that occurred. However, adequate supervisory oversight was not always available or used. Further, the team identified that available tools for assessing human and organizational performance had not been effectively used. Overall, the NRC concluded that while some limited improvements may have been realized, there had been no substantial improvement in human performance since Perry entered the Multiple/Repetitive Degraded Cornerstone column of the NRC's Action Matrix.

In the area of design, the IP 95003 inspection team concluded that the systems, as designed, built, and modified, were operable and that the design and licensing basis of the systems were sufficiently understood. Notwithstanding the overall acceptability of performance in the engineering area, the team identified common characteristics in a number of problems identified during the inspection. These characteristics included a lack of technical rigor in engineering products that resulted in an incorrect conclusion. Also, there appeared to be a lack of questioning by the licensee staff of some off-normal conditions. Finally, weaknesses in the communications between engineering and other organizations such as operations and maintenance sometimes hindered the resolution of problems.

In the area of procedure adequacy, the team determined that the licensee's procedures to safely control the design, maintenance, and operation of the plant were adequate, but warranted continued management focus and resource support. In particular, process-related vulnerabilities in areas such as periodic plant procedure reviews, procedure revisions, and use classifications were identified by the team.

In the area of equipment performance, the team acknowledged that the licensee had completed numerous recent plant modifications to improve equipment performance. In addition, improved engineering support and management oversight of equipment performance were noted. Notwithstanding the above, the team identified numerous examples that indicated that the resolution of degraded equipment problems and implementation of the CAP continued to be a challenge to the organization.

In the area of configuration control, the team identified numerous examples that indicated the resolution of configuration control issues and implementation of the CAP continued to be a challenge to the organization. The team agreed with the licensee's assessment that continuing configuration control problems were primarily the result of inappropriate implementation of procedural requirements rather than the result of configuration management procedural shortcomings. However, given the on-going errors associated with equipment alignment, as well as multiple errors associated with maintenance configuration control such as scaffolding erection, the team concluded that adequate evaluations of the root causes of configuration control errors had not been performed. The team also concluded that the licensee lacked rigor in its efforts to resolve latent configuration control issues. Several licensee-identified issues have not been corrected, and contributed to configuration control shortcomings.

In addition, in the area of emergency preparedness, the team determined that there were some performance deficiencies associated with the licensee's implementation of the Emergency Plan. A number of findings were identified in which changes to the Emergency Plan or Emergency Action Levels were made without required prior NRC approval. In addition, the results of the augmentation drill where personnel were called to report to the facility for a simulated emergency were unsatisfactory.

With regard to the NRC's review of issues associated with the previous IP 95002 inspection, the NRC determined that actions to address procedure adequacy and ESW pump failures was still in progress at the end of the IP 95003 inspection. In particular, the team identified that one of the licensee's corrective actions to address the verification of the quality of ESW pump work was inadequate. In addition, in light of the continuing problems in human performance and the impact on procedure adherence, the team concluded that actions to address procedure adherence had not been fully effective. Finally, actions to address training were also still in progress at the end of the inspection. In this case, the licensee's corrective actions to address this issue had not been timely and at the conclusion of the IP 95003 inspection, had not yet been implemented. As a result, the NRC concluded that the open White findings associated with the IP 95002 inspection would continue to remain open pending additional licensee actions and the NRC's review of those actions.

In the assessment of the licensee's performance improvements planned and implemented through the Perry PII, the team determined that the Perry PII had a broad scope and addressed many important performance areas. The IP 95003 inspection team also observed that, although substantially completed, the PII had not resulted in significant improvement in plant performance in several areas. There were a number of reasons identified as why this occurred, one being that the PII was largely a discovery activity, and as such, many elements of the PII did not directly support improving plant performance. Instead, the problems identified through the PII reviews were entered into the CAP and the proper resolution of these problems depended upon the proper implementation of the CAP. During the IP 95003 inspection, the NRC identified that in some cases the CAP had not been implemented adequately to address

the concerns identified during PII reviews. The team identified that although many PII actions have been completed, some of the more significant assessments, such as in the area of human performance, were still in progress at the end of the inspection.

Overall, based on the factors discussed above, the NRC was unable to draw any definitive conclusions regarding the overall effectiveness of the Perry PII. As a result, further reviews were deemed to be necessary to determine whether the PII was sufficient to address and resolve the specific issues identified.

ATTACHMENT 4 - SUMMARY OF PHASE 2 PII INITIATIVES

To correct the identified declining trends in performance at Perry, the Perry Phase 2 PII was structured around the following six key improvement initiatives:

Corrective Action Program Implementation Improvement

As described in the Phase 2 PII, the Corrective Action Program Implementation Improvement initiative was designed to drive ownership and accountability for the corrective action program (CAP) deep into the PNPP organization. The initiative was aimed at driving behavior changes to increase ownership and accountability of the corrective action program to solve plant issues. Key objectives of this initiative included improvement in the following areas:

- ownership and station focus,
- management and oversight of the corrective action program,
- prioritization of issues and resolution activities,
- trending capability,
- backlog management,
- quality of corrective actions and documentation,
- individual accountability, and
- corrective action work assignment and resource utilization.

Excellence in Human Performance

As described in the Phase 2 PII, the Excellence in Human Performance initiative was designed to clarify standards and expectations for human performance; establish line ownership, alignment, and integration of the Institute for Nuclear Power Operation (INPO) Performance Model; and strengthen line accountability for human performance. Key objectives of this initiative included improvement in the following areas:

- performance expectations,
- line ownership, alignment, and integration, and
- line accountability of results.

Training to Improve Performance

As described in the Phase 2 PII, the Training to Improve Performance initiative was targeted at improving both PNPP Skills Training and Operator Training Programs to improve plant and personnel performance. Key objectives of this initiative included the following:

- establish training as a dominant tool to improve station performance, and
- develop a comprehensive plan to help line and training managers return the performance of Perry's training programs to a level consistent with current industry standards.

Effective Work Management

As described in the Phase 2 PII, the Effective Work Management initiative was designed to provide a site-wide systematic and focused effort to drive improvements in work management.

The initiative was intended to implement improvements in the selection, preparation, and execution of work to achieve excellence in work management. Key objectives of this initiative included the following:

- a long range plan for equipment performance,
- contingency planning guidance and execution,
- strong use of operating experience in work packages,
- improvement in outage preparation and execution, and
- control of contract workers.

Employee Engagement and Job Satisfaction

As described in the Phase 2 PII, the Employee Engagement and Job Satisfaction Initiative was designed to increase employee contribution to PNPP success by creating an environment in which all employees can make a meaningful contribution and feel pride and a sense of accomplishment in their work. Key objectives of this initiative included the following:

- employee involvement in Phase 2 PII activities,
- leadership behaviors and performance management,
- leadership assessment and development, and
- use of overtime.

Operational Focused Organization

As described in the Phase 2 PII, the Operational Focused Organization initiative was designed to improve the operational focus of the PNPP organization to achieve a higher order of safe and reliable operation. Key objectives of this initiative included the following:

- fundamental skills and behaviors required for safe and reliable operation,
- operations-led organization,
- alignment of goals and priorities,
- strong craft ownership and engineering presence, and
- operations resources replenishment planning.

ATTACHMENT 5 - SUMMARY OF PHASE 1 PII INITIATIVES

By letter dated September 30, 2004, FirstEnergy advised the NRC that prior to receiving the NRC's August 12, 2004, Assessment Followup Letter in which the PNPP was identified to have transitioned into the Multiple/Repetitive Degraded Cornerstone column of the NRC's Action Matrix, actions were underway to improve plant performance. To facilitate these performance improvements, FirstEnergy developed the Perry PII. This improvement initiative was formed using insights from NRC Inspection Procedure 95003, lessons learned from the Davis-Besse Nuclear Power Station, and lessons learned from other stations that were placed under the IP 95003 inspection process. As detailed in the licensee's September 30, 2004, letter, to correct the identified declining trends in performance at Perry, the PII was structured around the following six key improvement initiatives:

Equipment Performance and Configuration

As described in the Phase 1 PII, the Equipment Performance and Configuration Initiative Plan provided for reviews of system health to enhance safe and reliable plant operation. The initiative also included improvement actions relative to fuel reliability and critical calculations. Two levels of system reviews were identified. The first level of review provided for a System Health Review (SHR) on selected Maintenance Rule and TS systems. In addition, a number of Latent Issue Reviews were planned.

Program/Procedure Review

As described in the Phase 1 PII, the Program/Procedure Review Initiative provided for a review of selected plant programs to ensure that the programs were fulfilling required commitments and continued to support safe operation at the PNPP. The list of programs assessed was developed through a review of significant CRs, NRC inspection reports, Institute for Nuclear Power Operation (INPO) evaluations, QA assessments, Company Nuclear Review Board reports, other self-assessments, key attributes from IP 95003, and the list of programs selected as part of the Davis-Besse Restart Plan.

Containment and Safety Systems

As described in the Phase 1 PII, the Containment and Safety System Initiative was designed to improve the material condition of the containment and strengthen the systems to mitigate events. The plan also initiated assessments and monitoring strategies to strengthen the organizational focus on equipment reliability.

CAP Implementation Improvement Initiative

As described in the Phase 1 PII, the CAP Implementation Improvement Initiative was designed to improve the overall health of CAP implementation. This was intended to be accomplished through interim actions to affect immediate improvement and longer term actions designed to ensure sustained improvement for all critical attributes of the CAP. Initially, the primary focus of the improvement initiative was in three areas; skill improvement of investigators, improved monitoring and oversight of CAP health, and improvement in the effectiveness of corrective

action implementation (both timeliness and taking effective action to resolve the issue). A Corrective Action Board was formed using industry expertise to oversee the completion of improvement actions as well as to continuously assess CAP implementation.

Organizational Effectiveness Improvement

The Organizational Effectiveness Improvement Initiative was developed to initiate a substantive and demonstrative change in the organizational effectiveness at Perry.

Validations of Root Cause Actions and Effectiveness Review of Root Cause Corrective Actions

The Validation of Root Cause Actions and Effectiveness Review and Root Cause Corrective Actions Initiative was designed to ensure that actions identified and implemented to resolve root cause events were effective.

ATTACHMENT 6 - LIST OF KEY PERFORMANCE INDICATORS (KPIs) and PERRY SAFE
PLANT OPERATIONS (P-SPO) PERFORMANCE INDICATORS

- KPI 1 - Conditions Adverse to Quality (CAQ) Condition Reports (CRs) Initiated Per Month
- KPI 2 - Percent Root Cause Evaluations Completed On Time
- KPI 3 - Percent Root Cause Evaluations Approved By Corrective Action Review Board (CARB)
- KPI 4 - Open CR Work Off Rates
- KPI 5 - Percent Apparent Cause Investigations Completed On Time
- KPI 6 - Percent Apparent Cause Investigations Approved By Corrective Action Review Board (CARB)
- KPI 7 - Percent Preventive Actions Completed On Time
- KPI 8 - Percent Remedial Actions Completed On Time
- KPI 9 - Open Corrective Action Work Off Rates
- KPI 10 - Percent Repeat Root Cause Events
- KPI 11 - Percent Timeliness: Total Open CRs Versus Total of All CR Initiated in Past 12 Months
- KPI 12 - Percent CRs Self-Identified by an Individual or Supervision, Not An Oversight Group
- KPI 13 - Percent Corrective Actions Rejected
- KPI 14 - Percent CR Evaluations Rejected
- KPI 15 - Median Age of CRs
- KPI 16 - Percent of Effectiveness Reviews That Concluded Ineffective Prevent Recurrence Actions
- KPI 17 - Percent Fix Condition Reports Completed On Time
- P-SPO-5 - Corrective Action Program
- P-SPO-3 - Human Performance Success Days
- P-SPO-4 - Section Clock Reset