

April 24, 2006

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

SUBJECT: PERRY NUCLEAR POWER PLANT  
NRC INTEGRATED INSPECTION REPORT 05000440/2006002

Dear Mr. Pearce:

On March 31, 2006, 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 April 7, 2006, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. In addition to the routine NRC inspection and assessment activities, Perry performance is being evaluated quarterly as described in the Assessment Follow-up Letter - Perry Nuclear Power Plant, dated August 12, 2004. Consistent with Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," plants in the "Multiple/Repetitive Degraded Cornerstone" column of the NRC's Action Matrix are given consideration at each quarterly performance assessment review for (1) declaring plant performance to be unacceptable in accordance with the guidance in IMC 0305; (2) transferring to the IMC 0350, "Oversight of Operating Reactor Facilities in a Shutdown Condition with Performance Problems," process; and (3) taking additional regulatory actions, as appropriate. On January 25, 2006, the NRC reviewed Perry operational performance, inspection findings, and performance indicators for the third quarter of 2005. Based on this review, we concluded that Perry is operating safely. We determined that no additional regulatory actions, beyond the already increased inspection activities and management oversight, are currently warranted.

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

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

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

Sincerely,

**/RA/**

Mark A. Satorius, Director  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000440/2006002  
w/Attachment: Supplemental Information

cc w/encl: G. Leidich, President - FENOC  
J. Hagan, Chief Operating Officer, FENOC  
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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-440

License No: NPF-58

Report No: 05000440/2006002

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Perry Nuclear Power Plant, Unit 1

Location: Perry, Ohio

Dates: **January 1, 2006, through March 31, 2006**

Inspectors: R. Powell, Senior Resident Inspector  
M. Franke, Resident Inspector  
R. Morris, Senior Resident Inspector, Fermi  
M. Wilk, Reactor Engineer  
R. Ruiz, Reactor Engineer

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

Enclosure

## SUMMARY OF FINDINGS

IR 05000440/2006002; 01/01/2006 - 03/31/2006; Perry Nuclear Power Plant; Operator Performance During Non-Routine Evolutions and Events; Post-Maintenance Testing.

This report covers a 3-month period of baseline inspection. The inspection was conducted by the resident and regional inspectors. This inspection identified two Green findings, both of which involved associated non-cited violations (NCVs). The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the Significance Determination Process does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

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

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

- Green. A finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," was self-revealed on February 11, 2006, when licensee personnel failed to adhere to predictive maintenance program procedures after "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system return fan vibration levels exceeded predictive maintenance program alert criteria on September 29, 2005. As part of their immediate corrective actions, licensee personnel completed repairs to the "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system on March 3, 2006. The finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to predictive maintenance program procedures after a degraded condition was identified.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, the failure to adhere to predictive maintenance program procedures on September 29, 2005, resulted in an unaddressed and unmonitored degraded fan motor condition, led to the fan motor failure, and resulted in a small fire and an Alert emergency declaration on February 11, 2006. Because the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was a support system, the finding was not suitable for Significance Determination Process review. Following management review, the finding was determined to be of very low safety significance because only one train of the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was affected and the fire did not result in any personnel injuries or damage to other equipment. (Section 1R14.1)

- Green. The inspectors identified a finding of very low safety significance and a non-cited violation of Technical Specification 5.4, "Procedures," when licensee personnel failed to adhere to maintenance procedures during "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation train maintenance and did not establish the required drive belt tension between the return fan and motor prior to returning the train to service. As part of their immediate corrective actions, the licensee counseled involved personnel regarding procedure adherence expectations. The finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to maintenance procedures affecting safety-related equipment.

The finding was more than minor because the failure to adhere to procedures associated with the maintenance of safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, a previous failure to adhere to procedures associated with this fan motor contributed to the failure of the "B" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation train that resulted in a fire and an Alert emergency declaration on February 11, 2006. Because the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was a support system, the finding was not suitable for Significance Determination Process review. Following management review, the finding was determined to be of very low safety significance because only one train of the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was affected. (Section 1R19)

**B. Licensee-Identified Violations**

None.

## REPORT DETAILS

### Summary of Plant Status

The plant began the inspection period at 100 percent power. On January 14, 2006, operators reduced power to 63 percent to conduct planned maintenance activities. On January 18, 2006, operators returned power to 100 percent. With the exception of planned downpowers for routine surveillance testing and rod sequence exchanges, the plant remained at 100 percent power for the remainder of the inspection period.

### 1. REACTOR SAFETY

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

#### 1R01 Adverse Weather Protection (71111.01)

##### a. Inspection Scope

On March 10, 2006, a wind advisory was issued for northeast Ohio and the licensee measured wind speeds exceeding 35 miles per hour. The inspectors observed the licensee's response to the high wind conditions. The inspectors reviewed Off-Normal Instruction (ONI)-ZZZ-1, "Tornado or High Winds," Revision 4, and discussed actions with the control room operators. Additionally, the inspectors conducted a walkdown of outside areas to identify any loose material or debris with the potential to become airborne hazards.

This review represented one inspection sample.

##### b. Findings

No findings of significance were identified.

#### 1R04 Equipment Alignment (71111.04)

##### .1 Semi-Annual Complete System Walkdown

##### a. Inspection Scope

The inspectors performed a complete walkdown of accessible portions of the emergency closed cooling water (ECCW) system to determine system operability and condition during the week of January 23, 2006. The ECCW system was selected due to its risk significance. The inspectors used valve lineup instructions (VLIs) and system drawings to accomplish the inspection.



The inspectors observed selected switch and valve positions, electrical power availability, system pressure and temperature indications, component labeling, and general material condition. The inspectors determined whether system configurations and operating parameters were consistent with licensee procedures and drawings. The inspectors also reviewed open system engineering issues as identified in the licensee's Quarterly System Health Report, outstanding maintenance work requests, and a sampling of condition reports (CRs) to determine whether problems and issues were identified, and corrected, at an appropriate threshold. The documents used for the walkdown are listed in the attached List of Documents Reviewed.

This review represented one inspection sample.

b. Findings

No findings of significance were identified.

.2 Quarterly Partial System Walkdowns

a. Inspection Scope

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

- Division 3 Emergency Diesel Generator (EDG) and switchgear during maintenance on the reactor core isolation cooling (RCIC) system on January 17, 2006;
- high pressure core spray (HPCS) system during maintenance on the RCIC system on January 19, 2006;
- main generator and excitation system walkdown on February 14, 2006; and
- "A" Motor Control Center Switchgear and Miscellaneous Electrical Equipment Area Ventilation train during emergent maintenance on the "B" train on February 21, 2006.

These reviews represented four inspection samples.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05AQ)

.1 Walkdown of Selected Fire Zones/Areas

a. Inspection Scope

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

- Fire Zone 1CC-3A, Unit 1 Division 2 Switchgear Room elevation 620'-6";
- Fire Zone 1CC-3B, Unit 1 Division 3 Switchgear Room elevation 620'-6";
- Fire Zone 1CC-3C, Unit 1 Division 1 Switchgear Room elevation 620'-6";
- Fire Zone 1CC-4E, Unit 1 Division 1 Cable Spreading Area elevation 638'-6";
- Fire Zone 1CC-4C, Unit 1 Division 2 Cable Spreading Area elevation 638'-6";
- Fire Zone 1DG-1B, Unit 1 Division 3 Diesel Generator Building elevation 620'-6";
- Fire Zone 0IB-3, Intermediate Building elevation 620'-6";
- Fire Zone 0EW-1A, Emergency Service Water Pumphouse;
- Fire Zone 1RB-1C-1B, Containment to Drywell Space; and
- the radwaste building (all zones).

Emphasis was placed on evaluating the licensee's control of transient combustibles and ignition sources, the material condition of fire protection equipment, and the material condition and operational status of fire barriers used to prevent fire damage or propagation. The inspectors utilized the general guidelines established in Fire Protection Instruction (FPI)-A-A02, "Periodic Fire Inspections," Revision 3; Perry Administrative Procedure (PAP)-1910, "Fire Protection Program," Revision 11; and PAP-0204, "Housekeeping/Cleanliness Control Program," Revision 15; as well as basic National Fire Protection Association Codes, to perform the inspection and to determine whether the observed conditions were consistent with procedures and codes.

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

These reviews represented 10 inspection samples.

b. Findings

No findings of significance were identified.

.2 Observation of Unannounced Fire Drill

a. Inspection Scope

The inspectors observed an unannounced drill involving a fire in a safe shutdown area on February 28, 2006. The drill was observed to evaluate the readiness of licensee personnel to fight fires. In evaluating the fire fighting brigade's effectiveness, the inspectors considered licensee performance in donning protective clothing/turnout gear and self-contained breathing apparatus, deploying fire fighting equipment and fire hoses to the scene of the fire, entering the fire area in a deliberate and controlled manner, maintaining clear and concise communications, checking for fire victims and propagation of fire and smoke into other plant areas, and the use of pre-planned fire fighting strategies. In addition, the inspectors reviewed the post-drill critique report to evaluate the licensee's ability to self-critique fire fighting performance.

This review represented one annual sample.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors performed an inspection of external flooding vulnerabilities associated with the emergency service water discharge swale area. The inspection consisted of a review of the external flooding and emergency service water system design features described in the Updated Safety Analysis Report (USAR). In addition, the inspectors reviewed corrective action documents to determine whether previously identified deficiencies were appropriately prioritized and addressed. The inspectors also walked down the emergency service water discharge swale area to determine whether observations were consistent with design.

This review represented one inspection sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On January 23, 2006, the resident inspectors observed licensed operator performance in the plant simulator. The inspectors evaluated crew performance in the areas of:

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

The inspectors also observed the licensee's evaluation of crew performance to determine whether the training staff had identified performance deficiencies and specified appropriate remedial actions.

This review represented one inspection sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- safety-related instrument air system;
- Division 1, 2, and 3 EDGs;
- nuclear instrumentation; and
- reactor recirculation system.

These reviews represented four inspection samples.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed the licensee's evaluation of plant risk, scheduling, configuration control, and performance of maintenance associated with planned and emergent work activities to determine whether scheduled and emergent work activities were adequately managed in accordance with 10 CFR 50.65(a)(4). In particular, the inspectors reviewed the licensee's program for conducting maintenance risk assessments to determine whether the licensee's planning, risk management tools, and the assessment and management of on-line risk were adequate. The inspectors also reviewed licensee actions to address increased on-line risk when equipment was out of service for maintenance, such as establishing compensatory actions, minimizing the duration of the activity, obtaining appropriate management approval, and informing appropriate plant staff, to determine whether the actions were accomplished when on-line risk was increased due to maintenance on risk-significant SSCs. The following assessments and/or activities were reviewed:

- the licensee's management of emergent work activities associated with the replacement of the Division 1 EDG jacket water cooling pump on January 6, 2006;
- the maintenance risk assessment for the week of January 9, 2006, which included isolation of the 5A/6A feedwater heaters for maintenance activities and multiple reactor protection system relay replacements;
- the maintenance risk assessment and work execution associated with a RCIC system outage during the week of January 16, 2006;
- the licensee's management of planned and emergent work activities during the week of January 23, 2006, which included a low pressure core spray system maintenance outage and a failed monthly Division 1 EDG surveillance;
- the maintenance risk assessment and work execution associated with a motor driven feed pump maintenance outage during the week of March 13, 2006; and
- the licensee's management of planned and emergent work activities during the week of March 20, 2006, which included unplanned unavailability of the MCC Switchgear and Miscellaneous Electrical Equipment Ventilation 'B' Train.

These reviews represented six inspection samples.

b. Findings

No findings of significance were identified.

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

.1 MCC Switchgear and Miscellaneous Electrical Equipment Ventilation Fan Motor Failure

a. Inspection Scope

On February 11, 2006, the “B” MCC Switchgear and Miscellaneous Electrical Equipment Ventilation system return fan motor failed, resulting in a small fire and an Alert emergency declaration. The inspectors reviewed licensee personnel performance issues that contributed to the event, including licensee personnel response and implementation of maintenance procedures when it was identified that the fan motor had previously exhibited elevated vibration levels.

This review represented the first of two samples for this inspection procedure.

b. Findings

Introduction: A finding of very low safety significance (Green) and an associated NCV of Technical Specification (TS) 5.4, “Procedures,” was self-revealed on February 11, 2006, when the “B” MCC Switchgear and Miscellaneous Electrical Equipment Ventilation system return fan motor failed, resulting in a small fire and an Alert emergency declaration.

Description: On September 29, 2005, during routine vibration testing, licensee personnel identified that “B” MCC Switchgear and Miscellaneous Electrical Equipment Ventilation system return fan motor inboard bearing vibration levels exceeded the alert level criteria.

Technical Administrative Instruction (TAI)-2000-2, “Vibration Monitoring Program,” Revision 3, stated, in part, “Specific Alert and Action levels are required to be identified in order to provide trigger points to communicate degraded conditions, establish increased monitoring frequency, allow degraded components to be corrected in a controlled manner, and provide the site with parameters to ensure components are shutdown before catastrophic failure.” Procedures TAI-2000-2 and TAI-2000, “Predictive Maintenance Program,” Revision 1, defined a vibration alert level as the maximum threshold for generation of a Performance Analysis and Action Report (PAAR).

Procedure TAI-2000 prescribed that the following actions be implemented after a key parameter exceeded the alert level criteria: (1) conduct additional analysis to identify the source and extent of the degraded conditions; (2) initiate a PAAR to document the condition with recommended actions; (3) classify the severity of the component condition; (3) evaluate the need for a repair tag; and (4) forward the PAAR to the lead predictive maintenance engineer.

Contrary to TAI-2000, licensee personnel failed to perform any of these actions. As a result, the degraded condition remained unmonitored and unaddressed until the "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation system return fan motor failed on February 11, 2006.

The failure of the fan motor resulted in a small fire in the control complex and an Alert emergency declaration due to the location of the fire. The "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation train was rendered inoperable and unavailable when the fan motor failed. Licensee personnel extinguished the fire using one portable dry-chemical fire extinguisher. As part of their immediate corrective actions, the licensee completed repairs on the affected ventilation system on March 3, 2006.

The inspectors determined that the failure of licensee personnel to adhere to predictive maintenance procedures after the "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation system return fan vibration levels exceeded predictive maintenance program alert criteria was a performance deficiency warranting a significance evaluation.

Analysis: The inspectors concluded that the finding was more than minor in accordance with Appendix B, "Issue Screening," of Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," dated September 30, 2005. Specifically, the failure to adhere to maintenance procedures affecting safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, the failure to adhere to applicable maintenance procedures when a vibration alert condition was identified on the "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation system return fan motor allowed a degraded condition to exist that resulted in an equipment failure, a small fire in a safe shutdown building, and safety system unavailability. The finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to applicable procedures when measured return fan motor vibration levels exceeded alert level criteria.

Because the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was a support system, the finding was not suitable for review using IMC 0609, "Significance Determination Process." Following management review, the finding was determined to be of very low safety significance because only one train of the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was affected, and the fire did not result in any personnel injuries or damage to other equipment.

Enforcement: Technical Specification 5.4, "Procedures," required the implementation of the applicable procedures recommended in Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," Revision 2, dated February 1978. Regulatory Guide 1.33, Appendix A, Part 9a, stated, "Maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances." Contrary to this requirement, on September 29, 2005, licensee personnel failed to adhere to maintenance procedures affecting the safety-related "B"

Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation return fan motor after measured fan motor vibration levels exceeded the alert level criteria. This resulted in an unaddressed degraded condition that led to motor failure; safety system unavailability; a small fire in the control complex, a safe shutdown building; and an Alert emergency declaration. However, because of the very low safety significance of the issue and because the issue has been entered into the licensee's corrective action program (CR 06-00670), the issue is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000440/2006002-01).

.2 Unauthorized Discharge

a. Inspection Scope

The inspectors reviewed the licensee's response to the report of an unauthorized discharge of about 10 gallons of rainwater containing trace amounts of sulfuric acid to a storm drain on February 19, 2006. The inspectors reviewed the licensee's immediate and supplemental actions and determined whether these actions were consistent with the actions specified in ONI-ZZZ-5, "Spills and Unauthorized Discharges," Revision 4. The inspectors also reviewed licensee reporting actions to determine whether appropriate state and federal notifications were made.

This review represented the second of two samples for this inspection procedure.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected CRs related to potential operability issues for risk-significant components and systems. These CRs were evaluated to determine whether the operability of the components and systems was justified. The inspectors compared the operability and design criteria in the appropriate sections of the TS and 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 were in place, would function as intended, and were properly controlled. Additionally, the inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. The inspectors reviewed the following issues:

- an operability evaluation associated with fuel oil transfer valves for all three EDGs that were found to be missing fastener hardware contrary to design drawings on January 18, 2006;



- an operability evaluation associated with a non-standard pipe clamp configuration affecting the residual heat removal (RHR) “B” loop on January 27, 2006;
- an operability evaluation associated with suspect spot welds on the HPCS room cooler on January 27, 2006;
- an operability evaluation associated with the introduction of foreign material into the Division 1 EDG oil sump on January 30, 2006; and
- an operability evaluation associated with a design calculation error affecting an RHR “A” loop pipe support on March 6, 2006.

These reviews represented five inspection samples.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- testing of the HPCS system waterleg pump after maintenance on January 3, 2006;
- testing of the reactor protection main steam line isolation relay after relay replacement on January 14, 2006;
- testing of the RCIC system following maintenance on January 20, 2006;
- testing of the main steam line isolation system following a transmitter replacement associated with the “B” steam line on February 15, 2006; and
- testing of the MCC Switchgear and Miscellaneous Electrical Equipment Ventilation “B” Train system following fan motor repair on March 3, 2006.

These reviews represented five inspection samples.

b. Findings

Introduction: The inspectors identified a finding of very low safety significance and an associated NCV of TS 5.4, "Procedures," when licensee personnel failed to adhere to maintenance procedures associated with the "B" MCC Switchgear and Miscellaneous

Electrical Equipment Ventilation train and did not establish a drive belt tension between the return fan and motor as prescribed by the procedure prior to returning the train to service following maintenance.

Description: On March 3, 2006, licensee personnel completed repairs to the "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation return fan motor following a fan motor failure and small fire on February 11, 2006. Subsequently, on March 20, 2006, licensee personnel identified an unusual noise and an acrid odor originating from the "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation return fan motor. Licensee personnel secured the motor and determined that the motor drive belts were loose and slipping.

Licensee personnel utilized General Maintenance Instruction (GMI)-0073, "V-Belt And Sheave Maintenance," Revision 8, to tension the motor drive belts and correct the condition. On March 20, 2006, while using an approved tensioning method that relied on motor shaft deflection, licensee personnel identified that adequate belt tension could not be obtained without excessive motor shaft deflection. Using an alternate and approved force deflection method, maintenance personnel determined that the minimum required drive belt deflection was 13 foot pounds (ft-lbs) force for the specified belt deflection height. Maintenance personnel documented that they were only able to obtain a drive belt deflection of 9 ft-lbs force; and could not obtain 13 ft-lbs force without potentially damaging the motor jacking bolts. Maintenance personnel documented that the "belts were still too loose" in WO 200202142 and generated CR 06-01316, "Inability To Comply With GMI-0073 During 0M23 'B' Belt Retensioning," to enter this issue into the corrective action program.

To address this issue, system engineering personnel calculated a revised minimum acceptable deflection force based upon an unapproved vendor formula. The revised minimum value was determined to be about 9 ft-lbs force; the same value that maintenance personnel had been previously able to achieve.

Based on this revised acceptance criteria, licensee personnel completed the maintenance early on March 21, 2006. That morning, the inspectors identified that "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation system post-maintenance testing was in progress. The inspectors asked the operations shift manager how the maintenance had been completed when it had been identified that maintenance personnel were previously unable to satisfy minimum drive belt tension requirements. The shift manager responded that he would investigate the issue.

On March 22, 2006, the inspectors identified that, although the "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation system had been declared operable, GMI-0073 had not been revised to address the drive belt tension issues identified on

March 20, 2006. The inspectors asked the maintenance director how the maintenance procedure issue had been resolved. The maintenance director provided CR 06-01316 to the inspectors and stated that personnel had stopped work pending a procedure revision to permit the use of a new tension determination method. After further investigation, licensee management met with the inspectors and stated that contrary to their previous understanding and expectation, GMI-0073 had not been revised and had not been adhered to during the maintenance activity.

The inspectors reviewed previous maintenance activities associated with the "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation return fan motor. The inspectors identified that on March 3, 2006, "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation system drive belt installation and tensioning had been completed in accordance with GMI-0073. Additionally, the inspectors reviewed documentation associated with the "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation system drive belt replacement activities conducted on February 5, 2005. The inspectors noted that licensee personnel were not able to complete this maintenance in accordance with GMI-0073. In this case, licensee personnel were unable to install the belts loosely, before tensioning, as required by the procedure. GMI-0073, Attachment 1, "V-belt data sheet," dated February 5, 2005, included the comment, "This procedure negated for this work order by CR 05-00891." Therefore, the inspectors concluded that licensee personnel had also failed to adhere to the drive belt installation requirements prescribed by GMI-0073 on February 5, 2005.

As part of their immediate corrective actions, the licensee counseled involved personnel regarding procedure adherence expectations. Licensee personnel also confirmed that the vendor formula used to calculate the minimum deflection force of 9 ft-lbs was acceptable.

The inspectors determined that the failure of licensee personnel to adhere to maintenance procedures affecting safety-related equipment was a performance deficiency warranting a significance evaluation.

Analysis: The inspectors concluded that the finding was greater than minor in accordance with Appendix B, "Issue Screening," of IMC 0612, "Power Reactor Inspection Reports," dated September 30, 2005. Specifically, the failure to adhere to maintenance procedures affecting safety-related equipment, if left uncorrected, could become a more significant safety concern. In this case, this was evidenced by the previous failure to adhere to procedures on this motor that contributed to the motor failure and a fire that resulted in an Alert emergency declaration on February 11, 2006. The finding affected the cross-cutting area of Human Performance because licensee personnel failed to adhere to procedures.

Because the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was a support system, the finding was not suitable for review using IMC 0609, "Significance Determination Process." Following management review, the finding was determined to be of very low safety significance because only one train of the Motor Control Center Switchgear and Miscellaneous Electrical Equipment Ventilation system was affected.

Enforcement: Technical Specification 5.4, "Procedures," required the implementation of the applicable procedures recommended in Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," Revision 2, dated February 1978. Regulatory Guide 1.33, Appendix A, Part 9a, stated, "Maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances." Contrary to this requirement, on February 5, 2005, and March 21, 2006, licensee personnel failed to adhere to maintenance procedures affecting the safety-related "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation return fan motor when it was identified that the acceptance criteria for minimum drive belt tension could not be met. However, because of the very low safety significance of the issue and because the issue has been entered into the licensee's corrective action program (CR 06-01581), the issue is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000440/2006002-02).

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed surveillance testing or reviewed test data for risk-significant systems or components to assess compliance with TS; 10 CFR 50, Appendix B; and licensee procedure requirements. The testing was also evaluated for consistency with the USAR. The inspectors verified that the testing demonstrated that the systems were ready to perform their intended safety functions. The inspectors determined whether test control was properly coordinated with the control room and performed in the sequence specified in the surveillance instruction (SVI), and if test equipment was properly calibrated and installed to support the surveillance tests. The procedures reviewed are listed in the attached List of Documents Reviewed. The surveillance activities assessed were:

- remote shutdown control test for the RCIC system conducted January 16, 2006;
- HPCS quarterly pump and valve test conducted February 6, 2006;
- main steam line low condenser vacuum instrumentation calibration surveillance conducted February 27, 2006;
- Division 3 EDG monthly run conducted March 8, 2006;
- reactor pressure vessel low level 1 channel "C" response time testing conducted March 24, 2006; and
- scram discharge volume high level channel "D" level switch calibration surveillance conducted March 30, 2006.

These reviews represented six inspection samples.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed documentation for the following temporary configuration changes:

- the installation of leak sealant device on reactor feed booster pump “B” suction flange; and
- the modification of the control rod drive system piping and the installation of pipe caps to prevent leakage of water to the suppression pool through a degraded isolation valve.

The inspectors assessed the acceptability of each temporary configuration change by comparing the 10 CFR 50.59 screening and evaluation information against the design basis, the Updated Final Safety Analysis Report (UFSAR) and the TS as applicable. The comparisons were performed to ensure that the new configurations remained consistent with design basis information. 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.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed activities in the simulator control room, the technical support center, the emergency operations facility, and operations support center during an emergency preparedness drill conducted on February 28, 2006. The inspection focused on the ability of the licensee to appropriately classify emergency conditions, complete timely notifications, and implement appropriate protective action recommendations in accordance with approved procedures.

This review represented one inspection sample.

b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator Verification (71151)

###### a. Inspection Scope

The inspectors reviewed reported 4<sup>th</sup> quarter 2005 data for unplanned scrams, scrams with loss of normal heat removal, safety system functional failures, and reactor coolant system leakage performance indicators using the definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Revision 3. The inspectors reviewed station logs, event notification reports, and licensee event reports (LERs) to verify the accuracy of the licensee's data submission.

These reviews represented four inspection samples.

###### b. Findings

No findings of significance were identified.

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

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

###### a. Inspection Scope

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

This is not an inspection sample.

###### b. Findings

No findings of significance were identified.

###### .2 Annual Sample Review

###### a. Inspection Scope

The inspectors selected the licensee's root cause evaluation associated with extended periods of closed cooling water system chemistry parameters remaining out of administrative limits without corrective action being taken. The inspectors selected this issue for detailed review because the issue was associated with the cross-cutting areas of problem identification and resolution and human performance.

This review represented one inspection sample.

b. Findings and Observations

No findings of significance were identified. The inspectors noted that at no time were any chemistry limits exceeded.

The licensee's root cause evaluation focused on programmatic and organizational issues, such as a tolerance for degraded conditions, which allowed administrative limits to be exceeded without the condition being entered into the corrective action program. The identified root and contributing causes included the lack of independent review of chemistry analyses; over reliance on a subject matter expert; a lack of guidance for the disposition of conditions that exceeded administrative limits, but had not exceeded action level limits; and failed management tools, including less than adequate performance indicators and self-assessments.

The inspectors reviewed the licensee's identified corrective actions to determine whether they adequately addressed the identified root and contributing causes. The licensee's corrective actions included the addition of a requirement for the independent review of chemistry sample results, the addition of a requirement to "generate a condition report and track issues that will not be corrected in a short period of time (2 days) to completion in the corrective program," and the establishment of monthly performance indicators to reflect the status of closed cooling water system chemistry parameters.

The inspectors reviewed the licensee's closed cooling water system chemistry monthly performance indicators for January and February of 2006 to determine whether out-of-administrative-limit results were properly identified. The inspectors also reviewed actions implemented to restore out-of-administrative-limit parameters.

The inspectors reviewed the licensee's extent of condition review and determined that a broader scope of review would have been suitable. Specifically, although the review included the lubricating oil sample analysis program and the ventilation train charcoal sampling process, other diagnostic programs such as the vibration monitoring program and the acoustic emissions monitoring program were omitted. Additionally, the inspectors determined that the licensee's conclusion that a similar cause or condition did not exist with respect to the lubricating oil sample analysis program, or other predictive maintenance programs, was not supported by recent plant events. Specifically, as discussed in Section 1R14.1 of this report, on September 29, 2005, during routine vibration testing, licensee personnel identified that the "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation return fan motor vibration levels exceeded predictive maintenance program alert level criteria, which indicated a degraded condition. Licensee personnel failed to initiate a PAAR to document the condition and recommend corrective actions. Additionally, licensee personnel did not enter the degraded condition into the corrective action program. Also, as documented in CR 06-00751, "CDBI [component design basis inspection] - Lube Oil Results Not Properly Evaluated in Accordance With TAI-2000-3," dated February 14, 2006, the inspectors identified two instances where RCIC pump lube oil results exceeded defined action levels without the issue being entered, as required, into the corrective action program.

The inspectors discussed these observations with maintenance department management. The licensee informed the inspectors that they had initiated action to review current sample data and ensure that any observed degraded condition was properly entered into the corrective action program.

Because the inspectors did not identify any findings of significance associated with the root cause or corrective actions taken to prevent recurrence, the inspectors' observations on the extent of condition review were considered to be minor in nature.

#### 4OA3 Event Followup (71153)

##### .1 Fire in Switchgear Ventilation Fan Motor

On February 11, 2006, the inspectors observed the licensee's response to a small fire in the control complex due to the failure of the "B" MCC Switchgear and Miscellaneous Electrical Equipment Ventilation train return fan motor. The inspectors responded to the control room and observed the licensee's response, which included an Alert emergency declaration, and followup actions. The inspectors reviewed licensee actions to determine whether the actions were consistent with licensee procedures. The inspectors determined that the licensee completed notifications as required by 10 CFR Part 72. No findings of significance were identified.

This review represented the first of three samples for this inspection procedure.

##### .2 (Closed) LER 05000440/2005-004-00: Open Emergency Service Water Ventilation Breaker Results in a Fire Protection Program Violation. A discussion of this event, and an associated licensee-identified NCV, is contained in Section 4OA7 of report 05000440/2005010.

This review represented the second of three samples for this inspection procedure.

##### .3 (Closed) LER 05000440/2005-005-00: Inadequate Review of Online Work Results in TS Entry. A discussion of this event, and an associated licensee-identified NCV, is contained in Section 4OA7 of report 05000440/2005010.

This review represented the third of three samples for this inspection procedure.

#### 4OA5 Other Activities

##### Temporary Instruction (TI) 2515/165, Operational Readiness of Offsite Power and Impact on Plant Risk

##### a. Inspection Scope

The objective of TI 2515/165, "Operational Readiness of Offsite Power and Impact on Plant Risk," was to confirm, through inspections and interviews, the operational readiness of offsite power systems in accordance with NRC requirements. The inspectors reviewed licensee procedures and discussed the attributes identified in



TI 2515/165 with licensee personnel. In accordance with the requirements of TI 2515/165, the inspectors evaluated the licensee's operating procedures used to assure the functionality/operability of the offsite power system as well as the risk assessment, emergent work, and/or grid reliability procedures used to assess the operability and readiness of the offsite power system.

The information gathered while completing this TI was forwarded to the Office of Nuclear Reactor Regulation for further review and evaluation.

b. Findings

No findings of significance were identified.

4OA6 Meetings

Exit Meeting

On April 7, 2006, the resident inspectors presented the inspection results to Mr. L. Pearce, Site Vice President, and other members of his staff who acknowledged the findings.

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

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee Personnel

L. Pearce, Vice President-Nuclear  
F. von Ahn, General Manager, Nuclear Power Plant Department  
S. Thomas, Manager, Radiation Protection  
J. Lausberg, Manager, Regulatory Compliance  
T. Lentz, Director, Performance Improvement Initiative  
J. Messina, Manager, Operations  
M. Wayland, Director, Maintenance  
J. Shaw, Director, Nuclear Engineering  
K. Russell, Regulatory Affairs

### LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

#### Opened and Closed

05000440/2006002-01	NCV	Failure to Follow Maintenance Procedures for Electrical Equipment Ventilation Fan Motor When Vibration Levels Exceeded Alert Criteria (Section 1R14.1)
05000440/2006002-02	NCV	Failure to Follow Belt Tensioning Maintenance Procedures for Electrical Equipment Ventilation Fan Motor (Section 1R19)
2515/165	TI	Operational Readiness of Offsite Power and Impact on Plant Risk (Section 4OA5)

#### Closed

05000440/2005-004-00	LER	Open Emergency Service Water Ventilation Breaker Results in a Fire Protection Program Violation (Section 4OA3)
05000440/2005-005-00	LER	Inadequate Review of Online Work Results in TS Entry (Section 4OA3)

## LIST OF DOCUMENTS REVIEWED

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

### **Section 1R01 Adverse Weather Protection**

ONI-ZZZ-1; Tornado or High Winds; Revision 5  
CR 05-07514; Meteorological Tower 60 Meter Wind Speed Sensor System 'A' Damage; dated November 8, 2005  
CR 05-00218; System 'A' 60M Wind Speed Indication Failed Between 1-8-05 and 1-10-05; dated January 10, 2005

### **Section 1R04 Equipment Alignment**

CR 06-00374; NRC ID: Stauff Clamp Missing, Control Complex Chiller "B" Instrumentation Line; dated January 24, 2006  
CR 05-04411; P42-F140 Stem Packing Nut Thread Engagement; dated May 22, 2005  
CR 05-07839; ECC Pump Gland Nut Adjustment; dated December 1, 2005  
CR 05-07577; 0P42F0315B Found With 4 of 8 Bolts Loose on Flange; dated November 13, 2005  
ELI-R24; 480 Volt MCC; Revision 14  
VLI-P42; Emergency Closed Cooling System; Revision 11  
VLI-R44/E22B; Division 3 Diesel Generator Starting Air System; Revision 7  
VLI-R45/E22B; Division 3 Diesel Generator Fuel Oil System (Unit 1); Revision 3  
Drawing 302-0701-00000; High Pressure Core Spray System; Revision EE  
VLI-E22A; High Pressure Core Spray; Revision 6  
VLI-M23/24; MCC, Switchgear and Miscellaneous Electrical Equipment Area HVAC System; Revision 6

### **Section 1R05 Fire Protection**

FPI-0CC; Control Complex; Revision 5  
FPI-1DG; Diesel Generator Building; Revision 4  
FPI-0IB; Intermediate Building; Revision 4  
FPI-RWB; Radwaste Building; Revision 1  
FPI-1RB; Reactor Building; Revision 3  
FPI-0EW; Emergency Service Water Pumphouse; Revision 4  
Fire Drill Planning Guide; Scenario FDUPE-1125-022806; dated February 28, 2006

### **Section 1R06 Flood Protection**

CR 02-00586; Latent Issues, ESW Flow Out to the Swale; dated February 26, 2002  
CR 05-04296; NRC Information Notice 05-11; dated May 16, 2005  
CR 05-00293; OE 19025 - Reactor Water Clean-Up Backwash Tank Overflowed - Re-Issue;  
dated February 9, 2004

### **Section 1R11 Licensed Operator Requalification**

PEI-B13-0001; Reactor Pressure Vessel Control (Non-ATWS); Revision 0  
PEI-T23; Containment Control; Revision 3  
EPI-A1; Emergency Action Levels; Revision 16

### **Section 1R12 Maintenance Effectiveness**

Perry System Health Report 2005-3; dated December 29, 2005  
Perry System Health Report 2005-4; dated March 3, 2006  
Perry Critical Asset List; dated January 11, 2006  
Maintenance Rule (a)(1) Disposition Sheet; B33/Reactor Recirculation; dated May 11, 2005  
CR 04-02482; ADS A Air Storage Tank Pressure Hi/Low; dated May 14, 2004  
CR 05-05078; Industrial Safety Hazard Around the Safety Related Air Compressor; dated  
June 28, 2005  
SOI-P57; Safety Related Instrument Air System; Revision 10  
ARI-H13-P601-0019-H8; ADS A Air Strg [Storage] Tank Press Hi/Lo; Revision 6  
Drawing 302-0271-00000; Safety Related Instrument Air System; Revision M  
Cycle 11 Performance Criteria for HPCS EDG; dated July 7, 2005  
Performance Criteria Monitor for HPCS EDG; dated February 6, 2006  
Cycle 11 Performance Criteria for Division 1 & 2 EDG; dated July 7, 2005  
Performance Criteria Monitor for Division 1 & 2 EDG; dated February 6, 2006  
CR 05-07873; Emergency Diesel Generators, Div 1, 2 and 3; dated December 1, 2005  
CR 05-07967; EDG Common Exhaust Plenum; dated December 8, 2005  
CR 06-00234; Division 2 DG JW KW Pump; dated January 17, 2006  
SOI-R43; Division 1 and 2 Diesel Generator System; Revision 25  
CR 05-00247; Unexpected Half Scram During Maintenance; dated January 11, 2005  
CR 05-00430; Unexpected Half Scram; dated January 18, 2005  
CR 05-00702; SRM-B Declared Inop Due to Unexpected Raise in Count Rate; dated  
January 27, 2005  
CR 05-00947; Examine if a Trend Exists in Replacing Equipment Altered by FDDR as Rec by  
PORC; dated February 8, 2005  
CR 05-00953; Failed LPRMs (Various Reasons); dated February 4, 2005  
CR 05-01267; LPRM 3D 48-41 Failed Upscale Caused ½ Scram; dated February 22, 2005  
CR 05-02530; Unexpected Half Scram; dated March 21, 2005  
CR 05-03829; Frequent Short Period Alarms are Received on SRM C; dated April 27, 2005  
CR 05-04351; Failure of APRM D/H PS23 Power Supply; dated May 18, 2005  
CR 05-06104; Unexpected APRM Upscale Alarm and Rod Withdrawal Block; dated  
August 17, 2005  
CR 05-07706; Unexpected ½ Scram RPS Channel A from APRM A; dated November 21, 2005  
CR 05-08193; LPRM 32-25-C Failed Calibration Per SVI-C51-T5351; dated December 29, 2005

CR 06-00061; Calculation Appears to be Incomplete and Inaccurate; dated January 4, 2006  
CR 06-00164; IRM C is Reading High for No Apparent Reason; dated January 12, 2006  
CR 05-00094; Reactor Scram Investigation; dated January 6, 2005  
CR 05-00164; Intermittent Rx [Reactor] Recirc [Recirculation] Pump B Outer Seal Leakage High Alarms; dated January 7, 2005  
CR 05-00227; "A" LFMG [Low Frequency Motor Generator] Output Breaker Permissive Closing Logic Did Not Function Correctly; dated January 11, 2005  
CR 05-00254; Reactor Recirculation Pump B Unexpectedly Tripped from Slow Speed to Off; dated January 11, 2005  
CR 05-00581; Reactor Recirculation LFMG B Output Voltage Intermittent Fluctuations; dated January 23, 2005  
CR 05-01486; Rx Recirc Pump B Oil Sample Not Obtained Within 15 Minutes of Shutdown; dated February 26, 2005  
CR 05-01662; Reactor Recirc Pump Motor 1B33C0001A Lower Bearing Oil; dated March 2, 2005  
CR 05-02807; Recirculation Discharge Isolation Valve As Found Inspection Results, dated March 28, 2005  
CR 05-02993; Valve 1B33F0602B Leaking During Testing; dated April 3, 2005  
CR 05-03262; Unexpected B33-FCV Runback During SVI-R10-T5220; dated April 12, 2005  
CR 05-03741; Reactor Recirc 2B Breaker Charging Springs Failed to Charge; dated April 24, 2005  
CR 05-03795; Rx Recirc Pump 'B' Lower Cooler Flow Meter 1B33-N0145B Alarm Reset Concern; dated April 26, 2005  
CR 05-03882; 1B33-F019 Found Out of Position; dated April 28, 2005  
CR 05-03936; SVI-B33-T1168 Miss During Recirc Pump 'A' Start; dated May 1, 2005  
CR 05-04167; Rcirc FCV [Flow Control Valve] Runback Alarm During TXI-0359; dated May 10, 2005  
CR 05-04782; Spurious Rcirc B Outer Seal Leakage Hi Alarms; dated June 11, 2005  
CR 06-01023; Fryquel on I-Beam in Containment 599 at AZ 194; dated March 2, 2006

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

PAP-1924; Risk-Informed Safety Assessment and Risk Management; Revision 4  
Div 1 Jacket Water Pump Work Implementation Schedule; dated January 5, 2006  
On-Line Probabilistic Risk Assessment; Period 3, Week 11; Revision 1  
Perry Work Implementation Schedule; Period 3, Week 12  
Perry Work Implementation Schedule; Period 4, Week 1  
On-Line Probabilistic Risk Assessment; Period 4, Week 1; Revision 0  
On-Line Probabilistic Risk Assessment; Period 4, Week 2; Revision 1  
On-Line Probabilistic Risk Assessment; Period 4, Week 9; Revision 1

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

WO 200139055; MCC Switchgear and Misc Electrical Fan A; dated February 5, 2005  
Control Room Logs; dated February 11, 2006  
CR 06-00709; Vibration Data for M23C0002B; dated February 12, 2006  
CR 06-00670; Fire in Control Complex Due to CC Misc Vent Fan 2B; dated February 11, 2006  
CR 06-00675; Lessons Learned During Alert for M23 Fire; dated February 11, 2006

CR 06-00735; As Found Condition of Motor Base for 0M23C0002B; dated February 13, 2006  
CR 06-00671; Fire in 0M23C0002B Recirculation Fan; dated February 11, 2006  
M23 'A' Fan Vibration Data Record; dated September 29, 2005  
CR 06-00867; PY-C-06-01 Predictive Maintenance Program Lacks Ownership (TAI-2000);  
dated February 21, 2006  
CR 06-00679; No Fire or Smoke Alarms Received During the Fire in the CC-679; dated  
February 11, 2006  
CR 06-00650; ONI Entry for Chemical Spill Outside Water Treatment; dated February 10, 2006

### **Section 1R15 Operability Evaluations**

GMI-0061; Valve Packing Instruction; Revision 6  
CR 06-00265; Valve Packing Gland Washer Configuration; dated January 17, 2006  
CR 06-00379; Potential Overstress of Pipe Clamp for Support 1E12-H0364 in Auxiliary Bldg;  
dated January 25, 2006  
CR 05-07333; Loose Sheet Metal Screws on RHR - C Room Cooler Track and Trend CR;  
dated October 25, 2005  
CR 06-00342; Low Pressure Core Spray Room Cooler has Broken Tack Welds on Stiffener  
Bars; dated January 23, 2006  
CR 06-00371; High Pressure Core Spray Room Cooler has Broken Welds on the Stiffener  
Bars; dated January 25, 2006  
CR 06-00382; RHR "A" Room Cooler has Broken Spot Welds on the Sheet Metal Stiffener  
Bars; dated January 25, 2006  
CR 06-00383; RCIC Room Cooler has Loose and Missing Sheet Metal Screws; dated  
January 25, 2006  
CR 06-00411; Tygon Sample Hose Fell Into Division 1 DG Oil Sump; dated January 27, 2006  
CR 06-01052; 1E12-H0118 Support Calculation Error-Weld Overstress; dated March 3, 2006

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

WO 200192898; High Pressure Core Spray Water-leg Pump; dated January 3, 2006  
SVI-E22-T2002; HPCS Waterleg Pump and Associated Valves Cold Shutdown Operability  
Test; Revision 13  
CR 06-00023; Loss of Min Flow on 1E22C0003, Following Restoration; dated January 3, 2006  
CR 06-00025; Effects of Operating HPCS Water Leg Pump W/O Min. Flow; dated  
January 4, 2006  
WO 200036027; K003E Relay Main Steam Line Isolation Test; dated January 14, 2006  
WO 200062959; Steam Line B Flow Transmitter; dated February 15, 2006  
IMI-E3-1; Rosemount Transmitter Replacement Checklist for Main Steam Line 'B' Flow; dated  
February 15, 2006  
CR 06-00975; Audible Noise Noted During Motor Coast Down; dated February 28, 2006  
CR 06-01037; Unsat Admin Review of Order 200161449; dated March 3, 2006  
CR 06-01049; Misc Fan M23C0002B Work Mis-classified As Preventive Maintenance; dated  
March 3, 2006  
WO 200161449; M23C002B Fan Motor Repair; dated March 3, 2006  
CR 06-01581; Failure to Revise Procedure Prior to Performing Work; dated April 6, 2006

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

SVI-C61-T1200; Remote Shutdown Control Test - RCIC and RHR; Revision 2  
SVI-E22-T1319; Diesel Generator Start and Load Division 3; Revision 13  
CR 06-00238; Plant Wiring Incorrect in 1C61P001, Remote Shutdown Panel; dated January 17, 2006  
WO 200142607; HPCS Pump and Valve Operability Test; dated February 6, 2006  
SVI-B21-T0077-D; MSL Low Condenser Vacuum Channel D Calibration for 1B21-N075D; Revision 5  
WO 200175500; Diesel Generator Start and Load Division 3; dated March 8, 2006  
SVI-B21-T1407-C; RPV Low Level 1 Channel C Response Time for 1B21-N681D; Revision 8  
SVI-C11-T5376-D; SDV High Level Channel D Functional/Calibration for 1C11-N013D; Revision 2

### **Section 1R23 Temporary Plant Modifications**

Temporary Modification 05-0014; Install Leak Sealant Device on 1N27C0001B Suction Flange; dated December 5, 2005  
Regulatory Applicability Determination 05-06131; Install Leak Sealant Device on 1N27C0001B Suction Flange; dated December 5, 2005  
10 CFR 50.59 Screen 05-06131; Install Leak Sealant Device on 1N27C0001B Suction Flange; dated December 6, 2005  
GMI-0095; Instructions for the Use and Control of On Line Leak Sealing; Revision 3  
Engineering Design Guide 97-005; Leak Sealants; Revision 6  
Temporary Modification 06-0002; Modify Control Rod Drive Piping Due to Leakage Past 1C11F00062; dated February 14, 2006  
Drawing 304-0881-00106; C11 - Control Rod Drive Pressure Control Piping Reactor Building; Revision A  
Drawing 302-0872-00000; Control Rod Drive Hydraulic System; Revision Z

### **Section 4OA2 Identification and Resolution of Problems**

Root Cause Report; Closed Cooling Water Chemistry Out of Administrative Specification; dated August 19, 2005  
TAI-2000; Predictive Maintenance Program; Revision 1  
TAI-2000-2; Vibration Monitoring Program; Revision 3  
TAI-2000-3; Lubricant and Mechanical Condition Analysis Program; Revision 1  
TAI-2000-6; Acoustic Emissions Monitoring Program; Revision 2  
PYBP-CHEM-0004; Chemistry Sample Shipping; Revision 3  
REC-0101; Computer Automated Laboratory System; Revision 5  
REC-0104; Chemistry Specifications; Revision 15  
REC-0104; Chemistry Specifications; Revision 16  
REC-0104; Chemistry Specifications; Revision 17  
CR 02-02693; REC-0104 Admin Limits Not Implemented at the Level Expected by RECS Management; dated August 12, 2002  
CR 04-02141; Revised EPRI Closed Cooling Water Guidelines; dated April 27, 2004  
CR 05-04696; Low Hydrazine Concentration in Turbine Building Closed Cooling; dated June 7, 2005

CR 05-04720; Missed Quarterly Flouride Analysis for Closed Cooling Systems; dated June 8, 2005  
CR 05-04803; Emergency Closed Cooling "B" Hydrazine Out of Specification; dated June 7, 2005  
CR 05-05260; Closed Cooling Chemistry Out of Admin Specification; dated July 8, 2005  
CR 05-05660; Procedural Guidance Not Followed for Out of Limit Reactor Water Zinc; dated July 26, 2005  
CR 05-05723; Ineffective Review of EPRI Guideline CCW Revision 1; dated July 28, 2005

#### **Section 40A Event Followup**

LER 2005-04; Open Emergency Service Water Ventilation Breaker Results in a Fire Protection Program Violation; dated December 30, 2005  
LER 2005-05; Inadequate Review of Online Work Results in TS Entry; dated December 30, 2005  
CR 06-00670; Fire In Control Complex Due to CC Misc. Vent. Fan 2B; dated February 11, 2006

#### **Section 40A5 Other Activities**

PAP-102; Interface with the Transmission System Operator; Revision 3  
PYBP-DES-0001; On-Line Risk Assessment Reference Guide; Revision 6  
PAP-1924; Risk-Informed Safety Assessment And Risk Management; Revision 4  
NOP-WM-2001; Work Management Scheduling/Assessment/Seasonal Readiness Processes; Revision 5  
ONI-S11; Unstable Grid; Revision 2



## LIST OF ACRONYMS USED

CFR	<u>Code of Federal Regulations</u>
CR	condition report
ECCW	emergency closed cooling system
EDG	emergency diesel generator
FENOC	FirstEnergy Nuclear Operating Company
FPI	Fire Protection Instruction
GMI	General Maintenance Instruction
HPCS	high pressure core spray
HVAC	heating, ventilation, and air conditioning
IMC	Inspection Manual Chapter
LER	Licensee Event Report
MCC	motor control center
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
ONI	Off-Normal Instruction
PAAR	Performance Analysis and Action Report
PAP	Perry Administrative Procedure
PMT	post-maintenance testing
RCIC	reactor core isolation cooling
RHR	residual heat removal
SDP	Significance Determination Process
SSC	structures, systems, and components
SVI	surveillance instruction
TI	Temporary Instruction
TIA	technical administrative instruction
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
USAR	Updated Safety Analysis Report
VLI	Valve Lineup Instruction
WO	work order