

February 9, 2005

Mr. R. Anderson  
Site Vice President  
FirstEnergy Nuclear Operating Company  
Perry Nuclear Power Plant  
P. O. Box 97, A290  
10 Center Road  
Perry, OH 44081

SUBJECT: PERRY NUCLEAR POWER PLANT  
NRC INTEGRATED INSPECTION REPORT 05000440/2004015

Dear Mr. Anderson:

On December 31, 2004, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Perry Nuclear Power Plant. The enclosed report documents the inspection findings which were discussed on January 7, 2005, with you and other members of your staff.

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 results of this inspection, two NRC-identified findings and two self-revealed findings of very low safety significance, three of which involved violations of NRC requirements, were identified. However, because of their very low safety significance and because they have been entered into your corrective action program, the NRC is treating these findings as non-cited violations in accordance with Section VI.A.1 of the NRC's Enforcement Policy.

In addition to the routine NRC inspection and assessment activities, Perry performance is being evaluated quarterly as described in the Assessment Follow-up Letter - Perry Nuclear Power Plant, dated August 12, 2004. Consistent with Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," plants in the multiple/repetitive degraded cornerstone column of the Action Matrix are given consideration at each quarterly performance assessment review for (1) declaring plant performance to be unacceptable in accordance with the guidance in IMC 0305; (2) transferring to the IMC 0350, "Oversight of Operating Reactor Facilities in a Shutdown Condition with Performance Problems," process; and (3) taking additional regulatory actions, as appropriate. On December 14, 2004, the NRC reviewed Perry operational performance, inspection findings, and performance indicators during the 3<sup>rd</sup> quarter of 2004. Based on this review, we concluded that Perry is operating safely. We determined that no additional regulatory actions, beyond the already increased inspection activities and management oversight, are currently warranted.

If you contest the subject or severity of these non-cited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Perry Nuclear Power Plant.

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/**

Steven A. Reynolds  
Deputy Director  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000440/2004015  
w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-440

License No: NPF-58

Report No: 05000440/2004015

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Perry Nuclear Power Plant, Unit 1

Location: P.O. Box 97 A210  
Perry, OH 44081

Dates: October 1 though December 31, 2004

Inspectors: R. Powell, Senior Resident Inspector  
J. Ellegood, Resident Inspector  
J. Rutkowski, Resident Inspector, Davis-Besse  
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N. Valos, Reactor Engineer  
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Approved by: C. Lipa, Chief  
Branch 4  
Division of Reactor Projects

## SUMMARY OF FINDINGS

IR 05000440/2004015; 10/01/2004 - 12/31/2004; Perry Nuclear Power Plant; Fire Protection; Maintenance Risk Assessments and Emergent Work Control; Post-Maintenance Testing

This report covers a 3-month period of baseline inspection. The inspection was conducted by resident and regional inspectors. Four Green issues were identified, three of which involved non-cited violations (NCVs). 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 3, dated July 2000.

### A. Inspector-Identified and Self-Revealed Findings

#### **Cornerstone: Barrier Integrity**

- Green. A finding of very low safety significance was self-revealed on October 25, 2004, for a violation of Technical Specification 5.4, "Procedures." On October 25, after operations initiated the clearance (tagout) for the maintenance activities, maintenance personnel noticed that the linear converter shaft for the damper was pressing down into the scaffold that was built directly underneath the component. On October 18 the licensee installed a scaffold underneath the annulus exhaust gas treatment system (AEGTS) exhaust damper 'B' which interfered with the movement of the component's linear converter shaft and prohibited the full opening of the damper. The AEGTS 'B' train was thus rendered inoperable due to the interference of the scaffold onto the damper. Once identified, the licensee declared the system inoperable, took prompt action to reposition the scaffold, and performed testing of the damper to assess potential damage. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was more than minor because it was associated with the reactor safety cornerstone attribute of barrier performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was of very low safety significance because, per Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the finding only represented a degradation of the radiological barrier function of the AEGTS. (Section 1R19)

- Green. A finding of very low safety significance was self-revealed on November 17 for a violation of Technical Specification 5.4 "Procedures." Specifically, contrary to the requirements of NOP-WM-9001 "FIN/Toolpouch Maintenance Process" the Fix-It-Now process was used to adjust the packing on the demineralized water system containment isolation valve P22-F0010. As a consequence, the licensee used an incorrect procedure to adjust the packing, failed to perform post-maintenance testing on the valve and failed to stroke the valve to consolidate the packing. Once identified, the licensee

took prompt action to perform valve maintenance and subsequent testing for satisfactory valve performance. The primary cause was related to the cross-cutting area of Human Performance.

The finding was more than minor because it could reasonably be a precursor to a more significant event. Specifically, key steps to ensure proper valve operation were omitted from the work process. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors reviewed the finding against the Phase 1 Screening Worksheet Containment Barriers Cornerstone. The inspectors determined the finding did not involve an actual open pathway in the physical integrity of the reactor containment and therefore concluded that the finding was of very low safety significance. (Section 1R19)

### **Cornerstone: Mitigating Systems**

- Green. The inspectors identified a finding of very low safety significance for the failure of the licensee to promptly identify a degraded fire barrier between the Division 1 emergency diesel generator (EDG) room and the EDG building corridor. The finding was not considered a violation of regulatory requirements. The inspectors identified a fire door that was not latched and therefore was not fully capable of providing its required function of preventing fire spread and maintaining CO<sub>2</sub> suppression within the confines of the Division 1 EDG room. Once identified, the licensee immediately established a watch on the door and completed repairs later that day. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

This finding was more than minor because it was associated with fire protection equipment performance and degraded the ability to meet the cornerstone objective. This issue had very low safety significance because risk-significant equipment in the exposed area had at least 20 minutes of protection due to passive barriers. (Section 1R05)

- Green. A finding of very low safety significance was identified by the inspectors on December 3 for a violation of 10 CFR 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components." Specifically, on October 25, while attempting to locate a relief valve which had failed as-found set pressure testing, the licensee determined that a nonconforming relief valve had been reinstalled in the Division 2 emergency diesel generator lube oil system during the divisional outage earlier that month. Once the improper installation was identified, the licensee initiated both an operability determination and a work package to replace the relief valve. The valve was replaced on October 26. While reviewing the licensee's apparent cause of the reinstallation, the inspectors identified that the licensee failed to identify or address noncompliance with quality control requirements as specified in Nuclear Repair Manual NRM, Section 15, "Nonconforming Material or Items," Rev. 4. The primary cause of this finding was related to the cross-cutting area of Human Performance.

This finding was more than minor because it could reasonably be a precursor to a more significant event. This issue had very low safety significance because it did not involve a loss of safety function. (Section 1R13)

**B. Licensee-Identified Violations**

One violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation is listed in Section 4OA7 of this report.

## Report Details

### Summary of Plant Status

The plant began the inspection period at 100 percent power and remained so until 3 p.m. on October 2 when the plant commenced a Technical Specification (TS) 3.0.3 required shutdown due to failed surveillance testing of the control room emergency recirculation system. The unit downpowered to 40 percent prior to licensee troubleshooting activities establishing that the cause of the surveillance failure was a failed time delay relay in the control room radiation monitoring system. The licensee exited TS 3.0.3 and commenced increasing power. The unit returned to 100 percent power on October 4 and remained there except for minor downpowers for weekly control rod surveillance testing until November 14 when the licensee reduced power to 70 percent for a control rod sequence exchange. The unit returned to 100 percent power on the same day. On December 18 the plant reduced power to 70 percent to perform a control rod line change. The plant returned to 100 percent power the same day. At 11:45 p.m. on December 23 both reactor recirculation pumps downshifted to slow speed rapidly reducing reactor power. With power at approximately 45 percent, at 11:54 p.m. the plant's oscillating power range monitors (OPRMs) initiated a reactor scram. Following troubleshooting and repair activities on December 26, the plant entered Mode 2 at 6:00 a.m., the reactor was declared critical at 8:55 a.m., the plant entered Mode 1 at 7:38 p.m., and the plant synchronized to the grid at 11:16 p.m. The licensee conducted a number of power maneuvers to support control rod pattern adjustments throughout the remainder of the inspection period and ended the period at 65 percent power.

#### 1. REACTOR SAFETY

##### **Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity and Emergency Preparedness**

1REP Equipment Availability and Functional Capability (71111.EP)

.1 Operability Evaluations

a. Inspection Scope

The inspectors selected condition reports (CRs) related to potential operability issues for risk-significant components and systems. These CRs were evaluated to determine whether the operability of the components and systems was justified. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and Updated Safety Analysis Report (USAR) to the licensee's evaluations, to verify that the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors verified that the measures were in place, would work as intended, and were properly controlled. Additionally, the inspectors verified, where appropriate, compliance with bounding limitations associated with the evaluations. The inspectors reviewed the following three issues (samples):

- an operability evaluation on a turbine stop valve relay that exceeded its equipment qualification life completed on November 2;
- operability concerns associated with the material specification for the blank flange installed as a pressure boundary for the common emergency service water (ESW) strainer blowdown line which was identified by the licensee's nuclear oversight organization on December 6; and
- an immediate investigation associated with reactor water cleanup (RWCU) containment isolation valves on December 17.

b. Findings

No findings of significance were identified.

.2 Operator Workarounds (OWAs)

a. Inspection Scope

During the week of October 25 the inspectors evaluated the overall effectiveness of the licensee OWA program. The inspectors reviewed the licensee's CRs in order to determine if issues identified in these documents were also reviewed as part of and captured in the licensee's OWA program. Additionally, the inspectors evaluated the interaction between the OWAs to determine if cumulative effects existed. The inspectors reviewed the licensee's plans to eliminate the need for the identified OWAs. Finally, the inspectors accompanied non-licensed operators during the performance of their rounds. The inspectors observed all log readings and equipment manipulations made by the operators. The inspectors discussed the effect of active OWAs and other equipment deficiencies with the operators. This constituted one sample.

b. Findings

No findings of significance were identified.

.3 Maintenance Effectiveness

Periodic Evaluation

a. Inspection Scope

The inspectors examined the periodic evaluation report completed for the time period of March 21, 2001, through May 31, 2003. To evaluate the effectiveness of 10 CFR 50.65 (a)(1) and 10 CFR 50.65 (a)(2) activities, the inspectors examined a number of Perry 10 CFR 50.65 (a)(1) Action Plans, Functional Failure Evaluations, and CRs. These same documents were reviewed to verify that the threshold for identification of problems was at an appropriate level and the associated corrective actions were appropriate. Also, the maintenance rule program documents were reviewed. The inspectors focused the inspection on the following four systems (samples):

- Reactor Core Isolation Cooling (RCIC);
- Diesel Generator (DG);
- Residual Heat Removal (RHR); and
- High Pressure Core Spray (HPCS).

The inspectors verified that the periodic evaluation was completed within the time restraints defined in 10 CFR 50.65 (once per refueling cycle, not to exceed 2 years). The inspectors also ensured that the licensee reviewed its goals, monitored structures, systems, and components (SSCs) performance, reviewed industry operating experience, and made appropriate adjustments to the maintenance rule program as a result of the above activities.

The inspectors verified that the licensee balanced reliability and unavailability during the previous refueling cycle, including a review of safety significant SSCs.

The inspector verified that 10 CFR 50.65 (a)(1) goals were met, that corrective action was appropriate to correct the defective condition, including the use of industry operating experience, and that 10 CFR 50.65 (a)(1) activities and related goals were adjusted as needed.

The inspector verified that the licensee has established 10 CFR 50.65 (a)(2) performance criteria, examined any SSCs that failed to meet their performance criteria, and reviewed any SSCs that had suffered repeated maintenance preventable functional failures including a verification that failed SSCs were considered for 10 CFR 50.65 (a)(1).

In addition, the inspectors reviewed maintenance rule self-assessments that addressed the maintenance rule program implementation.

b. Findings

No findings of significance were identified.

Quarterly Resident Inspection

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the maintenance rule requirements to verify that component and equipment failures were identified and scoped within the maintenance rule and that select SSCs were properly categorized and classified as (a)(1) or (a)(2) in accordance with 10 CFR 50.65. The inspectors reviewed station logs, maintenance work orders, selected surveillance test procedures, and a sample of CRs to verify that the licensee was identifying issues related to the maintenance rule at an appropriate threshold and that corrective actions were appropriate. Additionally, the inspectors reviewed the licensee's performance criteria to verify that the criteria adequately monitored equipment performance and to verify that licensee changes to performance criteria were reflected in the licensee's probabilistic risk assessment. During this inspection period, the inspectors reviewed the following three system, structures, and components (samples):

- RWCU system;
- nuclear instrumentation; and
- rod control and information system.

The problem identification and resolution CRs reviewed are listed in the attached List of Documents Reviewed.

b. Findings

No findings of significance were identified.

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

During late October and early November the inspectors conducted plant walkdowns and document reviews to verify that systems and structures were adequately protected against impending cold weather. The inspectors' review constituted one inspection sample. Specifically, the inspectors:

- conducted walkdowns of various plant structures and systems to check for maintenance or other apparent deficiencies which could affect system operations during cold weather;
- reviewed winter preparation repetitive task status;
- reviewed deficiencies identified during licensee walkdowns to verify deficient conditions were appropriately prioritized; and
- verified space heaters were functional.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors conducted partial walkdowns of the system trains listed below to verify that the systems were correctly aligned to perform their designed safety function. The inspectors used licensee valve lineup instructions and system drawings during the walkdowns. The walkdowns included selected switch and valve position checks, and verification of electrical power to critical components. Finally, the inspectors evaluated other elements, such as material condition, housekeeping, and component labeling. The documents used for the walkdowns are listed in the attached List of Documents Reviewed. The inspectors reviewed the following three systems (samples):

- the low pressure core spray system during a planned outage of Division 2 emergency core cooling systems (ECCSs) on October 11;
- the Division 1 EDG and associated support systems during a Division 2 EDG outage on October 13 and 14; and

- the Division 2 emergency closed cooling water (ECCW) system during a planned Division 1 ECCS outage on November 30.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q)

.1 Walkdown of Selected Fire Zones/Areas

a. Inspection Scope

The inspectors walked down the following nine areas (samples) to assess the overall readiness of fire protection equipment and barriers:

- Fire Zone FH-1 and FH-2A, Fuel Handling Building 574' and 599';
- Fire Zone FH-3; Fuel Handling Building 620';
- Fire Zone 1-AB2; Auxiliary Building 599';
- Fire Area 1DG-1c; Division 1 DG;
- Fire Area 1DG-1a; Division 2 DG;
- Turbine Building;
- Off Gas Building;
- Fire Area 1CC-4b; Division 2 vertical cable chase; and
- Fire Area 1CC-4f; Division 1 vertical cable chase.

Emphasis was placed on the control of transient combustibles and ignition sources, the material condition of fire protection equipment, and the material condition and operational status of fire barriers used to prevent fire damage or propagation.

The inspectors looked at fire hoses, sprinklers, and portable fire extinguishers to verify that they were installed at their designated locations, were in satisfactory physical condition, and were unobstructed. The inspectors also evaluated the physical location and condition of fire detection devices. Additionally, passive features such as fire doors, fire dampers, and mechanical and electrical penetration seals were inspected to verify that they were in good physical condition. The documents listed at the end of this report were used by the inspectors during the assessment of this area.

b. Findings

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Introduction: The inspectors identified a finding of very low safety significance for the failure of the licensee to promptly identify a degraded fire barrier between the Division 1 EDG room and the EDG building corridor. The finding was not considered a violation of regulatory requirements. The inspectors identified a fire door that was not latched and therefore was not fully capable of providing its required function of preventing fire spread and maintaining CO<sub>2</sub> suppression within the confines of the Division 1 EDG room. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution.

Description: On October 21 while performing a fire protection walkdown of the Division 1 EDG room the inspectors noted that the door to the EDG room was closed but not latched. Visual inspection of the latch mechanism identified that the door latch had become stuck. The inspectors notified licensee personnel who confirmed the latch was stuck and that the latch required assistance to engage the door jamb. Once identified, the licensee immediately established a watch on the door and completed repairs later that day. The inspectors noted that the licensee has experienced numerous difficulties with proper operation of fire doors and had initiated a plant policy to check that doors closed and latched after use. Had the licensee performed this check, the licensee would have detected the failed latch immediately.

Analysis: The performance deficiency associated with this finding (FIN) was the failure to implement site policies for verification of door operation. The licensee has experienced multiple failure of doors (see FIN 05000440/2003006-01 in NRC Integrated Inspection Report 05000440/2003006) and instituted a policy to verify door closure after use in order to ensure proper door closure and quickly detect degraded door conditions. In this instance, the inspectors found the door unlatched which clearly demonstrated that the door was not checked when it was last used. This door provided a fire barrier between the Division 1 EDG, a piece of safe shutdown equipment, and the corridor in the EDG building. Furthermore, CO<sub>2</sub> fire suppression is used in this room and the unlatched door provided a means of CO<sub>2</sub> to escape and oxygen to enter, thus degrading the suppression capability of the installed system.

The inspectors determined that the finding was more than minor using guidance in Appendix B, of IMC 0612. Specifically, the inspectors concluded that the finding is associated with fire protection equipment performance and degraded the ability to meet the cornerstone objective since it is associated with the impairment or degradation of a fire protection feature. The inspectors screened this finding in accordance with Appendix F of IMC 0609 through Phase 1. The inspectors determined all potential targets in the exposed fire area had at least 20 minutes of fire barrier protection and in accordance with question 5 of step 1.3 of the Phase 1 screen, concluded the finding was of very low safety significance.

Enforcement: Fire barriers are not subject to the requirements of 10 CFR Part 50, Appendix B. Thus, no violation of regulatory requirements occurred. This finding (**FIN 05000440/20040015-01**) was entered in the licensee's corrective action program as CR 04-05704.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

During the week of November 1 the inspectors reviewed flood protection equipment associated with the auxiliary building. The inspectors reviewed the licensee's flood protection analysis, risk assessment calculations and testing methodologies for level sensors. The inspectors performed walkdowns of the auxiliary building to verify floor drains were not blocked, water tight doors functioned properly, and the condition of flood detection devices. The inspectors' reviews and walkdowns constituted one sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Facility Operating History

a. Inspection Scope

The inspectors reviewed the plant's operating history from January 2002 through November 2004 to assess whether the Licensed Operator Requalification Training (LORT) program had identified and addressed operator performance deficiencies at the plant.

b. Findings

No findings of significance were identified.

.2 Licensee Requalification Examinations

a. Inspection Scope

The inspectors performed a biennial inspection of the licensee's LORT test/examination program. The operating examination material reviewed consisted of four operating tests, each containing two dynamic simulator scenarios and ten job performance measures (JPMs). The written examinations reviewed consisted of four written examinations, each containing two parts (A and B). The Part A (Static Simulator) examination contained approximately 15 open reference multiple choice questions. The Part B written examinations contained approximately 25 open reference, multiple choice questions. The inspectors reviewed the annual requalification operating test and biennial written examination material to evaluate general quality, construction, and difficulty level. The inspectors assessed the level of examination material duplication from week-to-week during the current year tests/examinations and compared the examination material from this 2-year program to examinations administered during the previous 2-year program. The annual tests and biennial examinations were conducted in November and December 2004. The inspectors reviewed the methodology for developing the examinations, including the LORT program 2-year sample plan, probabilistic risk assessment insights, previously identified operator performance deficiencies, and plant modifications.

b. Findings

No findings of significance were identified.

### .3 Licensee Administration of Requalification Examinations

#### a. Inspection Scope

The inspectors observed the administration of the requalification operating test to assess the licensee's effectiveness in conducting the test and to assess the facility evaluators' ability to determine adequate performance using objective, measurable performance standards. The inspectors evaluated the performance of one shift crew in parallel with the facility evaluators during two dynamic simulator scenarios. In addition, the inspectors observed licensee evaluators administer several Job Performance Measures to various licensed crew members. The inspectors observed the training staff personnel administer the operating test, including pre-examination briefings, observations of operator performance, and individual and crew evaluations after dynamic scenarios. The inspectors evaluated the ability of the simulator to support the examinations. A specific evaluation of simulator performance was conducted and documented under Section 1R11.7, "Conformance With Simulator Requirements Specified in 10 CFR 55.46," of this report. The inspectors also reviewed the licensee's overall examination security program.

#### b. Findings

When examination security rules were read to the licensees preparing to take the written examination, the licensees were told they could leave the examination room without an escort as long as no other licensees being examined were already out of the examination room. The proctor was informed that to do so would be a violation of NRC requirements, that personnel with examination specific knowledge would be uncontrolled and could seek help while they were outside the examination room. The station's training management agreed when this was discussed and a CR was generated to document the incorrect sequestering of licensees during examinations. The licensee believed that they had allowed licensees to leave the examination room unescorted in the past, but could not identify any specific dates when this occurred.

As stated, in part, in 10 CFR 55.49, the integrity of an examination is considered compromised if any activity, regardless of intent, would have affected equitable and consistent administration of the examination. Although this issue constitutes a violation of minor significance that is not subject to enforcement in accordance with Section IV of the NRC's Enforcement Policy, it is being documented as required by NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Section ES 501, Paragraph E.3.a. The licensee documented the problem in CR 04-05982, "Current Practices for Examinee Control Are Not Adequate."

### .4 Licensee Training Feedback System

#### a. Inspection Scope

The inspectors assessed the methods and effectiveness of the licensee's processes for revising and maintaining its LORT program up to date, including the use of feedback from plant events and industry experience information. The inspectors reviewed the licensee's quality assurance oversight activities, including licensee training department

self-assessment reports. The inspectors evaluated the licensee's ability to assess the effectiveness of its LORT program and their ability to implement appropriate corrective actions.

b. Findings

No findings of significance were identified.

.5 Licensee Remedial Training Program

a. Inspection Scope

The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the previous annual requalification examinations and the training planned for the current examination cycle to ensure that they addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans.

b. Findings

No findings of significance were identified.

.6 Conformance With Operator License Conditions

a. Inspection Scope

The inspectors reviewed the facility and individual operator licensees' conformance with the requirements of 10 CFR Part 55. The inspectors reviewed the facility licensee's program for maintaining active operator licenses and to assess compliance with 10 CFR 55.53 (e) and (f). The inspectors reviewed the procedural guidance and the process for tracking on-shift hours for licensed operators and which control room positions were granted credit for maintaining active operator licenses. In addition, the inspectors reviewed the facility licensee's LORT program to assess compliance with the requalification program requirements as described by 10 CFR 55.59 (c)).

b. Findings

No findings of significance were identified.

.7 Conformance With Simulator Requirements Specified in 10 CFR 55.46

a. Inspection Scope

The inspectors assessed the adequacy of the licensee's simulation facility (simulator) for use in operator licensing examinations and for satisfying experience requirements as prescribed in 10 CFR 55.46, "Simulation Facilities." The inspectors also reviewed a sample of simulator performance test records (i.e., transient tests, scenario test and discrepancy resolution validation test), simulator discrepancy and modification records,

and the process for ensuring continued assurance of simulator fidelity in accordance with 10 CFR 55.46. The inspectors reviewed and evaluated the discrepancy process to ensure that simulator fidelity was maintained. Open simulator discrepancies were reviewed for importance relative to the impact on 10 CFR 55.45 and 55.59 operator actions as well as on nuclear and thermal hydraulic operating characteristics. The inspectors conducted interviews with members of the licensee's simulator staff about the configuration control process and completed the Inspection Procedure 71111.11, Appendix C, checklist to evaluate whether or not the licensee's plant-referenced simulator was operating adequately as required by 10 CFR 55.46 ©) and (d).

b. Findings

No findings of significance were identified.

.8 Written Examination and Operating Test Results

a. Inspection Scope

The inspectors reviewed the pass/fail results of individual written tests, operating tests, and simulator operating tests (required to be given per 10 CFR 55.59(a)(2)) administered by the licensee during calendar year 2004. This represents one sample.

b. Findings

No findings of significance were identified.

.9 Licensed Operator Requalification Quarterly Inspection

a. Inspection Scope

On November 10 the resident inspectors observed licensed operator performance in the plant simulator. The inspectors evaluated crew performance in the areas of:

- clarity and formality of communication;
- ability to take timely action in the safe direction;
- prioritizing, interpreting, and verifying alarms;
- correct use and implementation of procedures, including alarm response procedures;
- timely control board operation and manipulation, including high-risk operator actions; and,
- group dynamics.

The inspectors also observed the licensee's evaluation of crew performance to verify that the training staff had observed important performance deficiencies and specified appropriate remedial actions. These observations by the inspectors constituted one sample.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's evaluation of plant risk, scheduling, configuration control, and performance of maintenance associated with planned and emergent work activities to verify that scheduled and emergent work activities were adequately managed. In particular, the inspectors reviewed the licensee's program for conducting maintenance risk assessments to verify that the licensee's planning, risk management tools, and the assessment and management of on-line risk were adequate. The inspectors also reviewed licensee actions to address increased on-line risk when equipment was out of service for maintenance, such as establishing compensatory actions, minimizing the duration of the activity, obtaining appropriate management approval, and informing appropriate plant staff, to verify that the actions were accomplished when on-line risk was increased due to maintenance on risk-significant SSCs. The following five assessments and/or activities (samples) were reviewed:

- the maintenance risk assessment for the week of October 11 which included a planned outage of Division 2 ECCS and a planned "risk-informed" extended Division 2 EDG preventive maintenance outage;
- the maintenance risk assessment associated with emergent work on the Division 2 EDG on October 26;
- the maintenance risk assessment for the week of November 22 which included planned maintenance on the Unit 1 startup transformer, planned maintenance on a control rod drive pump, and half scram instrumentation and control surveillance testing;
- the maintenance risk assessment for the week of November 29 which included a planned outage of Division 1 ECCS; and
- the maintenance risk assessment for the week of December 11 which included a planned inclined fuel transfer system flange rotation and RWCU outage.

b. Findings

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Introduction: A finding of very low safety significance was identified by the inspectors for a violation of 10 CFR 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components." Specifically, on October 25, while attempting to locate a relief valve which had failed as-found set pressure testing, the licensee determined that a nonconforming relief valve had been reinstalled in the Division 2 EDG lube oil system during the divisional outage earlier that month. Once the improper installation was identified, the licensee initiated both an operability determination and a work package to replace the relief valve. The valve was replaced on October 26. On December 3, while reviewing the apparent cause of the reinstallation, the inspectors identified that the licensee failed to identify or address noncompliance with quality control requirements as specified in Nuclear Repair Manual (NRM), Section 15, "Nonconforming Material or Items," Rev. 4.

Description: On October 13 the licensee removed a Division 2 EDG lube oil system relief valve for as-found set pressure and seat leakage testing. The relief valve, 1R47F0504B, provides over-pressure protection for the lube oil keep-warm pump and associated piping. The relief valve lifted at 49 psig rather than the expected 44 psig (+/- 2 psig). The licensee initiated CR 04-05389 to document the as-found failure. Through a series of mis-communications between the outage command center and the maintenance organization, the relief valve which failed the as-found set pressure testing was reinstalled on October 14. Much of the mis-communication resulted from a request-for-assistance condition report (CR 04-05385) which questioned whether the set point of the relief valve should not have been 50 psig instead of 44 psig. As resolution of the issue was being pursued, a note was made in the work-in-progress log that the failed relief valve "may be re-installed." Discussions with personnel involved indicated the note was intended to document a possible resolution, not provide direction.

On October 25 the licensee attempted to locate the nonconforming relief valve so that it could be shipped to a vendor for refurbishment. While conducting the search, the licensee identified the new relief valve was in the warehouse and that the nonconforming valve had been re-installed in the Division 2 EDG.

The licensee requested an operability determination for the Division 2 EDG with respect to the erroneous reinstallation of the nonconforming relief valve. The licensee established interim operability based on the relief valve lifting at 49 psig, well below the 100 psig design pressure of the lube oil system piping. In parallel with the operability determination request, the licensee pursued replacement of the nonconforming relief valve. The Division 2 EDG was removed from service on October 26 and the relief valve was replaced. The replacement activity rendered the Division 2 EDG inoperable for approximately 5 hours.

The inspectors noted that the licensee had developed NRM-15 to establish the administrative measures required by 10 CFR 50, Appendix B, Criterion XV. The inspectors identified that among the requirements specified in NRM-15, was the requirement for the Supervisor, Quality Control, to "ensure that all nonconformances discovered are identified on Condition Reports or Warehouse Nonconformance Reports and tagged with a Hold Tag or Deficiency Tag, as appropriate, to control further processing." The inspectors found no evidence this had occurred and also noted the licensee's cause analysis failed to identify the procedural noncompliance. The inspectors discussed the issue with the licensee's nuclear oversight group and were initially told that a note in NRM which stated "when items are not tagged, an alternate method of control that restricts inadvertent operation shall be used" was applicable. When the inspectors inquired as to what that alternate method was, they were told "the work order process." Not satisfied with that explanation, the inspectors pursued the issue with engineering department management. Engineering management promptly initiated action to revise the cause analysis to identify noncompliance with both NRM-15 and the CR process as defined in NOP-LP-2001, "Condition Report Process, " Rev. 7. Section 4.1.13 of NOP-LP-2001 stated "nonconforming materials, components, assemblies, etc., shall be isolated and controlled in accordance with site-specific quarantine and material segregation requirements. Nonconforming material shall not be placed in service prior to the completion of a documented disposition approving the item for use." The licensee initiated corrective action to specify requirements for

identification and control of nonconforming components in the relief valve program technical administrative instruction and implementing test procedure. The licensee generated CR 04-06710 to address the broader inspector concerns regarding identification and control of nonconforming components from a site-wide perspective.

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Analysis: The inspectors determined that the licensee's failure to establish measures to prevent reinstallation of a nonconforming component into a safety-related system was more than minor because it could reasonably be a precursor to a more significant event. The finding affected the cross-cutting issue of Human Performance because of the numerous mis-communications and the failure to follow the requirements set forth in NRM-15.

Using IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors reviewed the finding against the Phase 1 Screening Worksheet Mitigating Systems Cornerstone. The inspectors determined the finding did not involve the loss of safety function and therefore concluded that the finding was of very low safety significance.

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Enforcement: Appendix B, Criterion XV of 10 CFR Part 50 states, in part, that "measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation." It further states that "nonconforming items shall be reviewed and accepted, rejected, repaired, or reworked in accordance with documented procedures." Contrary to these requirements, on October 14 the licensee erroneously re-installed a nonconforming relief valve in the Division 2 EDG lube oil system. Because of the very low safety significance and because the issue has been entered into the licensee's corrective action program (CR 04-05604), the issue is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy (**NCV 05000440/2004015-02**).

1R14 Operator Performance During Non-Routine Evolutions and Events (71111.14)

.1 Technical Specification 3.0.3 Entry Due to Inoperable Control Room Emergency Recirculation

a. Inspection Scope

On October 2 the inspectors responded to the site after the licensee entered a TS 3.0.3 required shutdown due to declaring both trains of control room emergency recirculation inoperable after all emergency isolation dampers failed to close in the required time during surveillance testing. The unit downpowered to 40 percent prior to licensee troubleshooting activities establishing that the cause of the surveillance failure was a failed time delay relay in the control room radiation monitoring system. The inspectors observed the licensee's troubleshooting activities and the unit downpower. The inspectors observed procedure use, crew communications, and coordination of activities between work groups to ensure crew performance was consistent with the requirements of PYRM-POS-0001, "Perry Operations Section Expectations Handbook," Rev. 4. This constituted one sample.

b. Findings

No findings of significance were identified.

.2 Restart of RWCU

a. Inspection Scope

On December 13 the inspectors observed the licensee's recovery of the RWCU system following a planned shutdown for repairs. During the warm up process, the licensee experienced numerous automatic closures of the RWCU isolation valve due to high temperatures. The licensee concluded that back flow of water which bypassed the heat exchangers caused the high temperatures. The licensee developed a specific procedure to close a valve to prevent the back flow and subsequently completed warm up of the RWCU system. This constituted one sample.

b. Findings

No findings of significance were identified.

.3 Recirculation Pump Shift to Fast Speed

a. Inspection Scope

On December 27 the inspectors observed the licensee's shift of recirculation pumps to fast speed as part of a power ascension following a reactor scram. Since the scram occurred following a spurious downshift of recirculation pumps, the licensee provided additional management oversight to the pump shift. The inspectors observed communications between members of the control room staff and discussions of expected plant response during the evolution. The licensee successfully shifted both pumps to fast speed. This constituted one sample.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors evaluated the following post-maintenance testing (PMT) activities for risk-significant systems to assess the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written; and equipment was returned to its operational status following testing. The inspectors evaluated the activities against TSs, the USAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications. In addition, the inspectors reviewed CRs associated with PMT to determine if the licensee was identifying problems and entering

them in the corrective action program. The specific procedures and CRs reviewed are listed in the attached List of Documents Reviewed. The following five post-maintenance activities (samples) were reviewed:

- testing of the ECCW 'B' pump following rework of the inboard motor bearing conducted October 12;
- testing of the RHR 'C' system following planned maintenance on the minimum flow valve and the test return to suppression pool valve conducted October 12;
- testing of the Division 2 EDG following preventive maintenance on October 17;
- testing of AEGTS 'B' exhaust valve following removal of an obstruction on October 25; and
- testing of a containment isolation valve following packing adjustment on November 11.

b Findings

.1 AEGTS 'B' Train Inoperability

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Introduction: A finding of very low safety significance was self-revealed on October 25 for a violation of TS 5.4, "Procedures." Specifically, on October 18 the licensee installed a scaffold underneath the AEGTS 'B' train exhaust damper 1M15F0080B which interfered with the movement of the component's linear converter shaft and prohibited the full opening of the damper. The AEGTS 'B' train was rendered inoperable due to the interference of the scaffold onto the damper. Once identified, the licensee declared the system inoperable, took immediate action to reposition the scaffold, and performed testing of the damper to assess potential damage. The primary cause of this finding was related to the cross-cutting area of Human Performance.

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Description: The purpose of the AEGTS is to filter the air in the annular space between the shield building and the primary containment vessel and discharge the filtered air out of the reactor building. This filtering process limits the release of the radioisotopes which may leak from the primary containment vessel during accident conditions. The motor-operated exhaust control dampers are used to regulate the pressure in the annulus along with the recirculation control dampers. The dampers throttle open to relieve pressure in the annulus when the pressure exceeds the desired setpoint as the respective recirculation control dampers will throttle closed until the specified annulus pressure is achieved.

On October 18 the licensee completed a scaffold build in the intermediate building for planned maintenance activities on AEGTS 'B' train scheduled for October 25. The licensee's procedure for scaffold building activities included a pre-build inspection and an operations impact review after the completion of the scaffold build to ensure that there would not be any adverse effects on safety-related components. On October 25, after operations initiated the clearance (tagout) for the maintenance activities, maintenance personnel noticed that the linear converter shaft for the damper was pressing down into the scaffold that was built directly underneath the component. The clearance for the planned maintenance de-energized the component, which caused the damper to attempt to fully open. The scaffold, however, prevented the damper from fully opening. Upon discovery, the licensee initiated actions to return the damper to

service in order to reverse the stroke of the linear converter shaft and determine the extent of the damage to the component.

Analysis: The inspectors determined that the licensee's failure to properly place the scaffold, such that the AEGTS 'B' train was not rendered inoperable, was more than minor because it is associated with the reactor safety cornerstone attribute of barrier performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events; and had as its primary cause, a human performance deficiency, in that the licensee failed to build a scaffold in a manner to prevent interference with the operation of a safety-related system.

Using IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors reviewed the finding against the Phase 1 Screening Worksheet Containment Barrier Cornerstone. The inspectors determined the finding only represented a degradation of the radiological barrier function of the AEGTS system and therefore concluded that the finding was of very low safety significance.

Enforcement: Technical Specification 5.4 required written procedures to be implemented covering applicable procedures recommended by Regulatory Guide 1.33. Regulatory Guide 1.33 recommended procedures for performing maintenance which can affect the performance of safety-related equipment. The inspectors determined that the erection of scaffolding to support maintenance activities was an integral part of the maintenance activity. As such, in accordance with Regulatory Guide 1.33, Appendix A, paragraph 9 a, the activity should have been performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. The inspectors concluded that the licensee failed to adequately implement procedure GCI-0016, "Scaffolding Erection, Modification, or Dismantling Guidelines," Revision 4, in that a scaffold was constructed which impaired operation of plant equipment and an operational impact review did not identify the impairment. Because of the very low safety significance and because the issue has been entered into the licensee's corrective action program (CR 04-05601), the issue is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy **(NCV 05000440/2004015-03)**.

## .2 Improper Valve Packing Adjustment

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Introduction: A finding of very low safety significance was self-revealed on November 17 for a violation of TS 5.4 "Procedures." Specifically, contrary to the requirements of NOP-WM-9001 "FIN/Toolpouch Maintenance Process," the Fix-It-Now process was used to adjust the packing on the demineralized water system containment valve P22-F0010. As a consequence, the licensee used an incorrect procedure to adjust the packing, failed to perform PMT on the valve, and failed to stroke the valve to consolidate the packing.

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Description: On November 11 the licensee adjusted the packing on P22-F0010 in order to correct a packing leak using the Fix-It-Now Process. The licensee had developed a

“Fix-It-Now” maintenance process for simple work activities. The governing procedure for Fix-It-Now packages, NOP-WM-9001 “FIN/Toolpouch Maintenance Process,” specifically prohibited the use of the Fix-It-Now process if the work would compromise the function or pressure retaining capability of an American Society of Mechanical Engineers’ (ASME) component. Packing adjustment is an activity that could affect valve performance; therefore, the Fix-It-Now process should not have been used. Notwithstanding the use of the Fix-It-Now process, the licensee had established procedures for the adjustment of valve packing in GMI-0061 and for PMT in “Pump and Valve Inservice Testing Plan”. The requirements of these procedures were not met. Specific omissions included failure to consolidate that packing and failure to stroke-time test the valve following packing adjustment.

On November 17 while performing operation of the system in accordance with the operating instruction, the valve failed to fully close. The licensee declared the valve inoperable and manually closed the valve. As part of the investigation into why the valve did not close, the licensee identified the improper use of the Fix-It-Now package and associated errors in work performance. Subsequent troubleshooting of the valve identified that a corroded torque limit switch, unrelated to the maintenance on November 11, caused the valve to not fully close. The licensee has completed repairs on the valve and verified operability.

Analysis: The inspectors determined that the licensee’s failure to comply with procedural requirements of the NOP-WM-9001 was more than minor because it could reasonably be a precursor to a more significant event. Specifically, key steps to ensure proper valve operation were omitted from the work process. The finding affected the cross-cutting issue of Human Performance because of the numerous omissions of key steps of the maintenance process that resulted from the selection of the Fix-It-Now process to repair the valve. The finding also affected the cross-cutting issue of Problem Identification and Resolution because the licensee previously adjusted packing on an ASME valve without performing adequate PMT.

Using IMC 0609, Appendix A, “Significance Determination of Reactor Inspection Findings for At-Power Situations,” the inspectors reviewed the finding against the Phase 1 Screening Worksheet Containment Barriers Cornerstone. The inspectors determined the finding did not involve an actual open pathway in the physical integrity of the reactor containment and therefore concluded that the finding was of very low safety significance.

Enforcement: Technical Specification 5.4 required written procedures to be implemented covering applicable procedures recommended by Regulatory Guide 1.33. Regulatory Guide 1.33 recommended procedures for performing maintenance which can affect the performance of safety-related equipment. The inspectors determined that adjustment of the packing on safety-related containment isolation valves can affect the performance of the valve. As such, in accordance with Regulatory Guide 1.33, Appendix A, paragraph 9 a, the activity should have been performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. The inspectors concluded that the licensee failed to adequately implement procedure NOP-WM-9001 which prohibits use of the Fix-It-Now process if the function or pressure retaining boundary of an AMSE component will be

compromised. Because of the very low safety significance and because the issue has been entered into the licensee's corrective action program (CR 04-06144), the issue is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy **(NCV 05000440/2004015-04)**.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope

The inspectors observed activities associated with a forced outage (one sample) initiated on December 23. The forced outage continued through December 26 when the plant synchronized to the grid. The inspectors assessed the adequacy of forced outage-related activities, including implementation of risk management, conformance to approved site procedures, and compliance with TS requirements. The following major activities were observed or performed:

- On December 24 and 25 the inspectors observed the licensee's control of reactor pressure and water level while maintaining the plant in Mode 3. The inspectors observed shift briefings, operator performance, and shift management coordination of plant activities.
- From December 24 through 26 the inspectors reviewed licensee restart readiness activities to verify emergent issues were appropriately identified as restart restraints and that restart restraint issues were appropriately resolved prior to mode changes.
- On December 26 the inspectors observed the licensee's reactor startup. The inspectors observed shift briefings, operator performance, shift management coordination of plant activities, and conformance with TS requirements including heat-up limitations and mode change requirements.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed surveillance testing or reviewed test data for risk-significant systems or components to assess compliance with TSs; 10 CFR Part 50, Appendix B; and licensee procedure requirements. The testing was also evaluated for consistency with the USAR. The inspectors verified that the testing demonstrated that the systems were ready to perform their intended safety functions. The inspectors reviewed whether test control was properly coordinated with the control room and performed in the sequence specified in the surveillance instruction, and if test equipment was properly

calibrated and installed to support the surveillance tests. The procedures reviewed are listed in the attached List of Documents Reviewed. The four surveillance activities (samples) assessed were:

- RCIC pump and valve testing conducted October 4;
- ESW 'C' loop flow and differential pressure testing conducted October 20;
- visual inspection of fire dampers conducted on November 10; and
- pump and valve testing for Division 1 ECCS and support systems conducted December 1.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors reviewed Revisions 18, 19, 20, and 21 of the Perry Nuclear Power Plant's Emergency Plan to determine whether changes identified in Revisions 18, 19, 20, and 21 reduced the effectiveness of the licensee's emergency planning, pending on-site inspection of the implementation of these changes. This inspection activity constituted one sample.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed reported 2<sup>nd</sup> quarter 2004 data for EDG system unavailability and scrams with loss of normal heat removal performance indicators (PIs) using the definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Revision 2. The inspectors reviewed station logs, event notification reports, licensee event reports (LERs), CRs, and TS logs to verify the accuracy of the licensee's data submission. This inspection activity constituted two samples.

b. Findings

No findings of significance were identified.

## 4OA2 Identification and Resolution of Problems (71152)

### .1 Routine Review of Identification and Resolution of Problems

#### a. Inspection Scope

As discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed.

#### b. Findings and Observations

No findings of significance were identified.

### .2 Quarterly Resident Baseline Sample (1) - Environmental Qualifications of Equipment

#### Introduction

The inspectors selected environmental qualifications as a sample to determine if the licensee was identifying equipment problems related to potential increases in radiation levels due to the implementation of hydrogen water chemistry.

#### Effectiveness in Problem Identification

#### a. Inspection Scope

The inspectors reviewed the plant radiation levels with respect to those levels discussed in the USAR. In addition, the inspectors reviewed CRs related to environmental qualifications of plant equipment to determine if trends existed to indicate broader issues related to environmental qualifications.

#### b. Issues

Based on the review of current plant conditions, the inspectors concluded that radiation levels remained bounded by levels stated within the USAR. In addition, the inspectors confirmed that the radiation protection staff were in contact with engineering environmental qualification specialists when significant changes occurred. Review of CRs related to environmental qualifications revealed no broader issues.

### .3 Semi-Annual Trend Review

- a. The inspectors reviewed system health reports, self-assessments, quality assurance assessment reports, performance improvement initiatives and CRs to identify trends that had not been adequately evaluated or addressed by proposed corrective actions.

b . Findings

\_\_\_\_\_ No findings of significance were identified.

4 Biennial Region-based Licensed Operator Training Review

a. Inspection Scope

The inspectors reviewed several licensee training department self-assessment reports. The licensee's self-assessments reviewed the licensed operator training program for approximately 24 months prior to this inspection activity. The self-assessments were reviewed to ensure that any issues identified during the self-assessment were appropriately evaluated, prioritized, and controlled.

b. Findings

There were no findings of significance.

4OA3 Event Followup (71153)

.1 Response to Unusual Event Declaration Due to Toxic Gas in Water Treatment Facility

On November 4 the inspectors observed licensee response to a spill of sulfuric acid and sodium hydroxide in the water treatment facility. As a result of the spill, high concentrations of airborne sulfuric acid existed and the licensee declared an Unusual Event due to toxic gas within the protected area. The inspectors observed the licensee's response including decisions on Emergency Action Level (EAL) entry, efforts to stop and contain the spill, protection of plant equipment, preparations to address loss of plant equipment, notification of state and local officials, and application of exit criteria from the Unusual Event. No findings of significance were identified.

.2 Response to Unusual Event Declaration Due to Toxic Gas in Turbine Lube Oil Bay

On November 12 the inspectors observed licensee response to an inadvertent CO<sub>2</sub> discharge into the main lube oil sump room. As a result of the discharge, an oxygen deficient hazardous atmosphere existed and the licensee declared an Unusual Event due to toxic gas within the protected area. The inspectors observed the licensee's response including decisions on EAL entry, fire brigade response, initial brigade entry into lube oil sump room (which determined there was no fire), notification of state and local officials, and application of exit criteria from the Unusual Event. No findings of significance were identified.

.3 (Closed) LER 05000440/2003-003-01: Unrecognized Diesel Generator Inoperability During Mode Changes.

As documented in NRC Special Inspection Report 05000440/2003009, while recovering from an August 14, 2003, loss of offsite power event, the Division 1 EDG tripped on reverse power. The licensee placed the EDG in standby using the applicable procedure; however, the performance of a procedure step to adjust generator output

voltage could not be performed since the EDG had tripped. Subsequent reviews by the licensee failed to identify the ramifications of the inability to perform this step. With the EDG inoperable, the licensee left Mode 4 and entered Mode 2 on August 20, 2003. On August 21, 2003, the licensee started the EDG for routine surveillance and declared it inoperable when the voltage was 4500 V versus the acceptance criteria of 3900 to 4400 V. Revision 1 to the LER added the failure of the post-event review process to detect the EDG inoperability prior to the mode change to the root cause. The inspectors had previously dispositioned this issue as **NCV 05000440/2003009-02**. No new findings were identified. This LER is closed.

.4 OPRM Scram Following Recirculation Pump Downshift

Following a reactor scram on December 23, the inspectors responded to the site and observed licensee response. While operating at 100 percent power, both recirculation pumps spuriously shifted from high to low speed. Shortly after the downshift, reactor power began to oscillate and the OPRMs initiated a reactor scram. The inspectors observed control room personnel stabilize the plant and establish a stable cooldown rate. The inspectors observed licensee's activities to determine the cause of the recirculation pump downshift and develop strategies to maintain the plant in a safe condition. The event was further reviewed as part of an NRC Special Inspection. Documentation of that review will be documented in Inspection Report 05000440/2005005.

**40A4 Cross-Cutting Aspects of Findings**

- .1 A finding described in Section 1R05.1 of this report had, as its primary cause, a problem identification and resolution deficiency in that the licensee failed to detect a degraded barrier. Specifically, the licensee failed to verify the door to the Division 1 EDG room properly latched.
- .2 A finding in Section 1R13 of this report had, as its primary cause, a human performance deficiency in that the licensee failed to control a nonconforming part. Specifically, the licensee reinstalled a relief valve that had failed testing, despite having a new, properly tested valve available.
- .3 A finding in Section 1R19 of this report had, as its primary cause, a human performance deficiency, in that the licensee failed to build a scaffold in a manner to prevent interference with the operation of a safety-related system. Specifically, the licensee constructed scaffold in a manner that interfered with the operation of a valve in the AEGTS despite procedural requirements to construct scaffold such that it does not interfere with the operation of safety-related components.
- .4 A finding in Section 1R19 of this report had, as its primary cause, a human performance deficiency, in that the licensee performed work on an ASME component using a procedure inappropriate for the work. Specifically, the licensee adjusted the packing on an AMSE valve using a Fix-It-Now work package despite procedural prohibition for using this type of package on an ASME component. Further, the licensee failed to perform steps specified in GMI-61 for PMT and packing consolidation.

#### 40A6 Meetings

##### .1 Exit Meeting

The inspectors presented the inspection results to Mr. R. Anderson, Site Vice President and other members of licensee management at the conclusion of the inspection on January 7, 2005. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified

##### .2 Interim Exit Meeting

Interim exit meetings were conducted for:

- Maintenance Effectiveness Periodic Evaluation with Mr. Fred von Ahn, General Manager, on October 7, 2004;
- Biennial Operator Requalification Program Inspection with Mr. M. Nazar on November 19, 2004; and
- Emergency Preparedness Inspection with Mr. T. Henderson on December 22, 2004.

#### 40A7 Licensee-Identified Violations

The following finding of very low safety significance was identified by the licensee and was a violation of NRC requirements which met the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

##### **Cornerstone: Mitigating Systems**

A violation of TS 5.4 occurred on October 27 when the licensed operator "at-the-controls" left the "at-the-controls" area of the control room without using the appropriate procedure for shift and relief turnover. On October 27, shortly before 1:30 a.m., two licensed operators conducted a temporary relief turnover for the "at-the-controls" position. At approximately 1:35 a.m., the licensed operator who had assumed the "at-the-controls" position left the "at-the-controls" area of the control room for approximately 20 seconds to attend to work he had been supervising prior to assuming the "at-the-controls" position. The operator recognized his error, returned to the "at-the-controls" area, and informed the unit supervisor. The performance deficiency associated with this event was the failure to follow procedures for shift and relief turnover. Technical Specification 5.4 required implementation of procedures required by Regulatory Guide 1.33. Regulatory Guide 1.33 required procedures for shift and relief turnover. The licensee developed NOP-OP-1002, "Conduct of Operations," Rev. 1, for shift staffing and shift relief and this procedure included instructions for relief of the licensed operator "at-the-controls position" including temporary reliefs. Contrary to TS 5.4 requirements, this procedure was not used prior to the licensed operator in the "at-the-controls" position leaving the "at-the-controls" area of the control room on October 27. The licensee entered this finding into the corrective action program (CR 04-05629).

## KEY POINTS OF CONTACT

### Licensee

R. Anderson, Vice President-Nuclear  
F. von Ahn, General Manager, Nuclear Power Plant Department  
M. Brogan, LORT Lead  
S. Thomas, Radiation Protection Manager  
J. Gerber, Perry Simulator  
R. Gray, Site Maintenance Rule Coordinator  
T. Henderson, Emergency Planning Unit Supervisor  
F. Kearney, Operations Manager  
J. Lausberg, Manager, Regulatory Compliance  
T. Lentz, Director, Nuclear Engineering  
J. McHugh, Operations Training Supervisor  
J. Messina, Director, Performance Improvement  
W. O'Malley, Maintenance Manager  
J. Pierson, LOR Training Instructor  
D. Richmond, Training Instructor  
R. Strohl, Superintendent, Plant Operations

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

05000440/2004015-01	FIN	Failure to Promptly Identify a Degraded Fire Barrier (Section 1R05)
05000440/2004015-02	NCV	Reinstallation of Nonconforming Relief Valve (Section 1R13)
05000440/2004015-03	NCV	Improperly Installed Scaffolding (Section 1R19)
05000440/2004015-04	NCV	Improper Use of Fix-It-Now Process to Adjust Valve Packing (Section 1R19)

### Closed

05000440/2004015-01	FIN	Failure to Promptly Identify a Degraded Fire Barrier (Section 1R05)
05000440/2004015-02	NCV	Reinstallation of Nonconforming Relief Valve (Section 1R13)
05000440/2004015-03	NCV	Improperly Installed Scaffolding (Section 1R19)

05000440/2004015-04	NCV	Improper Use of Fix-It-Now Process to Adjust Valve Packing (Section 1R19)
05000440/2003-003-01	LER	Unrecognized Diesel Generator Inoperability During Mode Changes (Section 4OA3.2)

Discussed

05000440/2003006-01	FIN	Failure to Maintain Fire Barriers (Section 1R05)
05000440/2003009-02	NCV	Failure to Implement and Follow Procedures for Diesel Generator Operation (Section 4OA3.3)

## 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 of 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.

### **1REP Equipment Availability and Functional Capability**

Perry Nuclear Power Plant; Plant Health Report; 1<sup>st</sup> Quarter 2004  
Perry Nuclear Power Plant; Plant Health Report; 2<sup>nd</sup> Quarter 2004  
CR 02-04028; RWCU Water Hammer; dated October 28, 2002  
CR 03-02013; RWCU System Temp Exceeded Limit Per G33EA002; dated April 13, 2003  
CR 03-03599; Repeat Maintenance: 1G33F0107 Has Dual Indication When Either Open or Closed; dated May 26, 2003  
CR 03-03625; Repeat Maintenance: RWCU HX 1G33B0002A Tube Side Inlet Flange is Leaking; dated May 30, 2003  
CR 03-03634; RWCU HX 1G33B0002A Tube Side Inlet Flange Fasteners Found Undertorqued; dated May 30, 2003  
CR 03-04011; RFO9 G33-RWCU System Improvement Project and Contractor Workmanship Issues; dated June 25, 2003  
CR 03-04321; 1G33F0053 Was Slow to Isolate on RWCU B Isolation Signal; dated July 18, 2003  
CR 03-04361; RWCU Differential Flow Indication Change; dated July 22, 2003  
CR 03-04981; Long-Term Issue - Material Condition of Valves 1G33F101 & 1G33F103; dated August 27, 2003  
CR 03-06418; 1G33F0013A Repeat Failure and 1G33 F0013B Failure, Possible Transient Contributor; dated December 1, 2003  
CR 02-02461; Maintenance Rule Classification of Rod Control and Information System; dated July 25, 2002  
CR 02-03781; Maintenance Rule Program Effectiveness; dated October 10, 2002  
CR 04-02635; Problems With RCIS During Shutdown; dated May 22, 2004  
CR 02-03555; Maintenance Rule Violation on Monitoring Rod Control & Information System; dated September 19, 2002  
M&C-14; Work Around Policy; dated February 15, 2000  
Operator Work Arounds Comprehensive List; dated October 25, 2004  
Memorandum; Work Around Assessment For the 3<sup>rd</sup> Quarter 2004; dated October 27, 2004  
CR 03-06256; Div 3 FOST Level Transmitter LOOP Calculations; dated November 19, 2003  
CR 04-05737; Relay 1C71K010H Not Replaced or Deferred Prior to Late Date; dated October 28, 2004  
USAR Section 3.11; Environmental Qualification of Mechanical and Electrical Equipment SDM C71; Reactor Protection System; Rev. 9  
RFO10 Work Plan; Undervessel Work; Rev. 1

CR 03-04897; Rod Block Following Mode Change to Run; dated August 20, 2003  
CR 03-06699; LPRM 40-09A Near End of Neutronic Lifetime; dated December 18, 2003  
CR 04-00544; APRM F Flow Card Unable to Be Adjusted During SVI-C51-T0033F;  
dated February 3, 2004  
CR 04-02720; LPRM 1C-24-49 Upscale; dated May 25, 2004  
CR 04-04519; LPRMs Associated With APRM D and H Experiencing Numerous  
Upscale Alarms; dated August 31, 2004  
CR 04-04642; Unexpected OPRM Enabled Alarm; dated September 8, 2004  
Periodic Assessment of Maintenance Rule Program - Perry Nuclear Power Plant;  
Cycle 9; March 21, 2001 through May 31, 2003; dated June 22, 2004  
NOP-ER-3004; First Energy Nuclear Operating Company (FENOC) Maintenance Rule  
Program; Revision 0  
PAP-1125; Monitoring the Effectiveness of Maintenance Program Plan; Revision 6  
NOPL-ER-0001; FENOC Policy Statement Equipment Reliability; Revision 00  
NOP-ER-1001; Continuous Equipment Performance Improvement; dated July 16, 2003  
PYBP-PES-0002; Plant Engineering Section Equipment Reliability Program; Revision 0  
PYBP-SITE-0027; Plant Health Committee; Revision 0  
PEI-SPI 7.3; Special Plant Instruction 7.3 - Fuel Pool Cooling and Clean-up System  
Containment Venting; dated March 25, 1996  
PYBP-PES-0001; Maintenance Rule Reference Guide; Revision 12  
NOP-WM-4001; Foreign Material Exclusion (FME); dated September 11, 2003  
Oversight and Process Improvement Nuclear Quality Assessment; Maintenance Rule;  
dated August 9, 2002  
Oversight and Process Improvement Nuclear Quality Assessment; Maintenance Rule;  
dated December 2, 2003  
Calculation 6.20; Calculation Continuation Sheet; dated January 14, 1999  
CR 02-00329; Determine Operability of ESW With an ESW Ventilation Subsystem Out  
of Service; dated January 31, 2002  
CR 02-02663; Maintenance Rule Program Enhancements - PY-C-02-03; dated  
August 9, 2002  
CR 02-03361; Division 2 Diesel Load Swings; dated September 20, 2002  
CR 02-04025; RHR Heat Exchanger Minimum Wall Thickness; dated October 28, 2002  
CR 02-04355; Division 2 Diesel Generator (DG) Experienced Instability During the First  
Maintenance Run; dated November 14, 2002  
CR 02-04364; Division 2 DG Governor Issue; dated November 16, 2002  
CR 02-04620; Reactor Core Isolation Cooling (RCIC) Turbine Oil Level Out-of-Service  
High; dated December 7, 2002  
CR 03-04912; Diesel Generator Failed SVI-R43-T1317; dated September 26, 2003  
CR 03-02402; Division 2 Diesel Generator Did Not Flash or Develop Output Voltage;  
dated April 23, 2003  
CR 03-04374; Division 2 DG Unplanned Inoperability and Unavailability; dated  
July 23, 2003  
CR 03-05574; Maintenance Rule Program Procedure Requirements Not Followed;  
dated October 2, 2003  
CR 04-00703; Rectifier Leak Needs an (a)(1) Review for April 2001 Event; dated  
February 2, 2004  
CR 04-01383; Enhancements to Existing Maintenance Rule Procedures; dated  
March 18, 2004

CR 04-01384; Maintenance Rule Program Function Reviews; dated March 18, 2004  
CR 04-01387; Quantity of Existing Maintenance Rule Reliability Criteria; dated March 18, 2004  
CR 04-01844; High Pressure Core Spray (HPCS) Unavailability Approaching NRC Green-White Unavailability Threshold; dated April 9, 2004  
CR 04-01861; Division 3 Emergency Diesel Generator Did Not Start; dated April 10, 2004  
Maintenance Rule Functions, Performance Criteria, and Classification; dated October 4, 2004  
List of Maintenance Preventable Functional Failures; dated October 6, 2004  
Plant System Health Report; E22A - High Pressure Core Spray System; June 2004  
Plant System Health Report; E51 - Reactor Core Isolation Cooling (RCIC) System; June 2004  
Plant System Health Report; R43 - Division 1 & 2 Diesel Generator System; June 2004  
Plant System Health Report; E22B - Division 3 Diesel Generator System; June 2004  
Current and Past 3-Year Forced Loss Rates for the Perry Nuclear Power Plant; dated October 6, 2004  
Maintenance Rule Improvement Plan; dated October 3, 2004  
SSC Performance Monitoring Indicators for Cycle 9 Periodic Assessment; dated October 4, 2004  
2004 Maintenance Rule NRC Questions and Licensee Answers On File; dated October 8, 2004  
List of Preventive Maintenance Changes; dated October 6, 2004  
List of FME Condition Reports (2000 - 2004); dated October 6, 2004  
List of Unavailability and Reliability Data for Cycle 9; dated June 22, 2004  
List of Functional Failures, Maintenance Preventable Functional Failures, and Repetitive Maintenance Preventable Functional Failures for Cycle 9; dated June 22, 2004  
Summary of Condition Reports for DG, Residual Heat Removal (RHR), RCIC, and HPCS for Cycle 9; dated October 4, 2004  
Maintenance Rule Expert Panel Meeting No. 213; dated February 12, 2003  
Maintenance Rule Expert Panel Meeting No. 214; dated February 26, 2003  
Maintenance Rule Expert Panel Meeting No. 215; dated March 3, 2003  
Maintenance Rule Expert Panel Meeting No. 216; dated October 2, 2003  
Maintenance Rule Expert Panel Meeting No. 217; dated October 23, 2003  
Maintenance Rule Expert Panel Meeting No. 218; dated November 13, 2003  
Maintenance Rule Expert Panel Meeting No. 219; dated December 11, 2003  
Maintenance Rule Expert Panel Meeting No. 220; dated January 15, 2003  
Maintenance Rule Expert Panel Meeting No. 221; dated February 12, 2003  
Maintenance Rule Expert Panel Meeting No. 222; dated March 11, 2004  
Maintenance Rule Expert Panel Meeting No. 223; dated April 8, 2004  
Maintenance Rule Expert Panel Meeting No. 224; dated May 13, 2004  
Maintenance Rule Expert Panel Meeting No. 225; dated June 17, 2004  
Maintenance Rule Expert Panel Meeting No. 226; dated June 24, 2004  
CR 04-06381; 7/8" SA516 GR 70 Plate Installed At 2P45D0001 Was Not Bought As ASME ND Material; dated December 6, 2004

## **1R01 Adverse Weather Protection**

Weekly Winter Preparation Status Sheets, September through November 2004  
ONI-R36-2; Extreme Cold Weather; Rev. 1  
PTI-GEN-P0027; Cold Weather Support System Startup; Rev. 6  
PTI-GEN-0026; Preparations For Winter Operation; Rev. 1  
CR 04-05718; Document Winter Preparations Items Past Target Date of 10/30/04;  
dated October 31, 2004  
CR 04-05738; PTI-GEN-0026 PCR-Deficiency; dated November 1, 2004  
CR 04-05920; Late Performance of Winterization Activities; dated November 16, 2004

## **1R04 Equipment Alignment**

VLI-E21, Low Pressure Core Spray; Rev. 4  
DWG 302-0705-0000; Low Pressure Core Spray System; Rev. AA  
SOI-E21; Low Pressure Core Spray; Rev. 15  
CR 03-04764; RHR A/LPCS Water Leg Pump; dated August 14, 2003  
VLI-R44; Division 1 and 2 Diesel Generator Starting Air System (Unit 1); Rev. 4  
VLI-R45; Division 1 and 2 Diesel Generator Fuel Oil System (Unit 1); Rev. 4  
VLI-R46; Division 1 and 2 Diesel Generator Jacket Water Systems (Unit 1); Rev. 3  
VLI-R47; Division 1 and 2 Diesel Generator Lube Oil; Rev. 5  
VLI-R48; Division 1 and 2 Diesel Generator Exhaust, Intake, and Crankcase Systems;  
Rev. 6  
VLI-P42; Emergency Closed Cooling System; Rev. 10  
USAR Figure 9.2-3; Emergency Closed Cooling System; Rev. 13

## **1R05 Fire Protection**

USAR Section 9A.4.7; Fuel Handling Building  
DWG E-023-003; Fire Protection Evaluation Units 1 and 2 Intermediate and Fuel  
Handling Building Plan Elev. 574'-10"; Rev. 12  
DWG E-023-008; Fire Protection Evaluation Units 1 and 2 Intermediate and Fuel  
Handling Building Plan Elev. 599'-0"; Rev. 12  
DWG E-023-012; Fire Protection Evaluation Units 1 and 2 Intermediate and Fuel  
Handling Building Plan Elev. 620'-6"; Rev. 12  
DWG D201-0146; Raceway Barrier Details; Rev. T  
USAR Section 9A. 4.5; Diesel Generator Building;  
USAR Section 9A.4.16; Turbine Building  
FPI-OGB; Off Gas Building; Rev. 1  
FPI-1AB; Auxiliary Building Unit 1; Rev. 2  
DWG E-023-019; Fire Protection Evaluation Units 1 and 2 Control Complex Plan  
Elevations s 654'-6" and 679'-6"  
USAR Section 9A.4.4.4.1.2; Fire area 1CC-4b  
USAR Section 9A.4.4.4.1.6; Fire Area 1CC-4f

## **1R06 Flood Protection Measures**

USAR Section 3.6; Protection Against Dynamic Effects Associated with the Postulated Rupture of Piping  
USAR Section 2.4; Hydrologic Engineering  
Magnetrol Model FLS Instruction Manual and Parts List; not dated  
CALC IE-008; Internal Flooding Initiated Events; Rev. 0  
Calc. IF-1; IPE Internal Flooding- Initial Screening and Flood Frequencies; Rev. 0

## **1R11 Licensed Operator Requalification**

Perry ROP Plant Issue Matrix from January 1, 2000 to September 29, 2004; dated September 29, 2004  
Perry Non-ROP Plant Issue Matrix from January 1, 2000 to September 29, 2004; dated September 29, 2004  
NRC Inspection Report 50-440/02-08; dated January 28, 2003  
NRC Inspection Report 50-440/03-03; dated April 15, 2003  
NRC Inspection Report 50-440/03-04; dated July 28, 2003  
NRC Inspection Report 50-440/03-05; dated July 25, 2003  
NRC Inspection Report 05000440/2003006; dated October 30, 2003  
NRC Inspection Report 05000440/2003009; dated October 10, 2003  
NRC Inspection Report 05000440/2003010; dated January 30, 2004  
NRC Inspection Report 05000440/2004002; dated April 16, 2004  
NRC Inspection Report 05000440/2004007; dated July 29, 2004  
NRC Inspection Report 05000440/2004013; dated October 24, 2004  
LER 2002-001-01; Unplanned Automatic Scram During Main Turbine Mechanical Trip Weekly Testing; dated January 31, 2003  
LER 2002-003-00; Inadequate Emergency Closed Cooling Water Surveillance Instruction Results in the Loss of Safety Function; dated January 13, 2003  
LER 2003-001-00; Manual Actuation of the Reactor Protection System With All Control Rods Inserted During Testing; dated July 3, 2003  
LER 2003-002-01; Reactor Scram as a Result of a Loss of Off-Site Power; dated December 12, 2003  
LER 2003-003-01; Unrecognized Diesel Generator Inoperability During Mode Changes; dated August 3, 2004  
ANSI/ANS-3.4-1983; Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants; dated April 29, 1983  
ANSI/ANS-3.5-1998; Nuclear Power Plant Simulators for Use in Operator Training; dated April 15, 1998  
Regulatory Guide 1.149; Nuclear Power Plant Simulation Facilities for Use in Operator License Examinations; Revision 3; dated October 2001  
Regulatory Guide 1.134; Medical Evaluation of Licensed Personnel for Nuclear Power Plants; Revision 2; dated April 1987  
Fifteen Licensed Operators Medical Records; dated various  
PYBP-CSU-0001; Simulator Processes and Programs; Revision 1  
PYBP-PTS-0005; Operator Continuing Training Program; Revision 4  
PYBP-PTS-0007; Simulator Scenario Guide Preparation, Review, Revision, and Approval; Revision 0

PYBP-PTS-0015; JPM Preparation, Review, Revision, Approval and Administration; Revision 1  
TMA-4206; Control Room Simulator Configuration Management Program; Revision 6  
Simulator Work Order Summary - Open Items; dated November 15, 2004  
Simulator Work Order Summary - Items Closed After 11/30/2003; dated November 15, 2004  
Simulator Work Request Summary - Open Items; dated November 15, 2004  
Simulator Minor Work Item Summary - Open Items; dated November 15, 2004  
SWO # 03-0013; (J11) Incorporate Cycle 10 Core BOC and MOC Conditions Only; dated April 19, 2003  
SWO # 04-0020; Core Model Fails During a SLC Injection Testing the Core Model Update (SWO 03-0013 Retest Step 16); dated May 14, 2004  
SWO # 04-0029; THOR Oscillations Observed During Emergency Depressurization; July 26, 2004  
CR Number 04-03203; Recommended Parameter Not Recorded During Simulator Operability Test; dated June 18, 2004  
CR Number 04-03775; Benchmarking Trip to River Bend for Operations Programs Enhancements; dated July 20, 2004  
CR Number 04-04621; Annual Simulator Testing Results Identified One Failure for Steady State; dated September 8, 2004  
CR Number 04-04675; Near Miss Event for Exam Compromise; dated September 10, 2004  
CR Number 04-05616; Job Performance Measure (JPM) Exam Bank is Not Up to Industry Standards; dated October 26, 2004  
CR Number 04-05982; Current Practices for Examinee Control are Not Adequate; dated November 16, 2004 (Written as a Result of Inspection)  
Completed Simulator Testing; SVI-B13-T0004; Reactivity Anomaly Calculation During Mode 1; dated April 29, 2003  
Completed Simulator Testing; IOI-1; Cold Startup; dated April 29, 2003 and May 2, 2003  
Completed Simulator Testing; IOI-3; Power Changes; dated May 1, 2003  
Completed Simulator Testing; Heat Balance (Year 2004: 45 percent, 80 percent, 100 percent Power); dated June 15, 2004  
Self Evaluation SA-04-02; Licensed Operator Examination Regiment; dated August 16, 2004  
Self Evaluation SA-04-03; Reactor Water Level Control Strategy; dated August 16, 2004  
Self Evaluation; Condition Report Binning - 2<sup>nd</sup> Quarter 2004; dated July 4, 2004  
Self Evaluation SA #553; Operations Section Self-Evaluation Report - 3<sup>rd</sup> Quarter 2003; dated November 1, 2003  
Self Evaluation 607PTS2003; Self-Evaluation - 4<sup>th</sup> Quarter 2002  
Operations Training Programs Self-Assessment Report 420PTS - 2002  
Licensed Operator Requalification Exam; Sample Plan - 2002  
Licensed Operator Requalification Exam; Sample Plan - 2004  
Completed NOP-TR-1001-01; Remedial/Make-Up Recommendations; dated various  
Completed TMA-4206; Attachment 4; Licensed Duties Removal/Reinstatement Sheet (LIC-1009-000); dated various  
Completed TMA-4206; Attachment 5; Accelerated Requalification Program Outline Sheet; dated various

Completed TMP-2002; Licensed Duties Removal/Reinstatement Sheet (LIC-1009-000); dated various  
Completed TMP-2002; Attachment 5; Accelerated Requalification Program Outline Sheet; dated various  
Perry Performance Indicator Details; Training Program; dated 3<sup>rd</sup> Quarter 2004  
Master License Operator Requalification Schedule (2003-2004); dated April 2, 2004  
Engineering Design Guide-97-003; Review of Operating Instructions for USAR/Design Basis Impact; Revision 2  
FENOC; Expectations Handbook; Perry Operations Section; Revision 4  
Feedback and Attendance Sheets; Continuing Operator Training; Cycles 2003-01 through 2003-09; dated various  
Licensed Operator Continuing Training Curriculum Review Committee Meeting Minutes; Meeting No. 2004-01 through 2004-03; dated various  
RO Part A Static Simulator Exam Number 04-021 (2004 Week 1); dated October 26, 2004  
SRO Part A Static Simulator Exam Number 04-022 (2004 Week 1); dated October 26, 2004  
RO Part B Written Exam Number 04-009 (2004 Week 1); dated October 26, 2004  
SRO Part B Written Exam Number 04-010 (2004 Week 1); dated October 26, 2004  
RO Part A Static Simulator Exam Number 04-033 (2004 Week 2); dated October 26, 2004  
SRO Part A Static Simulator Exam Number 04-034 (2004 Week 2); dated October 26, 2004  
RO Part B Written Exam Number 04-005 (2004 Week 2); dated October 26, 2004  
SRO Part B Written Exam Number 04-006 (2004 Week 2); dated October 26, 2004  
RO Part A Static Simulator Exam Number 04-037 (2004 Week 3); dated October 26, 2004  
SRO Part A Static Simulator Exam Number 04-038 (2004 Week 3); dated October 26, 2004  
RO Part B Written Exam Number 04-007 (2004 Week 3); dated October 26, 2004  
SRO Part B Written Exam Number 04-008 (2004 Week 3); dated October 26, 2004  
Annual Requal Exam Scenario; OT-3070-RP6A; Revision 5  
Annual Requal Exam Scenario; OT-3070-SC1C; Revision 0  
Job Performance Measure OT-3701-C41\_04; Rev 0  
Job Performance Measure OT-3701-N27\_02; Rev 1  
Job Performance Measure OT-3701-E12\_12; Rev 0  
Job Performance Measure OT-3701-P54\_01; Rev 0  
Job Performance Measure OT-3701-N21\_05; Rev 0  
Job Performance Measure OT-3701-G43\_02; Rev 0  
Job Performance Measure OT-3701-N27\_08; Rev 0  
Job Performance Measure OT-3701-C22\_03; Rev 0  
Job Performance Measure OT-3701-C41\_08; Rev 0  
Job Performance Measure OT-3701-R43\_13; Rev 1

Simulator Examination Summary Sheet; Dated Nov. 17, 2004  
Completed Dynamic Simulator Individual Evaluations; Various; Dated Nov. 17, 2004  
Completed Job Performance Measure Evaluation Record Sheets; Various; Dated  
November 17, 2004

### **1R13 Maintenance Risk Assessments and Emergent Work Control**

Perry Work Implementation Schedule; Week 7, Period 7  
Perry Work Implementation Schedule; Week 9, Period 7  
Perry Work Implementation Schedule; Week 1, Period 8  
Perry Work Implementation Schedule; Week 2, Period 8  
Probabilistic Safety Assessment; Week 7, Period 6; Rev. 2  
Probabilistic Safety Assessment; Week 9, Period 6; Rev. 1  
Probabilistic Safety Assessment; Week 1, Period 6; Rev. 0  
Probabilistic Safety Assessment; Week 2, Period 6; Rev. 0  
PDB-C0011; PSA Pre-Solved Configurations; Rev. 3  
PAP-1924; On-Line Safety Assessment; Rev. 3  
PNPP Form 10239; Division 1 Outage (Yellow) Protected Equipment Posting Checklist;  
revision dated September 13, 2004  
PNPP Form 10241; Division 2 Outage (Yellow) Protected Equipment Posting Checklist;  
revision dated September 13, 2004  
CR 04-05604; Relief Valve Failed As-Found Testing and Was Re-installed Without  
Refurbishment; dated October 25, 2004  
Nuclear Repair Manual, Section 15; Nonconforming Material or Items; Rev. 4  
NOP-LP-2001; Condition Report Process; Rev. 7  
TAI-1101-3; Inservice Testing of ASME Section XI and Augmented Pressure Relief  
Devices; Rev. 2

### **1R14 Operator Performance During Non-routine Evolutions and Event**

PYRM-POS-0001; Perry Operations Section Expectations Handbook; Rev. 4  
IOI-3; Power Changes; Rev. 17  
SVI-M26-T1264; Control Room Emergency Recirculation System High Radiation  
Initiation Functional Test; Rev. 3  
Hot Startup Following System Draindown; dated December 14, 2004  
SOI-G33; Reactor Water Cleanup System; Rev. 18

### **1R19 Post-Maintenance Testing**

PMI-0030; Maintenance of Limitorque Valve Operators; Rev. 7  
SVI-E12-T2003; RHR C Pump and Valve Operability Test; Rev. 16  
SVI-P42-T2001-B; Emergency Closed Cooling System B Pump and Valve Operability  
Test; Rev. 5  
WO 200097274; Rework Inboard Motor Bearing; dated October 11, 2004  
GCI-0016; Scaffolding Erection, Modification, or Dismantling Guidelines; Rev. 4  
CR 04-05601; Scaffolding Obstructed Plant Equipment Operations; dated  
October 25, 2004

File No. 0219; Installation and Maintenance Instructions NH90 Series Hydramotor Actuators; Rev. 13  
NOP-WM-9001; FIN/Minor/Toolpouch Maintenance Process; Rev. 2  
GMI-0061; Valve Packing Instruction; Rev. 5  
ISTP; Pump and Valve Inservice Testing Program Plan; Rev. 7  
CR 04-06102; Valve Packing Not Adjusted per GMI-0061; dated November 19, 2004;

#### **1R20 Refueling and Other Outage Activities**

IOI-2; Hot Startup; Rev.10  
IOI-3; Power Changes; Rev. 17  
IOI-5; Maintaining Hot Standby or Hot Shutdown; Rev. 6

#### **1R22 Surveillance Testing**

SVI-E51-T2001; RCIC Pump and Valve Operability Test; Rev. 18  
PTI-P45-P0003; ESW System Loop C Flow and Differential Pressure Test; Rev. 8  
CHI-005; Miscellaneous Sampling Systems; Rev. 6  
SVI-E12-T2001; RHR A Pump and Valve Operability Test; Rev. 16  
SVI-P42-T2001A; Emergency Closed Cooling System A Pump and Valve Operability Test; Rev. 5  
SVI-P45-T2001; ESW Pump A and Valve Operability Test; Rev. 13  
SVI-E21-T2001; Low Pressure Core Spray Pump and Valve Operability Test; Rev. 17  
SOI-E21; Low Pressure Core Spray System; Rev. 16  
PTI-P54-P0053; M40 System Fire Damper Visual Inspection; Rev. 1

#### **1EP4 Emergency Action Level and Emergency Plan Changes**

\_\_\_\_\_Perry Nuclear Power Plant's Emergency Plan; Revisions 17, 18, 19, 20, and 21

#### **40A1 Performance Indicator Verification**

Plant Narrative Logs; July 1, 2003 through June 30, 2004  
Engineering system unavailability tracking logs; 2<sup>nd</sup> quarter 2004  
Engineering system unavailability tracking logs; 1<sup>st</sup> quarter 2004  
Engineering system unavailability tracking logs; 4<sup>th</sup> quarter 2003  
Engineering system unavailability tracking logs; 3<sup>rd</sup> quarter 2003

#### **40A2 Identification and Resolution of Problems**

CR 04-01823; Problems encountered with HPCS ESW Fill and Vent; dated April 8, 2004  
CR 04-04459; Work Group Clearance Walkdown Inadequate; dated August 29, 2004  
CR-04-04131; Clearance Appears Inadequate for Planned Work; dated August 11, 2004  
CR 04-04161; Air Receiver Outlet valves Tagged Prior to Placing Air System in Secured Status  
CR 04-03607; Work Group Clearance Generated Reviewed and Released on Incorrect Component; dated July 13, 2004  
CR 04-02210; ESW B Discharge Strainer Switch in Off; dated April 29, 2004

CR 04-05135; Clearance Hung, Order not Worked; dated October 1, 2004  
PY-C-04-02; Perry Nuclear Quality Assessment Quarterly Audit Report; dated August 20, 2004  
PYBP-PII-0003; Performance Improvement Initiate Program Review Process; Rev. 0  
Perry Nuclear Power Plant Operations Section Self-Evaluation Report 2<sup>nd</sup> Quarter 2004; dated July 13, 2004  
Perry Nuclear Power Plant Operations Section Self-Evaluation Report 3<sup>rd</sup> Quarter 2004; dated October 15, 2004  
Perry Nuclear Power Plant Focused Self-Assessment I&C Work Preparation 560PMS2004; dated February 18-20, 2004  
Perry Nuclear Power Plant Operations Section Self-Evaluation Report 2<sup>nd</sup> Quarter 2004; dated July 13, 2004  
Perry Nuclear Power Plant Health Report; 2<sup>nd</sup> quarter 2004  
10 CFR 50.59 Evaluation 03-01105; DCP 98-003A, Rev. 02 through 06 and USAR 03-066; Rev. 6  
CR 04-05929; Latent Issue Concerning Rad Levels in Aux Building East vs USAR Post-Acc. Zone Maps; dated November 11, 2004  
CR 04-05737; Relay 1C71K010H Not Replaced or Deferred Prior to Late Date  
CR 03-03904; Post RFO Radiation Base Point Survey Shows 20 Locations >Zone Map Calc. EQ-046; Qualified Life of Normally Energized TRC Solenoid Valves (Series 77JJ)  
NEI-0701; Equipment Qualification Process; Rev. 11

#### **40A3 Event Followup**

\_\_\_\_ ONI-ZZZ-5; Spills and Unauthorized Discharges; Rev. 4  
PAP-0806; Oil/Chemical Release Contingency Plan; Rev. 7  
DWG 302-0171-00000; Two-Bed Demineralizer and Distribution System Cation and Anion Exchangers  
EPI-B1; Emergency Notification System; Rev. 14  
Initial and Follow-up notifications reports; dated November 12, 2004

#### **40A Other Activities**

## LIST OF ACRONYMS USED

AEGTS	annulus exhaust gas treatment system
ASME	American Society of Mechanical Engineers
CFR	<u>Code of Federal Regulations</u>
CR	condition report
DG	diesel generator
EAL	emergency action level
ECCS	emergency core cooling system
ECCW	emergency core cooling water
EDG	emergency diesel generator
ESW	emergency service water
FENOC	FirstEnergy Nuclear Operating Company
FIN	Finding
HPCS	high pressure core spray
IMC	Inspection Manual Chapter
JPM	Job Performance Measure
LER	Licensee Event Report
LOR	Licensed Operator Requalification
LORT	Licensed Operator Requalification Training
NCV	non-cited violation
NRC	Nuclear Regulatory Commission
NRM	Nuclear Repair Manual
OPRM	Oscillating Power Range Monitor
OWA	operator workaround
PI	performance indicator
PMT	post-maintenance testing
RCIC	reactor core isolation cooling
RHR	residual heat removal
RWCU	reactor water cleanup
SDP	significance determination process
SSC	structures, systems, and components
TS	Technical Specification
USAR	Updated Safety Analysis Report