UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

January 26, 2009

Mr. Mark Bezilla
Site Vice President
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P. O. Box 97, 10 Center Road, A-PY-290
Perry, OH 44081-0097

SUBJECT: PERRY NUCLEAR POWER PLANT NRC INTEGRATED INSPECTION REPORT 05000440/2008005

Dear Mr. Bezilla:

On December 31, 2008, 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 15, 2009, with you and 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 and one self-revealed findings of very low safety significance were identified. Two of the findings identified also involved violations of NRC requirements. In addition, one NRC-identified violation of NRC requirements, without an associated finding, was identified. Two licensee-identified violations are listed in Section 4OA7 of this report. However, because of the very low safety significance and because the issues were entered into your corrective action program, the NRC is treating these issues as non-cited violations in accordance with Section VI.A.1 of the NRC's Enforcement Policy.

If you contest the subject or severity of any non-cited violation in this report, 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 copies 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 NRC Resident Inspectors' 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), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Jamnes L. Cameron, Chief
Reactor Projects Branch 6

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

Enclosure: Inspection Report 05000440/2008005
w/Attachment: Supplemental Information

cc w/encl: J. Hagan, President and Chief Nuclear Officer - FENOC
J. Lash, Senior Vice President of Operations and
Chief Operating Officer - FENOC
D. Pace, Senior Vice President, Fleet Engineering - FENOC
J. Rinckel, Vice President, Fleet Oversight - FENOC
P. Harden, Vice President, Nuclear Support
Director, Fleet Regulatory Affairs - FENOC
Manager, Fleet Licensing - FENOC
Manager, Site Regulatory Compliance - FENOC
D. Jenkins, Attorney, FirstEnergy Corp.
Public Utilities Commission of Ohio
C. O'Claire, State Liaison Officer, Ohio Emergency Management Agency
R. Owen, Ohio Department of Health

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Letter to M. Bezilla from J. Cameron dated January 26, 2009

SUBJECT: PERRY NUCLEAR POWER PLANT NRC INTEGRATED INSPECTION REPORT 05000440/2008005

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-440
License No:	NPF-58
Report No:	050000440/2008005
Licensee:	FirstEnergy Nuclear Operating Company (FENOC)
Facility:	Perry Nuclear Power Plant, Unit 1
Location:	Perry, Ohio
Dates:	October 1, 2008, through December 31, 2008
Inspectors:	M. Franke, Senior Resident Inspector M. Wilk, Resident Inspector C. Acosta-Acevedo, Reactor Engineer J. Bozga, Reactor Inspector D. McNeil, Senior Operations Engineer M. Phalen, Health Physicist R. Russell, Emergency Preparedness Inspector J. Rutkowski, Senior Resident Inspection, Davis-Besse C. Zoia, Operations Engineer
Observer:	R. Leidy, Ohio Department of Health Bureau of Radiation Protection
Approved by:	Jamnes L. Cameron, Chief Branch 6 Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000440/2008005; 10/01/2008 – 12/31/2008; Refueling and Other Outage Activities; Follow-up of Events and Notices of Enforcement Discretion.

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

A. Inspector-Identified and Self-Revealed Findings

Cornerstone: Initiating Event

- Green. The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings." Specifically, the licensee failed to perform nondestructive testing of reactor pressure vessel (RPV) head strongback major load carrying welds and critical areas required by American National Standards Institute (ANSI) N14.6-1978. The issue was entered into the licensee's corrective action program, and the licensee revised a procedure to perform nondestructive testing of RPV head strongback major load carrying welds and critical areas.

  The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown. Specifically, the purpose of the nondestructive testing of RPV head strongback major load carrying welds and critical areas is to limit the likelihood of a RPV head strongback structural component failure, and hence, to ensure safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The inspectors determined that the finding was of very low safety significance following a qualitative significance determination process review. The finding has a cross-cutting aspect in the area of human performance as defined in Inspection Manual Chapter 0305 H.2(c), because the licensee did not provide a complete, accurate, and up-to-date procedure to plant personnel. (Section 1R20.1.b.(1))

- Green. The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," in that, the design basis structural analysis for the containment polar crane trolley did not adequately evaluate the trolley seismic restraints. Specifically, the trolley seismic restraint calculation failed to ensure that design stresses remained below acceptance limits. Also, the as-built configuration of the trolley seismic restraints was not in accordance with the analyzed condition. As a result, the design basis calculation was not sufficient to ensure conformance with Seismic Category I requirements for safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The issues were entered into the licensee's corrective action program. The licensee initiated the revision of the trolley seismic restraint calculation and the restoration of the trolley seismic restraint as-built condition to meet Seismic Category I requirements.

The finding was determined to be more than minor because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown. Specifically, compliance with Seismic Category I design requirements was to ensure safe load handling of heavy loads over the reactor core or over safety-related systems, structures and components. The inspectors determined that the finding was of very low safety significance following a qualitative significance determination process review. (Section 1R20.1.b.(2))

Cornerstone: Mitigating Systems

- Severity Level IV The inspectors identified a non-cited violation of 10 CFR 50.73(a)(1), "Licensee Event Reports." The inspectors determined that the licensee failed to submit a required Licensee Event Report (LER) within 60 days after discovery of conditions requiring a report. On August 26, 2007, the licensee identified improperly installed containment floor grating that affected safety system operability. The licensee failed to report conditions of operations prohibited by Technical Specification, operations in an unanalyzed condition, and loss of safety function from August 6 to August 9, 2007, that were associated with inoperability of low pressure core injection 'A.' The licensee entered this issue into their corrective action program.

  The primary cause of this non-cited violation was related to the cross-cutting area of problem identification and resolution as defined in Inspection Manual Chapter 0305 P.1(c) because the licensee failed to thoroughly evaluate problems for reportability conditions. (Section 4OA3.2)

Cornerstone: Emergency Preparedness

Green A finding of very low safety significance was self-revealed on October 30, 2008, when licensee personnel failed to appropriately respond to a Technical Support Center (TSC) computer room high temperature alarm. As a result, electrical power supply to plant emergency response equipment and control systems was interrupted. Affected systems included the Integrated Computer System (ICS), Emergency Response Data System (ERDS), one train of power to the Digital Feedwater Control System (DFWCS), and the chemistry computer. As part of their immediate corrective actions, licensee personnel restored the affected systems entered the issue into their corrective action program.

This finding is considered more than minor because it was associated with the Facilities and Equipment attribute of the Emergency Preparedness Cornerstone and affected the objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding was determined to be of very low safety significance because the equipment was restored to a functional status in less than seven days. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution because the organization failed to ensure that issues were identified accurately and in a timely manner commensurate with their significance as defined in Inspection Manual Chapter 0305 P.1(a). (Section 4OA3.1)

B. Licensee-Identified Violations

Two violations of very low safety significance that were identified by the licensee were reviewed by the inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. The violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

The plant began the inspection period at 100 percent power. With the exception of planned power reductions for routine testing, rod alignments, and maintenance, the plant remained at 100 percent power through the end of the inspection period.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

.1 Winter Seasonal Readiness Preparations

a. Inspection Scope

The inspectors conducted a review of the licensee's preparations for winter conditions to verify that the plant's design features and implementation of procedures were sufficient to protect mitigating systems from the effects of adverse weather. Documentation for selected risk-significant systems was reviewed to ensure that these systems would remain functional when challenged by inclement weather. During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. Cold weather protection, such as heat tracing and area heaters, was verified to be in operation where applicable. The inspectors also reviewed corrective action program (CAP) items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the Attachment. The inspectors' reviews focused on the following due to their risk significance or susceptibility to cold weather issues:

- heat trace system,
- circulating water, and
- service water.

This inspection constituted one winter seasonal readiness preparations sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings of significance were identified.

.2 External Flooding

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the UFSAR for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate the flood were in place and operable. Additionally, the inspectors performed a walkdown of the protected area to identify any modification to the site which would inhibit site drainage during a probable maximum precipitation event or allow water ingress past a barrier. The inspectors also walked down underground bunkers/manholes subject to flooding that contained multiple train or multiple function risk-significant cables. The inspectors also reviewed the abnormal operating procedure for mitigating the design basis flood to ensure it could be implemented as written.

The inspectors reviewed Operating Experience Smart Sample (OpESS) FY2007-02, "Flooding Vulnerabilities Due To Inadequate Design And Conduit/Hydrostatic Seal Barrier Concerns," as part of this inspection sample.

This inspection constituted one external flooding sample as defined in IP 71111.01-05.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- low pressure core spray (LPCS) during alternate decay heat removal (ADHR) installation during the week of October 20, 2008;
- emergency closed cooling (ECC) 'A' during the week of November 3, 2008;
- Division 1 Emergency Diesel Generator (EDG) during the week of November 3, 2008, and;
- Division 2 EDG during the week of November 10, 2008.

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the systems, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, UFSAR, Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment.

The inspectors completed a review of OpESS FY2008-01, "Negative Trend and Recurring Events Involving Emergency Diesel Generators," as part of their inspection samples associated with the EDGs.

These activities constituted four quarterly partial system walkdown samples as defined in IP 71111.04-05.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (Annual/Quarterly) (71111.05AQ)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Division 1, 2, and 3 Switchgear Rooms, Control Complex elevation 620';
- Intermediate Building elevation 620';
- Auxiliary Building elevation 574';
- Auxiliary Building elevation 620';
- Turbine Power Complex; and
- Turbine Building 620' East elevation.

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These activities constituted six quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11Q)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On October 7, 2008, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes one quarterly licensed operator requalification program sample as defined in IP 71111.11.

b. Findings

No findings of significance were identified.

.2 Facility Operating History (71111.11B)

a. Inspection Scope

The inspectors reviewed the plant's operating history from January 2007 through December 2008 to identify operating experiences that were expected to be addressed by the Licensed Operator Requalification Training (LORT) program. The inspectors verified that the identified operating experience had been addressed by the licensee in accordance with the station's approved Systems Approach to Training (SAT) program to satisfy the requirements of 10 CFR 55.59(c). The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.3 Licensee Requalification Examinations (71111.11B)

a. Inspection Scope

The inspectors performed an inspection of the licensee's LORT test/examination program for compliance with the station's SAT program which would satisfy the requirements of 10 CFR 55.59(c)(4). The reviewed operating examination material consisted of five operating tests, each containing approximately two dynamic simulator scenarios and approximately eight job performance measures (JPMs). The written examinations reviewed consisted of five written examinations, each containing approximately 40 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 operating test. The examiners assessed the amount of written examination material duplication from week-to-week for the written examination administered in 2006. The inspectors reviewed the methodology for developing the examinations, including the LORT program two-year sample plan, probabilistic risk assessment insights, previously identified operator performance deficiencies, and plant modifications. The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.4 Licensee Administration of Requalification Examinations (71111.11B)

a. Inspection Scope

The inspectors observed the administration of a requalification operating test to assess the licensee's effectiveness in conducting the test to ensure compliance with 10 CRF 55.59(c)(4). The inspectors evaluated the performance of one crew in parallel with the facility evaluators during two dynamic simulator scenarios and evaluated various licensed crew members concurrently with facility evaluators during the administration of several JPMs. The inspectors assessed the facility evaluators' ability to determine adequate crew and individual performance using objective, measurable standards. The inspectors observed the training staff personnel administer the operating test, including conducting pre-examination briefings, evaluations of operator performance, and individual and crew evaluations upon completion of the operating test. The inspectors evaluated the ability of the simulator to support the examinations. A specific evaluation of simulator performance was conducted and documented in the section below titled, "Conformance With Simulator Requirements Specified in 10 CFR 55.46." The documents reviewed during this inspection are listed in the attachment.

b. Findings

No findings of significance were identified.

.5 Examination Security (71111.11B)

a. Inspection Scope

The inspectors observed and reviewed the licensee's overall licensed operator requalification examination security program related to examination physical security (e.g., access restrictions and simulator considerations) and integrity (e.g., predictability and bias) to verify compliance with 10 CFR 55.49, "Integrity of Examinations and Tests." The inspectors also reviewed the licensee's examination security procedure, any corrective actions related to past or present examination security problems at the facility, and the implementation of security and integrity measures (e.g., security agreements, sampling criteria, bank use, and test item repetition) throughout the examination process. The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.6 Licensee Training Feedback System (71111.11B)

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. This evaluation was performed to verify compliance with 10 CFR 55.59(c) and the licensee's SAT program. The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.7 Licensee Remedial Training Program (71111.11B)

a. Inspection Scope

The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the previous biennial requalification examinations and the training from 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. This evaluation was performed in accordance with 10 CFR 55.59(c) and with respect to the licensee's SAT program. The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.8 Conformance with Operator License Conditions (71111.11B)

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 watch-standing credit for maintaining active operator licenses. The inspectors reviewed the licensee's LORT program to assess compliance with the requalification program requirements as described by 10 CFR 55.59(c). Medical records for 12 licensed operators were reviewed for compliance with 10 CFR 55.53(I). Condition Report 08-49100 was reviewed. Documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified. However, the licensee identified a finding of very low safety significance concerning a failure to notify the NRC of an operator's termination of employment within 30 days. See Section 4AO7 of this report for final disposition.

.9 Conformance with Simulator Requirements Specified in 10 CFR 55.46 (71111.11B)

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, malfunction tests, steady state tests, and core performance tests), simulator discrepancies, 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 IP 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(c) and (d). The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.10 Annual Operating Test Results (71111.11B)

a. Inspection Scope

The inspectors reviewed the overall pass/fail results of the biennial written examination, the individual JPM operating tests, and the simulator operating tests (required to be given per 10 CFR 55.59(a)(2)) administered by the licensee from September 2008 through October 2008 as part of the licensee's operator licensing requalification cycle. These results were compared to the thresholds established in IMC 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)." The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," and IP 71111.11, "Licensed Operator Requalification Program." The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- process radiation monitoring system;
- plant integrated computer system;
- feedwater system; and
- plant electrical components.

The inspectors reviewed events such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems, and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components/functions classified as (a)(2); or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted four quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

Introduction: An Unresolved Item (URI 05000440/2008005-05) was opened related to unplanned unavailability of the motor feedwater pump (MFP) after it was placed in 10 CFR 50.65(a)(1) status.

Description: The licensee determined that the feedwater system met 10 CFR 50.65(a)(1) status on January 31, 2008, because system unavailability exceeded established performance criteria. Events that contributed to unavailability included two losses of feedwater associated with the feedwater digital control problems and four occasions of water intrusion into the MFP lube oil system in 2007. The licensee implemented corrective actions and goals to assure that the feedwater system was capable of fulfilling its intended functions.

On March 29, 2008, and on August 7, 2008, the MFP again was rendered unavailable due to water intrusion into the MFP lube oil system. On October 14, 2008, the licensee decided to extend a corrective action to replace a MFP seal from December 2008 to April 2009. Due to the repeated MFP unavailability events after the system was placed in 10 CFR 50.65(a)(1) status, the inspectors were concerned whether the licensee's corrective actions were appropriate. The inspectors determined this issue required further review.

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

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- Division 1 EDG maintenance outage during the week of September 29, 2008;
- Division 2 EDG maintenance outage during the week of November 3, 2008; and
- reactor feed booster pump and safety, service and instrument air system maintenance during the week of December 8, 2008.

These activities were selected based on their potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

These maintenance risk assessments and emergent work control activities constituted three samples as defined in IP 71111.13-05.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- residual heat removal (RHR) heat exchanger 'B' performance concerns during the week of November 3, 2008;
- Feedwater nozzle weld flaw evaluations during the weeks of November 17 and November 24, 2008; and
- emergency service water (ESW) system fish intrusions during the week of December 22, 2008.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and Updated Safety Analysis Report (USAR) to the licensee’s evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the attachment.

These inspections constitute three samples as defined in IP 71111.15.-05.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed the following temporary modifications:

- TM ECP 08-0323-001; Electrical Jumper Across Drywell Equipment Drain Sump Pump Contact #1; and
- noble metal chemistry injection system.

The inspectors compared the temporary configuration changes and associated 10 CFR 50.59 screening and evaluation information against the design basis, the UFSAR, and the TS, as applicable, to verify that the modification did not affect the operability or availability of the affected system(s). The inspectors also compared the licensee's information to operating experience information to ensure that lessons learned from other utilities had been incorporated into the licensee's decision to implement the temporary modification. The inspectors, as applicable, performed field verifications to ensure that the modifications were installed as directed; the modifications operated as expected; modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing systems. Lastly, the inspectors discussed the temporary modification with operations, engineering, and training personnel to ensure that the individuals were aware of how extended operation with the temporary modification in place could impact overall plant performance.

These inspection activities constituted two temporary modification samples as defined in IP 71111.18-05.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following post-maintenance activities for review to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- LPCS and 'A' RHR waterleg pump motor replacement completed on October 4, 2008;
- emergency core cooling water (ECCW) 'A' heat exchanger hydramotor overhaul completed on October 2, 2008;
- ECCW 'B' heat exchanger temperature controller maintenance completed on November 5, 2008;
- ESW 'B' pump breaker maintenance during the week of November 3, 2008;
- Division 2 EDG maintenance during the week of November 10, 2008; and
- Unit 1 Division 2 safety battery replacement during the week of November 10, 2008.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for 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 in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion), and test documentation was properly evaluated. The inspectors evaluated the activities against TS, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment.

This inspection constitutes six samples as defined in IP 71111.19.

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20)

.1 Refueling Outage Activities—Crane and Heavy Lift Inspection (OpESS FY2007–03)

a. Inspection Scope

From December 1, 2008, through December 19, 2008, the inspectors reviewed the licensee's control of heavy loads program in conjunction with the NRC's Operating Experience Smart Sample (OpESS) FY2007–03, Revision 2, "Crane and Heavy Lift Inspection, Supplemental Guidance for IP-71111.20," specifically related to the removal and installation of the reactor vessel head during refueling outages. The inspectors performed the following activities listed below during the inspection. Documents reviewed during the inspection are listed in the Attachment of this report.

- Reviewed the licensee's containment building crane preventative maintenance program procedures and the containment building crane manufacturer's recommended maintenance. Also, reviewed a sample of licensee records of containment building crane testing and inspections completed prior to reactor disassembly and reactor head lift.

- Reviewed the licensee's submittals and commitments related to Generic Letters (GLs) 80–113 and 81–07, "Control of Heavy Loads."

- Reviewed the licensee's calculations related to a postulated reactor vessel head drop. Reviewed licensee's procedures that remove and install the reactor vessel head during refueling operations with respect to conformance to limiting parameters evaluated in the reactor head drop analysis, (i.e., load drop weight, load drop height, and medium) through which load drop occurs (air).

- Reviewed the licensee's procedures that control the total weight lifted by the containment building crane to remove and install the reactor vessel head during refueling operations and the containment building crane rated lift capacity.

- Reviewed the licensee’s calculations of rigging and special lifting devices used to remove and install the reactor vessel head during refueling operations.

- Reviewed the licensee’s procedures that control reactor vessel safe load path to remove and install the reactor vessel head during refueling operations.

- Reviewed the licensee’s preventative maintenance program procedures of rigging and special lifting devices used to remove and install the reactor vessel head during refueling operations.

- Reviewed the licensee’s procedures that provide training and qualification of containment building crane operators.

- Reviewed the licensee’s structural calculations for containment building crane design to Seismic Category I requirements.

This inspection constitutes completion of a single component of one refueling outage sample as defined in IP 71111.20 scheduled to be completed in the second quarter of 2009.

b. Findings

(1) Inspection Procedure for RPV Head Strongback Omitted Non-Destructive Testing of Structural Welds

Introduction: The inspectors identified an non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” having very low safety significance (Green), in that, the preventative maintenance procedure did not include nondestructive testing of RPV head strongback major load carrying welds and critical areas specified in ANSI N14.6–1978 prior to each use. As a result, the licensee used the RPV head strongback during each refueling outage without performing nondestructive testing of the RPV head strongback welds.

Description: As described in UFSAR Section 9.1.4.2.5.7, the RPV head strongback was an integrated piece of equipment consisting of a cruciform shaped strongback, a circular monorail and a circular storage tray. The strongback was a box beam structure which had a hook box with two hook pins in the center for engagement with the containment polar crane sister hook. Each arm had a lift rod for engagement to the four lift lugs on the RPV head. The RPV head strongback carousel was nuclear safety-related as shown on Drawing No. 23–0119–00000, “Head Strongback Carousel”, Revision A. A Seismic Category I design function of the RPV head strongback was lifting of the RPV head. The strongback, when suspended from the containment polar crane main hook will transport RPV head plus the carousel between the reactor vessel and storage on the pedestals as described in UFSAR Section 9.1.4.2.5.7.

The inspector reviewed the licensee’s submittals and commitments related to the Generic Letters (GLs) 80–113 and 81–07, “Control of Heavy Loads.” Appendix K of Supplement No. 5 to NUREG-0887, “Safety Evaluation Report Related to the Operation of Perry Nuclear Power Plant, Units 1 and 2,” indicates, special lifting devices used for the movement of heavy loads shall meet the requirements stated in ANSI N14.6-1978.

Section 5.3.1., of ANSI N14.6–1978 requires that each special lifting device be subjected to, either a load test, or dimensional testing, visual inspection, and nondestructive testing of major load carrying welds and critical areas. The licensee did not perform a load test of the RPV head strongback prior to each use.

The inspectors noted that RPV head strongback carousel preventative maintenance procedure PMI-0085 did not include the ANSI N14.6–1978 requirement to perform nondestructive testing of major load-carrying welds and critical areas. The licensee could not produce documentation to verify nondestructive testing of RPV head strongback welds were performed during each refueling outage.

In response to this concern, the licensee initiated CR 08-50414 on December 3, 2008. The licensee subsequently revised PMI-0085 to include the requirement of ANSI N14.6–1978 as part of work activity initiation number 600510692, (i.e., perform nondestructive testing of RPV head strongback major load carrying welds) and critical areas.

<u>Analysis</u>: The inspectors determined that the failure to perform nondestructive testing of the RPV head strongback major load carrying welds and critical areas was contrary to the ANSI N14.6-1978 requirement and was a performance deficiency.

The finding was determined to be more than minor in accordance with IMC 0612, Appendix B, "Issue and Screening," Minor Question 4 because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown. Specifically, the purpose of the nondestructive testing of RPV head strongback major load carrying welds and critical areas is to limit the likelihood of a RPV head strongback structural component failure, and hence, to ensure safe load handling of heavy loads over the reactor core or over safety-related systems.

The inspectors, with assistance from a Region III Senior Reactor Analyst (SRA), evaluated the finding using IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," because existing PRA methods and tools are not well suited for this specific issue. The Region III SRA used Table 4.1 in Appendix M to evaluate the significance of this issue. There currently exists no accurate estimate of the frequency of RPV head drop events. The SRA reviewed available information documented in NUREG 0933, "Resolution of Generic Safety Issues," Issue 186. This discussed the potential risk and consequences of heavy load drops in nuclear power plants. The NUREG provided a frequency estimate of 5.6E-5 per demand for drops of very heavy loads. The estimate could be higher or lower because of varying human error rates, and because load drop events in different areas of the plants were examined. Using the value provided in the NUREG, and assuming two lifts every 18 months, the SRA estimated a frequency of a heavy load drop of 7.5E-5/yr.

Mitigating this value by some orders of magnitude would be the availability of safety-related injection systems, the fact that no rigging, or deficiencies, or failures were involved, and the fact that the licensee had performed visual inspections of the RPV head strongback in the past and had identified no concerns. Thus, this issue is best treated as a finding of very low safety significance (Green).

The licensee performed a NUREG 0612 Control of Heavy Loads Fleet Oversight Performance Assessment Report in 2008. The report specifically addressed the special lifting device inspection requirements. This assessment activity provided an opportunity to identify the issue of not performing nondestructive testing on the strongbacks; however, the issue was not identified or acted upon at that time. Therefore, the finding has a cross-cutting aspect in the area of human performance as defined in IMC 0305 H.2(c), because the licensee did not provide a complete, accurate, and up-to-date procedure to plant personnel.

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and be accomplished in accordance with these instructions, procedures, or drawings.

Section 5.3.1, of ANSI N14.6–1978 requires "In cases where surface cleanliness and conditions permit, the load testing may be omitted, and dimensional testing, visual inspection, and nondestructive testing of major load-carrying welds and critical areas in accordance with 5.5 of this standard shall suffice."

Contrary to the above, the licensee failed to have a procedure in-place to ensure the ANSI N14.6–1978 requirement to perform nondestructive testing of the RPV head strongback was performed. Specifically, this requirement was not included in PMI-0085 for the RPV head strongback. Because this violation was of very low safety significance and it was entered into the licensee's CAP as (CR 08–50414), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000440/2008005-01).

(2) Containment Polar Crane Trolley Seismic Restraints Did Not Meet Seismic Category I Requirements

Introduction: The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," in that, the design basis structural analysis for the containment polar crane trolley did not adequately evaluate the trolley seismic restraints. Specifically, the trolley seismic restraint calculation failed to ensure design stresses remained below acceptance limits. Also, the as-built configuration of the trolley seismic restraints was not in accordance with the analyzed condition. As a result, the design basis calculation was not sufficient to ensure conformance with Seismic Category I requirements for safe load handling of heavy loads over the reactor core or over safety-related systems.

Description: As described in UFSAR Section 9.1.4.2.2.1, the containment polar crane was designed to Seismic Category I requirements. The crane consisted of two crane girders and a trolley. The circular runway (rails) which supported the crane girders was supported from the containment walls at Elevation 721'-0" and provided for 360 degree rotation of the crane girders. The trolley traveled laterally on the crane girders. The main and auxiliary hoisting equipment (125 ton and 10 ton capacity, respectively) were located on the trolley. The containment polar crane with the vessel head strongback was used to handle the 90 ton RPV head.

The inspectors reviewed calculation 4549–32–134, “Reactor Building Cranes for Perry Nuclear Power Plant Units 1 and 2 Trolley Structural Calculations,” which indicated that the design of the trolley seismic restraints had design stresses greater than the Seismic Category I acceptance limits. The licensee had not provided an acceptable engineering basis for this overstress condition in the calculation. As a direct result to an NRC inspector question whether the existing trolley seismic restraint overstress condition was acceptable, the licensee discovered that eight reinforcement plates (four plates on each end connection of trolley beam to crane girder) were not installed on the trolley seismic restraints in accordance with calculation 4549–32–134. The reinforcement plates were required for the trolley seismic restraints to meet Seismic Category I design requirements. These reinforcement plates were shown on Drawing No. 4549–31–559, “Trolley Seismic Restraint Design Drawing.”

In response to these concerns, the licensee initiated CR 08-50408 on December 3, 2008, and CR 08–50714, on December 11, 2008. The licensee initiated a revision of the design basis calculation to address the overstress condition and the licensee planned to install the missing reinforcement plates to the trolley seismic restraints prior to removing the reactor vessel head in refueling outage 12 as part of work activity initiation Number 600510529.

<u>Analysis</u>: The inspectors determined that the failure to provide an engineering basis for the overstress condition, as well as the failure to install reinforcement plates on the containment polar crane trolley seismic restraints was a performance deficiency because the trolley seismic restraints were not in conformance with design basis Seismic Category I requirements.

The finding was determined to be more than minor in accordance with IMC 0612, Appendix B, “Issue and Screening,” Minor Question 4 because the finding was associated with the Initiating Events cornerstone attribute of equipment performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown. Specifically, compliance with Seismic Category I design requirements was to ensure safe load handling of heavy loads over the reactor core or over safety-related systems.

The inspector, with assistance from a Region III SRA, evaluated the finding using IMC 0609, Appendix M, “Significance Determination Process Using Qualitative Criteria,” because existing PRA methods and tools are not well suited for this specific issue. The Region III SRA used Table 4.1 in Appendix M to evaluate the significance of this issue. There currently exists no accurate estimate of the frequency of RPV head drop events. The SRA reviewed available information documented in NUREG 0933, “Resolution of Generic Safety Issues,” Issue 186. This discussed the potential risk and consequences of heavy load drops in nuclear power plants. The NUREG provided a frequency estimate of 5.6E-5 per demand for drops of very heavy loads. The estimate could be higher or lower because of varying human error rates, and because load drop events in different areas of the plants were examined. Using the value provided in the NUREG, and assuming two lifts every 18 months, the SRA estimated a frequency of a heavy load drop of 7.5E-5/yr.

Mitigating this value by some orders of magnitude would primarily be the low frequency of a seismic event that would have to occur during the heavy load lift. This alone drives the risk down several orders of magnitude. Thus, this issue is best treated as a finding of very low safety significance (Green).

The inspector did not identify a cross-cutting aspect associated with this finding because the concern was related to a design control issue from the 1980's and not indicative of current licensee performance.

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Also, design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program.

Contrary to the above, from May 10, 1982, to December 3, 2008, the licensee design control measures failed to verify adequacy of trolley seismic restraint design in that the design basis calculation did not account for as-built conditions (eight reinforcement plates missing) and did not provide an engineering basis for the overstress condition. However, because this violation was of very low safety significance and it was entered into the licensee's CAP as (CR 08–50714 and CR 08–50408) this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. (NCV 05000440/2008005-02)

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- containment penetration breaker inspection (isolation) during the weeks of October 20 and 27, 2008 (ISO valve);
- reactor core isolation cooling (RCIC) in-service testing during the week of November 24, 2008 (In-service Testing);
- Division 1 EDG routine testing during the week of November 24, 2008 (Routine); and
- local power range monitor routine testing and calibrations during the week of December 22, 2008 (Routine).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, demonstrated operational readiness, and consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;

- as-left setpoints were within required ranges; and the calibration frequency were in accordance with TS, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for in-service testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted two routine surveillance test samples; one in-service testing sample; and one containment isolation valve testing sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings:

No findings of significance were identified.

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

a. Inspection Scope

The inspectors completed a screening review of revisions made to the licensee's emergency plan since the last plan review to determine whether the changes identified in the revisions may have reduced the effectiveness of the licensee's emergency plan. The screening review of these revisions does not constitute approval of the changes and, as such, the changes are subject to future NRC inspection to ensure the emergency plan continues to meet NRC regulations. Documents reviewed are listed in the Attachment to this report.

This emergency action level and emergency plan changes inspection constituted one sample as defined in IP 71114.04-05.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas 71121.01

.1 Plant Walkdowns and Radiation Work Permit Reviews

a. Inspection Scope

The inspectors reviewed licensee controls and surveys in the following radiologically significant work areas within radiation areas, high radiation areas, and airborne radioactivity areas in the plant to determine if radiological controls including surveys, postings, and barricades were acceptable:

- radioactive waste floor drain sump room;
- LPCS pump room; and
- fuel handling building.

This inspection constitutes one sample as defined in IP 71121.01–5.

The inspectors reviewed the radiation work permits (RWPs) and work packages used to access these areas and other high radiation work areas. The inspectors assessed the work control instructions and control barriers specified by the licensee. Electronic dosimeter alarm set points for both integrated dose and dose rate were evaluated for conformity with survey indications and plant policy. The inspectors interviewed workers to verify that they were aware of the actions required if their electronic dosimeters noticeably malfunctioned or alarmed.

This inspection constitutes one sample as defined in IP 71121.01–5.

The inspectors walked down and surveyed (using an NRC survey meter) these areas to verify that the prescribed RWP, procedure, and engineering controls were in place; that licensee surveys and postings were complete and accurate; and that air samplers were properly located.

This inspection constitutes one sample as defined in IP 71121.01–5.

The inspectors reviewed RWPs for airborne radioactivity areas to verify barrier integrity and engineering controls performance (e.g., high-efficiency particulate air ventilation system operation) and to determine if there was a potential for individual worker internal exposures in excess of 50 millirem committed effective dose equivalent for work in the fuel handling building.

Work areas having a history of, or the potential for, airborne transuranics were evaluated to verify that the licensee had considered the potential for transuranic isotopes and had provided appropriate worker protection.

This inspection constitutes one sample as defined in IP 71121.01–5.

b. Findings

No findings of significance were identified.

.2 Job-In-Progress Reviews

a. Inspection Scope

The inspectors observed the following jobs that were being performed in radiation areas, airborne radioactivity areas, or high radiation areas for observation of work activities that presented the greatest radiological risk to workers:

- sump inspection and demobilization of equipment in the radioactive waste floor drain sump room;
- installation of equipment for the ADHR system modification in the LPCS pump room; and
- control rod blade verification in the fuel handling building.

The inspectors reviewed radiological job requirements for these activities, including RWP requirements and work procedure requirements, and attended as-low-as-reasonably-achievable (ALARA) job briefings.

This inspection constitutes one sample as defined in IP 71121.01-5.

Job performance was observed with respect to the radiological control requirements to assess whether radiological conditions in the work area were adequately communicated to workers through pre-job briefings and postings. The inspectors evaluated the adequacy of radiological controls, including required radiation, contamination, and airborne surveys for system breaches; radiation protection job coverage, including any applicable audio and visual surveillance for remote job coverage; and contamination controls.

This inspection constitutes one sample as defined in IP 71121.01-5.

The inspectors reviewed radiological work in high radiation work areas having significant dose rate gradients to evaluate whether the licensee adequately monitored exposure to personnel and to assess the adequacy of licensee controls. These work areas involved areas where the dose rate gradients were severe; thereby increasing the necessity of providing multiple dosimeters or enhanced job controls.

This inspection constitutes one sample as defined in IP 71121.01-5.

b. Findings

No findings of significance were identified.

.3 High Risk Significant, High Dose Rate, High Radiation Area, and Very High Radiation Area Controls

a. Inspection Scope

The inspectors conducted plant walkdowns to assess the posting and locking of entrances to high dose rate high radiation areas and very high radiation areas.

This inspection constitutes one sample as defined in IP 71121.01–5.

b. Findings

No findings of significance were identified

.4 Radiation Worker Performance

a. Inspection Scope

During job performance observations, the inspectors evaluated radiation worker performance with respect to stated radiation safety work requirements. The inspectors evaluated whether workers were aware of any significant radiological conditions in their workplace; of the RWP controls and limits in place; and of the level of radiological hazards present. The inspectors also observed worker performance to determine if workers accounted for these radiological hazards.

This inspection constitutes one sample as defined in IP 71121.01–5.

b. Findings

No findings of significance were identified.

.5 Radiation Protection Technician Proficiency

a. Inspection Scope

During job performance observations, the inspectors evaluated radiation protection technician performance with respect to radiation safety work requirements. The inspectors evaluated whether technicians were aware of the radiological conditions in their workplace; the RWP controls and limits in place; and if their performance was consistent with their training and qualifications with respect to the radiological hazards and work activities.

This inspection constitutes one sample as defined in IP 71121.01–5.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls 71121.02

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed procedures associated with maintaining occupational exposures ALARA and processes used to estimate and track work activity specific exposures.

This inspection constituted one required sample as defined in IP 71121.02–5.

b. Findings

No findings of significance were identified.

.2 Radiological Work Planning

a. Inspection Scope

The inspectors evaluated the licensee's list of work activities ranked by estimated exposure that were in progress and reviewed the following work activities of highest exposure significance:

- sump inspection and demobilization of equipment in the radioactive waste floor drain sump room;
- installation of equipment for the ADHR system modification in the LPCS pump room; and
- control rod blade verification in the fuel handling building.

This inspection constituted one required sample as defined in IP 71121.02–5.

For these three activities, the inspectors reviewed the ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements in order to verify that the licensee had established procedures and engineering and work controls that were based on sound radiation protection principles in order to achieve occupational exposures that were ALARA. The inspectors also determined if the licensee had reasonably grouped the radiological work into work activities, based on historical precedence, industry norms, and/or special circumstances.

This inspection constituted one required sample as defined in IP 71121.02–5.

The inspectors assessed the integration of ALARA requirements into work procedures and radiological work planning documents to assess whether the licensee was implementing actions in radiological job planning in order to reduce dose.

This inspection constituted one optional sample as defined in IP 71121.02–5.

The inspectors evaluated if the licensee's planning for radiological significant work activities included consideration of the benefits of dose rate reduction activities, such as shielding (provided by water filled components/piping), job scheduling, and shielding and scaffolding installation and removal activities.

This inspection constituted one optional sample as defined in IP 71121.02–5.

b. Findings

No findings of significance were identified.

.3 Job Site Inspections and ALARA Control

a. Inspection Scope

The inspectors observed the following three jobs that were being performed in radiation areas, airborne radioactivity areas, or high radiation areas to evaluate work activities that presented the greatest radiological risk to workers:

- sump inspection and demobilization of equipment in the radioactive waste floor drain sump room;
- installation of equipment for the ADHR system modification in the LPCS pump room; and
- control rod blade verification in the fuel handling building.

The inspectors reviewed the licensee's use of ALARA controls for the work activities. The licensee's use of engineering controls to achieve dose reductions was evaluated to verify that procedures and controls were consistent with the licensee's ALARA reviews, that sufficient shielding of radiation sources was provided, and that the dose expended to install/remove the shielding did not exceed the dose reduction benefits afforded by the shielding.

This inspection constituted one required sample as defined in IP 71121.02–5.

Job sites were observed to determine if workers used low dose waiting areas and if workers were effective in maintaining their doses ALARA by moving to the low dose waiting area when subjected to temporary work delays.

This inspection constituted one optional sample as defined in IP 71121.02–5.

The inspectors attended work briefings and observed ongoing work activities to determine if workers received appropriate on-the-job supervision to ensure the ALARA requirements were met. The inspectors assessed whether the first-line job supervisor ensured that the work activity was conducted in a dose efficient manner by minimizing work crew size and by ensuring that workers were properly trained and proper tools and equipment were available when the job started.

This inspection constituted one optional sample as defined in IP 71121.02–5.

b. Findings

No findings of significance were identified.

.4 Radiation Worker Performance

a. Inspection Scope

Radiation worker and radiation protection technician performance was observed during work activities being performed in radiation areas, airborne radioactivity areas, and high radiation areas that presented the greatest radiological risk to workers. The inspectors evaluated whether workers demonstrated the ALARA philosophy by being familiar with the scope of the work activity and tools to be used, by utilizing ALARA low dose waiting areas, and by complying with work activity controls. Also, radiation worker training and skill levels were reviewed to determine if they were sufficient relative to the radiological hazards and the work involved.

This inspection constituted one required sample as defined in IP 71121.02-5.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index - Emergency AC Power System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Emergency AC Power System performance indicator (PI) for the period from the third quarter 2007 through the third quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, issue reports, event reports and NRC Integrated Inspection Reports (IRs) for the period from the third quarter 2007 through the third quarter 2008 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI emergency AC power system sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.2 Mitigating Systems Performance Index - High Pressure Injection Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI- High Pressure Injection Systems PI for the period from the third quarter 2007 through the third quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, MSPI derivation reports, event reports and NRC Integrated IRs for the period from the third quarter 2007 through the third quarter 2008 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI high pressure injection system sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.3 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the Reactor Coolant System (RCS) Leakage PI for the period from the third quarter 2007 through the third quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator logs, RCS leakage tracking data, issue reports, event reports and NRC Integrated IRs for the period from the third quarter 2007 through the third quarter 2008 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one RCS leakage sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.4 Mitigating Systems Performance Index - Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Heat Removal System PI for the period from the fourth quarter 2007 through the third quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, MSPI derivation reports, and NRC Integrated IRs for the period of the fourth quarter 2007 through the third quarter 2008 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI heat removal system sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.5 Mitigating Systems Performance Index - Residual Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - RHR System PI for the period from the fourth quarter 2007 through the third quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, MSPI derivation reports, event reports and NRC integrated IRs for the period of the fourth quarter 2007 through the third quarter 2008 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI RHR system sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

.1 Routine Review of Items Entered Into the CAP

a. Inspection Scope

As part of the various baseline IPs 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 CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: the complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrence reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the attached List of Documents Reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings of significance were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily CR packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

During the inspection period, the licensee was approaching the end of a refueling cycle, and the inspectors incorporated the guidance in Operating Experience Smart Sample (OpESS) FY 2007-04, "BWR Core Power/ Flow Map – Supplemental Inspection Guidance For MC 2515D," as a focus item during the daily plant status and CAP monitoring activities.

b. Findings

No findings of significance were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors reviewed monthly performance reports, self-assessments, quality assurance assessment reports, performance improvement initiatives and CRs to identify any trends that had not been adequately evaluated or addressed by proposed corrective actions. As part of this inspection sample, the inspectors reviewed the licensee's progress in addressing an existing substantive cross-cutting issue in the area of Human Performance.

b. Findings

No findings of significance were identified.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 Loss of the V-1F and V-2F Non-vital Buses Resulting in the Loss of Technical Support Center Computers

a. Inspection Scope

On October 30, 2008, the inspectors reviewed the plant's response to the loss of TSC computers including ERDS, ICS, Special Plant Data System, and Computer-Aided Dose Assessment Program when input breakers to two 120-volt AC buses tripped due to a high room temperature signal. In addition, the Chemistry Control Computer System and Digital Control System Workstations were lost and there was a loss of redundant power to the DFWCS. Documents reviewed in this inspection are listed in the Attachment.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

Introduction: A finding of very low safety significance was self-revealed when bus V-1-F and V-2-F tripped on high temperature resulting in the loss of the Integrated Computer System (ICS) on October 30, 2008. Plant personnel failed to adequately respond to a high temperature alarm that occurred 16 hours prior to the loss of both buses.

Description: Due to a failure of the TSC cooling unit, ambient temperatures in the TSC computer room increased. Personnel in the Secondary Alarm Station (SAS) received a high temperature alarm and informed the Unit Supervisor of the alarm. Two licensee personnel were dispatched to investigate the cause of the alarm. No evidence of fire was discovered and no further action was taken. The SAS alarm book included information that this alarm could lead to a possible loss of the TSC cooling and the imminent loss of the computer system. This information was not relayed to the control room operators.

About 16 hours later, the 120-volt vital buses V-1-F and V-2-F tripped on high temperature. The loss of the two buses resulted in the loss of the ICS, ERDS, the chemistry computer, and one train of power supply to the DFWCS. Licensee personnel took actions to reduce the TCS computer room temperature and restored the computer systems later that day.

Licensee Procedure, NOP-OP-1002, "Conduct of Operations," Revision 4, Section 4.9.2 addressed the standard for responding to an unexpected alarms and stated that alarm response instructions shall be referenced after plant stability was determined. Contrary to the above, the control room Unit Supervisor was not notified that the computer alarm address book entry for the high temperature alarm could lead to possible loss of the TSC cooling and the imminent loss of the ERIS computer system, and did not verify that TSC cooling was still available. Due to the loss of ERDS, the licensee submitted an 8-hour report to the NRC for a loss of emergency offsite communications capability.

Analysis: The inspectors determined that the failure to appropriately respond to the TSC high temperature alarm was a performance deficiency warranting significance evaluation in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Disposition Screening,” issued on September 20, 2007. This finding is considered more than minor because it was associated with the Facilities and Equipment attribute of the Emergency Preparedness Cornerstone and affected the objective of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency.

The inspectors performed a significance determination of this issue using IMC 0609, Appendix B, and “Emergency Preparedness Significance Determination Process," issued on March 6, 2003. The inspectors determined that the finding affected the Non-Risk Significant Planning Standard 10 CFR 50.47(b)(8), which stated that adequate facilities and equipment are maintained to support emergency response. The finding was determined to be of very low safety significance because the equipment was restored to a functional status in less than 7 days. The primary cause of this finding was related to the cross-cutting aspect in the area of Problem Identification and Resolution as defined in IMC 0305 P.1(a) because the organization failed to ensure that issues are identified accurately and in a timely manner commensurate with their significance.

Enforcement: The inspectors reviewed 10 CFR Part 50, Appendix B and 10 CFR 50.47 and determined that no violation of regulatory requirements had occurred because the support equipment was restored in a timely manner. The licensee entered this issue in their CAP (CRs 08-48670, 08-48676, and 08-48676). (FIN 05000440/2008005-03).

.2 (Closed) Licensee Event Report (LER) 05000440/2007-003-01: Improper Containment Floor Grating Installation Results in an Unanalyzed Condition, Supplement

a. Inspection Scope

The inspectors reviewed the supplement to LER 2007-003-01 for completeness and regulatory issues related to the improper containment floor grating installation.

Documents reviewed as part of this inspection are listed in the attachment.

b. Findings

Introduction: The inspectors identified an NCV of 10 CFR 50.73 for the licensee's failure to report all reportable events associated with the discovery of missing containment grating fasteners.

Description: The licensee discovered on August 27, 2007, that a 3' x 7' section of grating located in the reactor containment building was missing required hold-down fasteners. The licensee determined that this condition existed since July 2007 and existed during the replacement of the reactor recirculation pump 'A' motor.

The licensee determined that the loose grating could impact the suppression pool intake screen and therefore the high pressure core spray (HPCS) and low pressure core injection (LPCI) 'B' and 'C' systems were inoperable during this period. The licensee submitted the initial LER 2007-003 describing plant operations prohibited by TS and loss of the HPCS safety function.

The inspectors conducted a subsequent review of the event when questions arose during the inspectors' review of safety system unavailability records. During this review, the inspectors identified that, for approximately seven hours on August 6, 2007, all three LPCI systems were inoperable because LPCI 'A' was in suppression pool cooling mode and this constituted a loss of the LPCI safety function, operation in an unanalyzed condition, and operations prohibited by TS. These event conditions were not reported in the original 2007-003 LER.

In response to the issues identified during the inspectors' review, the licensee conducted an additional review and identified that an additional period existed from August 7 to August 9, 2007, where the Division 1 EDG was inoperable due to an overspeed trip encountered during a planned surveillance. With the Division 1 EDG inoperable for greater than four hours, TS required LPCI 'A' to be declared inoperable. This also constituted a loss of LPCI safety function, plant operations in an unanalyzed condition, and operations prohibited by TS.

The licensee entered the issue into their corrective action program and submitted an LER supplement.

Analysis: The inspectors determined that the failure to report all reportable conditions associated with the August 27, 2007, event to the NRC was a performance deficiency warranting a significance evaluation in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," issued on September 20, 2007. The inspectors determined that the issue had the potential for impacting the NRC's ability to perform its regulatory function and used the traditional enforcement process to assess the performance deficiency.

The primary cause of this NCV was related to the cross-cutting area of problem identification and resolution as defined in IMC 0305 P.1(c) because the licensee failed to thoroughly evaluate problems for reportability conditions.

Enforcement: In accordance with 10 CFR 50.73(a)(1), "Licensee Event Reports," the licensee was required to submit an LER within 60 days after the discovery of a condition requiring a report. Contrary to these requirements, on October 25, 2007, the licensee failed to report conditions of LPCI loss of safety function, operations prohibited by TS, and operations in an unanalyzed condition, that were associated with the discovery of improperly installed reactor containment grating on August 26, 2007. Because this violation was of very low safety significance, was not repetitive or willful, and was entered into the licensee's CAP (CR 08-46139), this violation is being treated as a Severity Level IV NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000440/2008005-04).

This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.3 Loss of Vehicle Control in Switchyard

a. Inspection Scope

On October 17, 2008, while conducting activities in the switchyard, a vehicle operator lost control of his vehicle and impacted a light pole. The inspectors reviewed the circumstances of the event and reviewed licensee risk control measures in effect at the time of the event. The inspectors walked down the switchyard to identify the vehicle travel paths and to determine the distances to risk-significant structures that could be potentially affected by a loss of vehicle control. The inspectors determined whether the licensee risk management actions in effect at the time of the event were adequate to account for the loss of vehicle control. Documents reviewed in this inspection are listed in the Attachment.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

No findings of significance were identified.

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

4OA5 Other Activities

.1 Licensee Activities and Meetings

The inspectors observed select portions of licensee activities and meetings and met with licensee personnel to discuss various topics.

.2 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted the observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspectors' observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status reviews and inspection activities.

b. Findings

No findings of significance were identified.

.3 (Closed) NRC Temporary Instruction (TI) 2515/176, "Emergency Diesel Generator TS Surveillance Requirements Regarding Endurance and Margin Testing."

a. Inspection Scope

The objective of TI 2515/176 was to gather information to assess the adequacy of nuclear power plant emergency diesel generator endurance and margin testing as prescribed in plant-specific TS. The inspectors reviewed the licensee's TS, procedures, and calculations and interviewed licensee personnel to complete the TI. The information gathered for this TI was forwarded to the Office of Nuclear Reactor Regulation for further review and evaluation on December 17, 2008. This TI is complete at Perry Nuclear Power Plant; however, this TI 2515/176 will not expire until August 31, 2009. Additional information may be required after review by the Office of Nuclear Reactor Regulation.

b. Findings

No findings of significance were identified.

.4 (Closed) NRC TI 2515/174, "Hydrogen Igniter Backup Power Verification

a. Inspection Scope

The objective of TI 2515/174 was to verify that licensees have adequately implemented commitments related to provision of backup power to containment hydrogen igniters. The inspectors reviewed the licensee's implementation of a portable generator, temporary connections, procedures, and training related to the commitment. The inspectors performed a field walkdown of the backup power equipment to determine whether all necessary equipment was available. The inspectors observed licensee personnel perform an operational test of the power generation equipment and a field walk through of the procedures for backup power implementation. The inspectors reviewed training records and interviewed licensee personnel to determine whether training had been adequately implemented. The inspectors reviewed the licensee's maintenance and testing schedules for the backup power equipment.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to the Site Vice President, Mr. Mark Bezilla, and other members of licensee management on January 15, 2009. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified with the exception of the material associated with Crane and Heavy Lift inspection described below.

.2 Interim Exit Meetings

- The preliminary results of the licensee's program for access control to radiologically significant areas and the ALARA planning and controls program for occupational radiation safety with the Plant General Manager, Mr. K. Kruger, on October 24, 2008;

- A telephone exit for TI 2515/176 was conducted with Bob Coad, Regulatory Compliance Manager, and other Licensee staff on November 24, 2008;

- The licensed operator requalification training biennial written examination and annual operating test results with Mr. A. Mueller, Training Manager, on December 5, 2008;

- On December 19, 2008, the inspector presented the Crane and Heavy Lift inspection results to Mr. M. Bezilla, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that licensee design calculations generated by contractors were considered proprietary. It was agreed that all paper copies of these proprietary documents would be shredded, and all electronic files of these proprietary documents would be deleted; and

- The annual review of emergency action level and emergency plan changes with the licensee's Compliance Supervisor, Mr. C. Elberfeld, via telephone on December 31, 2008.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements, which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

Cornerstone: Mitigating Systems

Title 10 CFR 50.74 requires, in part, that each licensee notify the appropriate Regional Administrator as listed in Appendix D to 10 CFR Part 20 within 30 days of the termination of any operator or senior operator. Contrary to this, the licensee identified in November 2008 that the licensee had not notified the NRC when a licensed operator voluntarily terminated his employment with the Perry Nuclear Power Plant in June 2008. The licensee did not notify the NRC that the operator had terminated employment for approximately 150 days. Upon discovery, the licensee immediately notified the NRC of the operator's termination of employment. The licensee then entered this issue in its CAP as CR 08-49100, "Failure to Notify NRC to Revoke an Individual's NRC License." The station implemented procedure changes to prevent recurrence of this issue. After notification, the NRC immediately expired the operator's license. This finding is of very low safety significance because the operator's site access was removed and he was not able to manipulate the plant's reactivity or system controls after employment termination.

Cornerstone: Occupational Radiation Safety

Section 20.1902(a) to Title 10 of the CFR requires, in part, that the licensee post each radiation area with a conspicuous sign or signs bearing the radiation symbol and the words "Caution, Radiation Area." Contrary to the above, on January 15, 2008, a radiation area in the waste abatement and reclamation facility was not posted. The source of the radiation was a B12 box containing a scrap reactor water clean-up pump with dose rates of 80 millirem per hour at 30 centimeters. The violation was identified by licensee personnel and was documented in the licensee's corrective action program as CR 08-33510. Immediate corrective actions were to properly post and control the area. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure, nor potential for overexposure, and the licensee's ability to assess dose was not compromised.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

M. Bezilla, Vice President Nuclear
K. Krueger, Plant General Manager
M. Bay, Senior Nuclear Specialist, Mechanical Maintenance
A. Cayia, Director, Performance Improvement
K. Cimorelli, Director, Maintenance
E. Condo, Operations Superintendant
C. Elberfeld, Compliance Supervisor
D. Evans, Manager, Operations
E. Gordon, Radiation Protection Operational Superintendent
J. Grabner, Director, Site Engineering
R. Gemberling, Training
H. Hanson, Jr., Director, Work and Outage Management
J. Lucas, General Electric, Perry Site Support Engineer
P. McNulty, Radiation Protection Manager
A. Mueller, Manager – Training
D. Richmond, Simulator Programs Lead
P. Roney, Supervisor, Nuclear Mechanical/Structural Engineer
S. Rouhani, Mechanical/Structural Engineer
K. Russell, Staff Nuclear, Specialist Compliance
T. Stec, Engineer – Nuclear Compliance
R. Strohl, Training

NRC

D. Passehl, Senior Reactor Analyst

LIST OF ITEMS OPENED, CLOSED, DISCUSSED

Opened and Closed

05000440/2008005-01	NCV	Inspection Procedure for RPV Head Strongback Omitted Non-Destructive Testing of Structural Welds (Section 1R20.1.b.(1))
05000440/2008005-02	NCV	Containment Polar Crane Trolley Seismic Restraints Did Not Meet Seismic Category I Requirements (Section 1R20.1.b.(2))
05000440/2008005-03	FIN	Loss of the V-1F and V-2F Non-Vital Buses Resulting in the Loss of Technical Support Center Computers (Section 4OA3.1)

05000440/2008-04	NCV	Failure To Report All 10 CFR 50.73 Reportable Events Associated With The Discovery Of Loose Containment Grating (Section 4OA3.2)

Closed

05000440/2007-003-01	LER	Improper Containment Floor Grating Installation Results in an Unanalyzed Condition, Supplement (Section 4OA3.3)
2515/174	TI	Hydrogen Igniter Backup Power Verification (Section 4OA5.3)
2515/176	TI	Emergency Diesel Generator Technical Specification Surveillance Requirements Regarding Endurance and Margin Testing (Section 4OA5.4)

Opened

05000440/2008005-05	URI	Unplanned Unavailability of the Motor Feedwater Pump After it was Placed in 10 CFR 50.65(a)(1) status (Section 711111.12)

LIST OF DOCUMENTS REVIEWED

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

1R01 Adverse Weather

NOP-WM-2001; Work Management Scheduling/Assessment/Seasonal Readiness Processes; Revision 7
WO 200291786; Circulating Water Pumps Seal Water Heat Tracing; dated October 23, 2008
CR 08-47570; Winter Prep Order Rescheduled Due to Parts Restraint; dated October 7, 2008
WO 200286109; Auxiliary Boiler Fuel Oil; dated October 23, 2008
WO 200285708; Heat Tracing and Freezing Protection Calibration; dated October 23, 2008
WO 200286739; Heater Bay Ventilation; dated September 9, 2008
WO 200283511; Centralized Heat Tracing Panel; dated September 2, 2008
WO 200280005; Service Water B Intake Traveling Screen; dated August 27, 2008
WO 2003133014; Turbine Building Ventilation; dated October 23, 2008

1R04 Equipment Alignment

VLI-R44; Division 1 and 2 Diesel Generator Starting Air System; Revision 4
VLI-R47; Division 1 and 2 Diesel Generator Lube Oil; Revision 6
VLI-R48; Division 1 and 2 Diesel Generator Exhaust, Intake, and Crankcase Systems; Revision 6
VLI-R46; Division 1 and 2 Diesel Generator Jacket Water Systems; Revision 4
VLI-R45; Division 1 and 2 Diesel Generator Fuel Oil System; Revision 5
VLI-P42; Emergency Closed Cooling System; Revision 14
CR 08-48992; Lube Oil Leak on Division 1 Diesel Generator; dated November 5, 2008

1R05 Fire Protection (Annual/Quarterly)

FPI-A-A02, "Periodic Fire Inspections," Revision 5
PAP-1910, "Fire Protection Program," Revision 16
PAP-0204, "Housekeeping/Cleanliness Control Program," Revision 21

1R11 Licensed Operator Requalification Program

CR 08-49100: Failure to Notify NRC to Revoke an Individual's NRC License; dated November 6, 2008
2008 Biennial Written Exam Sample Plan Methodology; no date
2007-2008 Master License Operator Requalification Schedule; no date
Twenty eight JPMs; In-Plant, Administrative and Simulator JPMs; Various Dates
Nine Scenario Guides; Various Dates
Five Written Exams; Various RO and SRO Written Exams; Various Dates
Perry Nuclear Power Plant (PNPP) Licensed Operator Requalification Examination Questions Used – 2008; no date
PNPP Licensed Operator Requalification Examination Sample Plan – 2008, Weeks 1-7; no date
Snapshot Self-Assessment Report; no date
Engineering Design Guide 97-003; Review of Operating Instructions for USAR/Design Basis Impact, Attachment 6; Revision 2
Trainee Tracking; FENOC Integrated Training System Successful Completion Report; dated December 2, 2008

Trainee Tracking Control # 2007024377; FENOC Integrated Training System Completion Verification with Grade; dated October 3, 2007
PYBP-POS-1-5; Operations Training Guidelines; dated January 12, 2006
TMA-4206; Licensed Operator Requalification Programs (Administration); dated July 28, 2008
NOBP-TR-1109-02; Non-Facilitated Plus/Delta, Cycle 2007-01 through Cycle 2008-10
NOBP-TR-1109-06; Trainee Feedback Summary (Multiple); various dates from January 8, 2007 – October 10, 2008
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
PYBP-PTS-0033; Simulator Configuration Control; Revision 5
PYBP-PTS-0031; Simulator Review Board; Revision 3
PYSA-08-073; Snapshot Self-Assessment Report; November 4, 2008
NOP-TR-1008; FENOC Simulator Configuration Management; Revision 0
Simulator Work Order Summary - Open Items; dated December 1, 2008
Simulator Minor Work Item Summary - Open Items; dated December 1, 2008
Simulator Work Request Summary - Open Items; dated December 1, 2008
Twenty five Scenario Based Test Packages for 2008 Simulator Scenarios
Ten Scenario Based Test Packages for 2007 Simulator Scenarios
CR 08-35163; Unplanned Technical Specification Entry Which Declared ECC B and Associated Systems Inoperable; dated February 10, 2008
CR 08-37799; Plant to Simulator Differences During Plant Scram; dated April 4, 2008
SWO Number 08-0044; DR464 from CR 08-37799 – Plant to Simulator Differences During Plant Scram; dated July 23, 2008
SWO Number 08-0028; Unable to Determine if Malfunction IA02C Worked as Designed; dated July 23, 2008
Completed Simulator Physical Fidelity Testing; PYBP-PTS-0033 Revision 5; dated November 18, 2008
Completed Simulator Physical Fidelity Testing; PYBP-PTS-0033 Revision 3; dated December 17, 2007
Simulator Review Board Minutes; dated May 4, 2007, September 20, 2007, and August 18, 2008
Completed Simulator Testing; 2007 and 2008 Normal Operations; Various Dates
Completed Simulator Testing; Cycle 12 BOL Core Tests; dated October 3, 2007
Completed Simulator Testing; Cycle 12 MOL Core Tests; dated June 5, 2008
Completed Simulator Testing; 2007 and 2008 Simulator Annual Testing (Transient Tests, Heat Balance and Real Time Tests); Various Dates
Medical Files for 12 Licensed Operators
LER 440 2007 001; Automatic Reactor Protection System Actuation Due to Reactor Coolant System Level Decrease; dated May 15, 2007
LER 440 2007 002; Shutdown Cooling Pump Trip Results in Operation Prohibited by TS; dated July 11, 2007
LER 440 2007 003; Improper Containment Floor Grating Installation Results in Unanalyzed Condition; dated August 27, 2007
LER 440 2007 004; Automatic Reactor Protection System Actuation Due to Feedwater Control System Power Supply Failure; dated November 28, 2007
LER 440 2007 005; Plant Startup with Inoperable RCIC System; dated December 12, 2007

LER 440 2007 006; Loss of Safety Function and Condition Prohibited by TSs due to Annulus Exhaust Gas Treatment System Inoperability; dated
December 21, 2007
LER 440 2008 001; Inoperable Emergency Closed Cooling System Results in Condition Prohibited by Technical Specifications; dated February 10, 2008
LER 440 2008 002; Inoperable Emergency Closed Cooling System Results in Condition Prohibited by Technical Specifications; dated February 10, 2008
Scenario Guide OTLC-30582008006-PY-SGD2
CR 07-30703; Unplanned Reactor Scram Report for Automatic Reactor Scram Due to Digital Feed Water Control System Malfunction; dated May 15, 2007
Lesson Plan OT-Combined-E51; RCIC System; Revision 0
Lesson Plan OTLC-3058200806-PY-08; Revision 0
Lesson Plan OT-Combined-P42; Emergency Closed Cooling Water System; Revision 2

1R12 Maintenance Effectiveness
CR 08-47241; ESW Loop A Rad Monitor Failure; dated October 2, 2008
CR 08-47287; Radwaste to ESW Radiation Monitor Inoperable Based on Spiking; dated October 6, 2008
CR 08-48403; Pri-300; ESW A Rad Monitor Has Exceeded its 21-day Completion Date Requirement; dated October 24, 2008
CR 08-46312; Evaluate M&TE and Vicotreen D17 Monitor Test Methodology; dated September 15, 2008
Performance Criteria data for Plant Radiation Monitoring; dated June 30, 2008
CR 08-48507; Turbine Building/Heater Bay D-19 Had Multiple Equipment Failure Alarms; dated October 24, 2008
CR 08-48650; 1D19N0440 Failed Testing; dated October 28, 2008
Maintenance Rule Functions, Performance Criteria and Classifications; Expert Panel Meeting Minutes, January 11, 2006
NOP-ER-3004; FENOC Maintenance Rule Program; Revision 0
PAP-1125; Monitoring the Effectiveness of Maintenance Program Plan; Revision 8
PYBP-PES-1; Maintenance Rule Reference Guide; Revision 14
CR 08-47924; Failed Goal Within a Maintenance Rule A(1) Goal Monitoring Criteria
CR 08-47992; Less than Adequate Support for Maintenance Rule Expert Panel
CR 06-463; ICS Unavailable
CR 06-3974; ICS Computer Shutdown
CR 07-29301; Full Data Disk Causes Plant Computer Shutdown
CR 07-24527; TSC/UPS Battery Room Temperature is at 95 Degrees
Maintenance Rule System Basis Document for System C91/C95; Supervisor Approval Dated September 11, 2006
Failure Summary Report for Perry Computer System from October 2005 to November 2008; Generated November 6, 2008
PWR and BWR Failure Summary Report for Plant Computer Systems from October 2005 to November 2008; Generated November 7, 2008
CR 08-37457; Motor Feed Pump Oil Milky Appearance; dated March 29, 2008
CR 08-44480; Water in Motor Feed Pump Lube Oil System; dated August 7, 2008
CR 08-47924; Failed Goal Within a Maintenance Rule a(1) Monitoring Criteria; dated October 14, 2008
CR 08-41632; Electrical Components Have Exceeded Maintenance Rule Performance Criteria; dated June 11, 2008

1R13 Maintenance Risk Assessments and Emergent Work Control
PYBP-POS-2-2; Protected Equipment Postings; Revision 6
PNPP No. 10241; Division 2 Outage (Yellow); dated September 8, 2008
PNPP No. 10252; Division 2 Diesel Generator Outage (Yellow); dated September 8, 2008
CR 08-48921; Protected Train Walkdown by Shift Manager Revealed Issues with Postings; dated November 4, 2008
Outage Control Shift Turnover Report; dated November 7, 2008

1R15 Operability Evaluations
CR 08-48686; Performance Testing of RHR 'B' Loop; dated October 29, 2008
PTI-E12-P0003; RHR Q-Trend Graph; dated June 2, 2008
Prompt Operability Determination; CR 08-47166 Vessel Nozzle Welds Exceed ASME Acceptance Criteria; dated October 8, 2008

1R18 Temporary Modifications
ECP 08-0323-001
NOP-OP-1001; Clearance/Tagging Program; Revision 9
RWI-G61 (EDS); Equipment Drain Sump; Revision 4
PAP-1404; Miscellaneous Tagging; Revision 5
CR 08-48997; Platinum Pump Trip During On-line Noble Chemistry Injection; dated November 5, 2008
PTI-N27-P0015; On-Line Noble Metals Re-Application; Revision 0
CR 08-49594; CNRB CM/ER Subcommittee Identified a Concern with a 50.59 Screen; dated November 13, 2008

1R19 Post-Maintenance Testing
WO 200169007; Emergency Closed Cooling A Hydramotor; dated October 2, 2008
WO 200328073; LPCS & RHR A Water Leg Pump; dated October 4, 2008
CR 08-49080; Linear Indication Noted On Right Bank Cylinders 1 And 8 Rocker Arm Pedestals; dated November 6, 2008
PMI-0019; Division 1&2 Diesel Generator Rocker Arm And Valve Lifter Maintenance; Revision 7
CR 08-48950; Unable To Conduct Functional Test Of Bkr EH1205 As It Was Scheduled; dated November 4, 2008
WO 200328952; ESW Pump B EH1205 Relay Replacement; dated November 5, 2008
OCC Narrative Logs; dated November 6-7, 2008
CR 08-49289; Unacceptable Management of AOT; dated November 11, 2008
CR 08-49279; Inadequate Tag Out for Removing Fuel Oil Piping on Division 2 Diesel; dated November 10, 2008
CR 08-49090; Division 2 DG Cylinder Head Nuts as-found Torque Values Outside Specified Range; dated November 7, 2008
CR 08-49109; Order Directed Cylinder Head Torque Check on the Incorrect Cylinder Head; dated November 7, 2008
WO 200170718; ECC B HX Output Temperature Controller; dated November 26, 2008
WO 200303033; Div 2 Weekly 125V Battery Voltage and Category A Limits Check; dated October 27, 2008
WO 200273106; 125V Battery Category B Limits, Terminal Corrosion, and Electrolyte Temperature Check (Unit 1, Division 2); dated October 27, 2008
CR 08-48989; Battery Rack Spacer Tubes Found Missing; dated November 5, 2008
CR 08-48537; Battery Rack Cell Spacer Missing; dated October 24, 2008
CR 08-48458; Shim Plate Flashing Material Found Floating in Battery Electrolyte; dated October 25, 2008

Certificate of Conformance by EnerSys; dated August 13, 2008
WO 200321038; Diesel Generator Start and Load Division 2; dated November 12, 2008

1R20 Outage Activities (71111.20)

Crane and Heavy Lift Inspection (OpESS FY2007–03)
ANSI N14.6–1978; American National Standard for Special Lifting Devices for Shipping Containers Weighing 10000 Pounds (4500 kg) or more for Nuclear Materials; 1978
ANSI B30.2.0–1976; Overhead and Gantry Cranes; 1976
Appendix K of Supplement No. 5 to NUREG-0887, Safety Evaluation Report Related to the Operation of Perry Nuclear Power Plant, Units 1 and 2; February 1985
Calculation No. 0280–0039–1; Reactor Vessel Head Drop Analysis; Revision 0
Calculation No. DV767E572; General Electric Structural Analysis of Perry Reactor Pressure Vessel Head and Dryer/Separator Strongbacks; 1974
Calculation No. 3:36.12; Justification and Requirements for Handling Load Over Spent Fuel w/Polar Crane Auxiliary Hoist; Revision 1
Calculation No. 4549–32–133; Reactor Building Cranes for Perry Nuclear Power Plant- Units 1 and 2 Bridge Structural Calculations; dated May 10, 1982
Calculation No. 4549–32–134; Reactor Building Cranes for Perry Nuclear Power Plant-Units 1 and 2 Trolley Structural Calculations; dated May 10, 1982
Calculation No. NEDE-25525; Structural Analysis of Reactor Pressure Vessel and Internals for Vessel Head Drop, Shroud Head Assembly Drop, and Steam Dryer Assembly Drop Conditions; dated January 1982
Cleveland Electric Letter to NRC, Subject: Control of Heavy Loads; dated June 19, 1981
Drawing No. 23–0119–00000; Head Strongback Carousel; Revision A
Drawing No. 100A7595; Bottom Block Ass'y 125 Ton PH Crane; Revision A
Drawing No. 3521-193; Vessel Outline; Revision 8
Drawing No. 4549–31–559; Trolley Seismic Restraint Design Drawing; Revision A
Drawing No. D-511–221; Reactor Building–Steel Framing RPV Pedestal Wall Liner Details Stretch-Out – EL. 576'-9" to EL. 604'–2"; Revision L
Drawing No. D-511-222; Reactor Building –Steel Framing R.P.V. Pedestal Wall Liner Details Sections and Details; Revision J
Drawing No. D-511–223; Reactor Building–Steel Framing R.P.V. Pedestal Wall Liner Details Sections and Details; Revision J
Drawing No. E-015–044; Final Plant Layout Reactor Refueling Floor Layout Study; Revision C
File No. 0180; P & H Crane Manual; Revision 6
GAI Report 2329; Control of Heavy Loads Study for Perry Nuclear Power Plant, Unit 1 and 2; Revision 2
General Electric Letter to Cleveland Electric, Subject: ANSI 14.6-1978 RPV Head Strongback Carousel and Dryer/Separator; dated December 7, 1982
GMI-0003; Mobile Cranes, Aerial Platforms (Boom Type) and Line (Bucket) Truck Guidelines; Revision 9
GMI-0004; General Guidelines for Rigging; Revision 8
GMI-0185; Reactor Vessel Disassembly and Assembly; Revision 10
MAP-0201; Qualifications of Crane Operators; Revision 2
MAP-1301; Control of Heavy Loads; Revision 2
MM 2042; Special Crane Operations; Revision 5
NOP-WM-5003; Rigging, Lifting and Load Handling; Revision 2
NUREG 0612 Control of Heavy Loads Fleet Oversight Performance Assessment Report; dated April 9, 2008
NUREG 0933; Resolution of Generic Safety Issues; August 2008

OJT 5135; Crane, Standard; Revision 3
OJT 5281; Special Crane, Polar; Revision 1
OJT 5282; Special Crane, Emergency Service Water/Fuel Handling Building; Revision 1
PAP-1313; Control of Lifting Operations; Revision 8
PMI-0015; Reactor Polar Crane Preventative Maintenance; Revision 7
PMI-0085; Head Strongback Carousel Preventative Maintenance; Revision 13
PMI-0089; Examination of Lifting Devices; Revision 3
Report No. F13-E009; Dynamic Qualification of Head Strongback Carousel for Perry Nuclear Power Plant Units 1 and 2; dated February 11, 1983
Safety Evaluation 97-0056; Modifying Sections 9.1.2.3.5, 9.1.4.2.2.1 and 9.1.5 of USAR, Rev. 8 and ORM 6.5.5 and MAP-1301, Rev. 2 and Section 6.4 of PAP-1313, Revision 0; dated July 28, 1997
Work Order No. 200168033; Polar Crane, Reactor Building 125/10; PY-1L51 Cranes Hoists and Elevators; dated May 7, 2007
Work Order No. 200191335; Polar Crane, Reactor Building 125/10; PY-1L51 Cranes Hoists and Elevators; dated January 7, 2007
Work Order No. 200238349; Polar Crane, Reactor Building 125/10; PY-1L51 Cranes Hoists and Elevators; dated April 11, 2008
Work Order No. 200254834; Polar Crane, Reactor Building 125/10; PY-1L51 Cranes Hoists and Elevators; dated April 2, 2007
Condition Reports Reviewed During NRC Inspection (OpESS FY2007-03)
CR 07-17334; Engineering Review of RIS 2005-025 (NRC Guidelines for Control of Heavy Loads); dated April 1, 2007
CR 08-44711; NEI 08-05 Rev. 0 Control of Heavy Loads; dated August 13, 2008
CR 08-39059; Unrecognized OPDRV Results in LER; dated April 24, 2008
Condition Reports Initiated as a Result of NRC Inspection (OpESS FY2007-03)
CR 08-50714; Polar Crane Trolley Seismic Restraints are Not Fully Consistent with Calculation; dated December 11, 2008
CR 08-50414; NRC Questions Adequacy of Testing of Special Lifting Devices; dated December 3, 2008
CR 08-50408; NRC Identified Issues with the Containment Polar Crane Calculation; dated December 3, 2008
CR 08-50810; NRC Identified Math Error in GE Analysis; dated December 4, 2008
CR 08-50542; NRC Identified Issues with the Containment Polar Crane Calculation; dated December 8, 2008

1R22 Surveillance Testing
SVI-R10-T5226; Containment Penetration Molded Case Circuit Breaker Inspection and Preventative Maintenance; Revision 1
CR 08-48504; SVI-R10-T5226 Change Identified; dated October 24, 2008
CR 08-48545; R10-T5226 Not Completed as Scheduled; dated October 24, 2008
WO 200055802

1EP4 Emergency Action Level and Emergency Plan Changes
NOP-LP-5002; Evaluation of Changes to Emergency Plans and Supporting Documents, 10 CFR 50.54(q); Revision 2
Emergency Plan for Perry Nuclear Power Plant, Docket NOS 50-440; Revision 28
Emergency Plan for Perry Nuclear Power Plant, Docket NOS 50-440; Revision 29
10 CFR 50.54(q) Screening Packet for Emergency Plan for Perry Nuclear Power Plant; Revision 28.
Scope of Revision for Emergency Plan for Perry Nuclear Power Plant; Revision 29.

2OS2 ALARA Planning and Controls

CR 07-27957; High Radiation Area Entry Without Proper RP Brief; dated October 2007
CR 08-33510; Radioactive Material Generating a Radiation Area was Not Posted Appropriately; dated January 2008
CR 08-43839; B12 Box Moved Too Close to RCA Boundary; dated July 2008
CR 08-46891; Maintenance Mechanics Working in the Div 2 Diesel Room During Liner Movement; dated September 2008
HPI-C0010; Radiation Protection Support of Plant Startup; Revision 5
HPI-C0014; Radlock Key Issue; Revision 0
HPI-L0009; Discrete Particle Control; Revision 4
NOP-OP-4204; Special External Exposure Monitoring; Revision 00
NOP-WM-7025; High Radiation Area Program; Revision 02
NOP-WM-7003; Radiation Work Permit (RWP); Revision 04

4OA1 Performance Indicator Verification

MSPI Data Sheets for Emergency AC Power Systems from October 2007 to September 2008
MSPI Data Sheets for High Pressure Injection System from October 2007 to September 2008
MSPI Data Sheets for Emergency Service Water from October 2007 to September 2008
MSPI Data Sheets for Heat Removal System; from October 2007 to September 2008.
MSPI Data Sheets for Residual Heat Removal System; from October 2007 to September 2008.
Control Room Operator Logs from October 2007 to September 2008
Reactor Coolant System leakage data sheets from October 2007 to September 2008

4OA2 Identification and Resolution of Problems

Perry Self Assessment Database through December 2008
CR 08-49855; Adverse Trend of 4 PCEs Over 4 Consecutive Days; dated November 20, 2008
CR 08-49233; Emergent Trend In Radiation Worker Performance; dated November 10, 2008
CR 08-48064; Negative Trend In Engineering Quality In September; dated October 17, 2008
CR 08-45734; DW FDS In-leakage Has An Upward Trend; dated September 4, 2008
CR 08-50521; Declining Trend In Pre –Job Briefs For Design Engineering; dated December 7, 2008
Plant Health Report 2008-02

4OA3 Followup of Events and Notices of Enforcement Discretion

CR 08-48075; Minor Vehicle Accident; dated October 17, 2008
CR 08-48677; Loss of V-1-F and V-2-F; Human Performance Perspective; dated October 30, 2008
CR 08-48676; Loss of V-1-F and V-2-F Causes Maintenance Rule Functional Failure on ICS; dated October 30, 2008
CR 08-48471; UPS Air Handling Unit Stopped Working; dated October 25, 2008
LER 05000440/2007-003-01; Improper Containment Floor Grating Installation Results in an Unanalyzed Condition, Supplement
CR 08-46139; Inoperable Equipment Details not Included in LER 2007-003 Submittal – NRC-identified; dated September 11, 2008

4OA5 Other Activities

PYBP-ERS-0014; Emergency Management Overview; Revision 4
ONI-SPI D-10; Hydrogen Igniter Emergency Operation; Revision 0
NLO Continuing Training EPLC-200803_PY-01; Trainee Tracking; dated October 10, 2008
Perry Nuclear Power Plant Control Room Emergency Coordinator Training; Trainee Tracking; dated October 13, 2008

Preventative Maintenance Nuclear 200322813; Functional Test of Generators
Maintenance Plan; Single Cycle Plan 000000107871
Maintenance Plan; Single Cycle Plan 000000237361
OTLC-3058200807_PY-OTS; Lesson Plan; dated June 20, 2008
Course Attendance Sheet; ONI-SPI-D10; dated April 14, 2008
SVI- R43-T1347; Div 1 Standby Diesel Generator 24 Hour Run; Revision 2
SVI- R43-T1348; Div 2 Standby Diesel Generator 24 Hour Run; Revision 2
SVI- E22-T1349; Div 3 Standby Diesel Generator 24 Hour Run; Revision 2
Calculation PSTG-0014; Diesel Loading; Revision 7

4OA7 Licensee-Identified Violations
CR 08-49069; Failed Licensed Requalification Exam; dated November 6, 2008

LIST OF ACRONYMS USED

ANSI	American National Standards Institute
ALARA	as-low-as-reasonably-achievable
CAP	Corrective Action Program
CFR	*Code of Federal Regulations*
CR	condition report
DFWCS	Digital Feedwater Control System
ECC	emergency closed cooling
ECCW	emergency core cooling water
EDG	emergency diesel generator
ERDS	Emergency Response Data System
ESW	emergency service water
FENOC	FirstEnergy Nuclear Operating Company
FIN	Finding
GL	Generic Letter
HPCS	high pressure core spray
ICS	Integrated Computer System
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
JPM	Job Performance Measure
LER	Licensee Event Report
LORT	Licensed Operator Requalification Training
LPCI	low pressure core injection
LPCS	low pressure core spray
MFP	motor feed pump
MSPI	mitigating system performance index
NCV	non-cited violation
NEI	Nuclear Energy Institute
NOP	Nuclear Operating Procedure
NRC	Nuclear Regulatory Commission
OpESS	Operating Experience Smart Sample
PAP	Perry Administrative Procedure
PRA	Probabilistic Risk Assessment
PI	performance indicator
RCIC	reactor core isolation cooling
RHR	residual heat removal
RPV	Reactor Pressure Vessel
RWP	radiation work permit
SAS	Secondary Alarm Station
SAT	Systems Approach to Training
SDP	Significance Determination Process
SOI	Standard Operating Instruction
SRA	Senior Reactor Analyst
SVI	Surveillance Instruction
TI	Temporary Instruction
TS	Technical Specification
TSC	Technical Support Center
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item

USAR	Updated Safety Analysis Report
WO	work order