

March 14, 2006

Mr. Paul A. Harden
Site Vice President
Nuclear Management Company, LLC
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT
NRC INSPECTION REPORT 05000255/2006003

Dear Mr. Harden:

On February 17, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed a team inspection at the Palisades Nuclear Plant. The enclosed report documents the inspection findings which were discussed on February 17, 2006, with members of your staff.

This inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, compliance with the Commission's rules and regulations and with the conditions of your operating license. Within these areas, the inspection involved selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the samples selected for review the inspectors concluded that, in general, problems were being effectively identified, appropriately characterized for significance, and adequately evaluated and corrected. One self-revealed finding of very low safety significance (Green) was determined to be a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this finding as a Non-Cited Violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy.

If you contest the subject or severity of an NCV 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 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 Palisades Nuclear Plant.

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Sincerely,

/RA/

Christine A. Lipa, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Docket No. 50-255
License No. DPR-20

Enclosure: Inspection Report 05000255/2006003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-255
License No: DPR-20

Report No: 05000255/2006003

Licensee: Nuclear Management Company, LLC

Facility: Palisades Nuclear Plant

Location: Covert, MI 49043-9530

Dates: January 30 through February 17, 2006

Inspectors: J. Lennartz, Resident Inspector, D. C. Cook
J. Giessner, Resident Inspector, Palisades
R. Winter, Reactor Engineer, DRS

Approved by: C. Lipa, Chief
Branch 4
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000255/2006003; on 01/30/2006 - 02/17/2006; Palisades Nuclear Plant; Identification and Resolution of Problems.

The inspection was conducted by two resident inspectors and one region-based inspector. One self-revealed finding of very low safety significance (Green) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

Identification and Resolution of Problems

- C In general, licensee personnel effectively identified problems completely, accurately, and in a timely manner commensurate with the problems significance and ease of discovery. Applicable industry operating experience information was being incorporated into the licensee's corrective action program for evaluation and resolution, and licensee self-assessments and audits of the corrective action program were self-critical. However, the ability to effectively code condition reports for trending analysis continued to be a problem as noted in past problem identification and resolution inspections.

Identified problems were generally being prioritized and evaluated to the appropriate depth and thoroughness relative to the significance of each issue. Significance characterization of identified problems was appropriate; appropriate root and contributing causes were identified for significant conditions adverse to quality; and, cause evaluations adequately addressed extent of condition, potential generic implications, common causes and previous occurrences.

Corrective actions were, for the most part, effective at resolving identified problems. Most corrective actions reviewed were appropriately focused to resolve identified problems and were implemented in a timely manner commensurate with the safety significance. However, several examples of minor significance regarding ineffective corrective actions were identified. These examples included corrective actions not being implemented as planned and corrective actions that were not properly focused to prevent recurrence for significant conditions adverse to quality.

Discussions during the inspection provided evidence that licensee personnel were willing to raise safety concerns and no impediments to establishing a safety conscious work environment were identified.

Cornerstone: Mitigating Systems

- C Green. A finding of very low safety significance was self-revealed on January 4, 2006, when an incorrectly installed swagelok fitting on high pressure safety injection flow transmitter FT-0312 failed. A Non-Cited Violation of 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures and Drawings," was associated with this finding for the failure

to have prescribed instructions when the swagelok fitting was originally installed during field change FC-731 in 1988. Corrective actions included: the swagelok fitting on FT-0312 was repaired and verified to be installed correctly; two other swagelok fittings on high pressure safety injection flow transmitters were disassembled, inspected and repaired as necessary; other swagelok fittings installed in 1988 during field change FC-731 were visually inspected to verify that there was no evidence of leakage. Additional swagelok fittings were scheduled to be disassembled and inspected during the 2006 refueling outage to further address extent of condition.

This finding was more than minor because it was associated with the equipment performance attribute for mitigating systems and the cornerstone objective to ensure the capability of systems that respond to initiating events to prevent undesirable consequences was affected. Specifically, a leak from the failed swagelok fitting on the high pressure safety injection system flow transmitter FT-0312 would have decreased the capability of the high pressure safety injection system to inject water to the reactor core during a small break loss of coolant accident. The finding is of very low safety significance because the high pressure safety injection system's safety function was not lost. (Section 4OA2.a.(2)(I))

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA2 Problem Identification and Resolution

The inspectors completed the biennial inspection regarding problem identification and resolution, which was considered one baseline inspection sample.

a. Effectiveness of Problem Identification

(1) Inspection Scope

The inspectors selected a sample of condition reports on risk significant systems and components that were generated from January 2004 to January 2006. The inspectors reviewed the condition reports to verify that problems were being identified in a complete and accurate manner, and that problems were identified in a timely manner commensurate with the problems' significance and ease of discovery.

As a subset of the samples selected for review, the scope was expanded to a 5-year period for problems entered into the corrective action program pertaining to motor operated valve/480 volt breaker failures and in-service test/Technical Specification surveillance test failures. The inspectors reviewed approximately 25 condition reports with similar themes for each 5-year expanded review topic to verify that undetected adverse trends of recurring and uncorrected problems did not exist. The inspectors also reviewed a list of repeat maintenance preventable functional failures that have occurred in the last 2 years for indications of adverse trends.

To verify that applicable operating experience information was being identified and incorporated into the corrective action program, the inspectors reviewed a sample of operating experience information that had been generated since January 2004. The sample included 20 items generated from various sources such as vendor safety advisory letters, 10 CFR Part 21 reports, industry operating events, licensee internal operating experience and NRC generic communications issued as Generic Letters and Information Notices. The inspectors also sampled operating experience information that was not entered into the licensee's program to verify that the issues were appropriately dispositioned.

The inspectors reviewed documentation, interviewed licensee personnel and observed routine meetings to assess how effective licensee personnel were implementing the corrective action trending program and to verify that no undetected trends existed. Documentation reviewed included fleet procedures, DRUM (Departmental Roll-Up Meeting) report results, licensee self-assessments, previous NRC inspection reports, and condition reports generated for trending problems. The inspectors also reviewed approximately 40 condition reports that had been generated since November 2005 to evaluate if recent trending activities were being accomplished in accordance with the fleet guidance.

The inspectors reviewed several licensee audits and self-assessments to assess how effective licensee personnel were at self-identifying problems. The assessment was accomplished by comparing licensee-identified problems with problems that the inspectors identified during this inspection. The sample included a focused self-assessment and a Nuclear Oversight assessment of the corrective action program.

(2) Assessment

In general, licensee personnel effectively identified problems in a complete and accurate manner, and in a timely manner commensurate with the problems' significance and ease of discovery. The inspectors did not identify undetected adverse trends of recurring or uncorrected problems regarding surveillance test failures and motor operated valve/480 volt breaker failures during a review of condition reports generated over the expanded 5-year time period. Applicable industry operating experience information was being incorporated into the licensee's corrective action program for evaluation and resolution. Licensee self-assessments and audits of the corrective action program were self-critical and identified problems similar to problems identified by the inspectors.

However, the inspectors determined that one finding of very low safety significance was self-revealed and also noted that ineffective trend coding of condition reports continued. These issues are discussed below:

(I) Failed Swagelok Fitting on High Pressure Safety Injection Flow Transmitter

Introduction

A finding of very low safety significance (Green) was self-revealed on January 4, 2006, when a swagelok fitting on high pressure safety injection flow transmitter FT-0312 failed and resulted in a leak from safety injection tank T-82C of approximately 8 gallons per minute.

Description

On January 4, 2006, with the plant in Mode 3 (Hot Standby), control room operators were conducting routine plant start-up activities per plant procedures to seat the primary coolant system loop isolation check valve in the injection line associated with safety injection tank T-82C. The fluid in that line is stagnant and heats up and pressurizes to near primary coolant system pressure during plant heat-up from cold shutdown. To ensure that the primary coolant system check valve is fully seated, the high pressure safety injection line between the primary coolant system check valve and the safety injection tank is depressurized. A pressure control valve is opened that depressurizes the line from primary coolant system pressure (2060 pounds per square inch) to safety injection tank pressure (240 pounds per square inch) over a matter of seconds. Licensee personnel concluded that this run of piping would experience this specific pressure transient only during these plant start-up activities.

A few minutes after completing the activity, control room operators received numerous level and pressure alarms associated with T-82C and noted a slowly lowering level in T-82C. Auxiliary operators that were dispatched to containment to investigate identified that water was leaking out of the stainless steel tubing that had become disconnected from a 3/8 inch swagelok fitting on high pressure safety injection flow transmitter FT-0312. The leak rate was estimated at 8 gallons-per-minute at approximately 200 pounds per square inch pressure before the Auxiliary Operators isolated the flow transmitter to stop the leak. This issue was entered into the licensee's corrective action program for evaluation and resolution as condition report AR01009443.

Subsequent investigation by licensee personnel determined that the swagelok fitting was improperly installed during original installation in 1988 when field change FC-731 was implemented. This determination was based on as-found physical evidence that the fitting's ferrule was not embedded in the tubing and that no other maintenance activities on this fitting since original installation were identified in work order history. Documentation indicated that a total of nine valve blocks for instrument transmitters were installed in 1988 during FC-731. Four valve blocks were associated with high pressure safety injection flow transmitters (FT-0308, FT-0310, FT-0312 and FT-0313), four valve blocks were associated with low pressure safety injection flow transmitters (FT-0307, FT-0309, FT-0311 and FT-0314) and one valve block was associated with a pressurizer level transmitter (LT-0102).

Analysis

The inspectors determined that incorrectly installing the swagelok fittings on FT-0312 in 1988 was a licensee performance deficiency that warranted a significance evaluation. The inspectors concluded that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," issued September 30, 2005. The finding was associated with the equipment performance attribute for mitigating systems and the associated cornerstone objective to ensure the capability of systems that respond to initiating events to prevent undesirable consequences was affected.

A leak from the failed swagelok fitting on the high pressure safety injection system flow transmitter FT-0312 would have decreased the capability of the high pressure safety injection system to inject water to the reactor core during a small break loss of coolant accident. Because primary coolant system pressure would be elevated for an extended period during a small break loss of coolant accident, licensee and vendor personnel concluded from analysis that leakage from the fitting of up to approximately 20 gallons-per-minute would be seen. Consequently, approximately 10 percent of high pressure safety injection flow would leak from the failed fitting during a small break loss of coolant accident. Therefore, fuel peak centerline temperature would have reached a higher value than the current analyzed value (1465 degrees Fahrenheit) for small break loss of coolant accidents.

When specific impact on peak centerline temperatures were questioned by the inspectors, licensee and vendor personnel estimated that peak centerline temperature would increase to 1729 degrees Fahrenheit during a worst-case scenario. Also, the worst-case scenario conservatively assumed a constant 29 gallon-per-minute leak from the failed fitting during the entire event when in actuality the leak rate would decrease as the primary system depressurizes during the event. Therefore, the inspectors concluded that 10 CFR 50.46, "Acceptance Criteria For Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors," requirements would be satisfied if the swagelok fitting failed during a small break loss of coolant accident.

Using Manual Chapter 0609, Appendix A, "SDP Phase 1 Screening Worksheet for Initiating Events, Mitigation Systems, and Barriers Cornerstones," the inspectors determined that Mitigation Systems was the only cornerstone affected. Using the Mitigation Systems column on the Phase 1 SDP worksheet, the inspectors determined that the finding was not a design or qualification deficiency; did not represent the loss of a safety function; did not represent the loss of a single train for greater than the Technical Specification allowed outage time; did not involve risk-significant non-Technical Specification equipment; and, was not potentially risk significant due to seismic, flooding, or severe weather. Therefore, the finding screened as Green and was considered to be of very low safety significance.

The finding was related to the cross-cutting area of human performance because adequate procedural guidance was not provided when the swagelok fittings were installed in 1988. However, the inspectors noted that corrective actions taken in 1995, as documented in condition report C-PAL-95-0325, addressed other identified swagelok fitting installation problems. Specifically, improved guidance and periodic refresher training regarding swagelok fitting installation was implemented. Also, the inspectors did not identify additional examples of failed swagelok fittings that were installed after the corrective actions in 1995 had been implemented. Therefore, the inspectors concluded that this human performance deficiency was not reflective of current performance.

This finding was also related to the cross-cutting area of corrective actions in that licensee personnel had two apparent opportunities to identify the incorrectly installed swagelok fittings on the high pressure safety injection system flow transmitters.

- C The first opportunity was in 1993 when licensee personnel conducted a walkdown of compression fittings in response to a concern identified in NRC Information Notice 92-15, "Failure of Primary Coolant System Compression Fittings." However, the inspectors noted that many of the compression fittings that licensee personnel inspected were in air systems to valve actuators and several were on balance-of-plant equipment. Therefore, the inspectors concluded that the actions taken in response to the information notice were not appropriately focused on pressurized fluid systems inside containment.

- C The second opportunity was in 1995 during corrective actions for a failed swagelok fitting on a primary coolant system differential pressure indicator, which was documented in condition report C-PAL-128. In this instance, the root cause was determined to be "inadequate installation in that the tubing was not long enough to be fully seated in the fitting." The documented corrective actions indicated that licensee personnel walked down approximately 100 compressions fittings inside containment and did not identify any other fittings which had complex tubing bends, which could result in inadequate tubing length. However, the documented corrective actions did not indicate which specific fittings were inspected or why those specific fittings were chosen. Also, based on the documentation reviewed, only a visual inspection of accessible fittings was conducted to identify "any similar interference problems or complex routing that could lead to less than adequate tubing engagement." Consequently it appeared that the extent of condition inspections were too narrowly focused in that the fittings were not disassembled and only readily accessible fittings were inspected.

Enforcement

10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances. Contrary to the above, prescribed instructions, procedures or drawings were not provided for installing the swagelok fitting on high pressure safety injection flow transmitter FT-0312, an activity affecting quality, while implementing field change FC-731 on September 22, 1988. Consequently, the fitting was installed incorrectly in that the ferrule was not embedded in the tubing and the fitting subsequently failed on January 4, 2006. Because the finding was determined to be of very low safety significance and this issue has been entered into the licensee's Corrective Action Program (AR01009443), this violation is being treated as a Non-Cited Violation, consistent with Section VI.A.1 of the NRC Enforcement Policy (05000255/2006003-01).

For corrective actions and extent of condition, two other readily accessible high pressure safety injection flow transmitter valve blocks installed in 1988 (FT-0310 and FT-0313) were disassembled for inspection. During disassembly, licensee personnel identified that the swagelok fittings were also installed incorrectly on the valve block associated with FT-0313 in that the ferrules were not embedded in the tubing. The incorrectly installed fittings on FT-0312 and FT-0313 were repaired and verified to be installed correctly. The other high pressure safety injection flow transmitter valve block installed in 1988 (FT-0308) was not readily accessible for disassembly and therefore, licensee personnel only did a visual inspection.

License personnel also visually inspected all the other valve blocks installed during field change FC-731 in 1988 and did not identify any other fittings with boric acid or other evidence of leakage. The six valve blocks that were not disassembled during this outage were scheduled to be disassembled and

inspected during the 2006 refueling outage to verify that the swagelok fittings were installed correctly. The inspectors concluded that the corrective actions taken and planned were reasonable and timely commensurate with the safety significance.

(ii) Continued Problems Noted in Trending

The ability to effectively code condition reports for trending analysis had been noted as a problem in the last two NRC problem identification and resolution (PI&R) inspections. During this inspection, the inspectors noted that the coding of condition reports for trend analysis continued to be a problem as evidenced below:

- C In a self-assessment completed prior to this PI&R inspection, licensee personnel noted that 59 percent of the condition reports generated in 2005 had not been trended, which was entered into the corrective action program as condition report AR 01003469. Corrective actions to address this issue included establishing job aids, specifying expectations for the corrective action program liaisons and requiring a "Yes/No" field to be checked regarding whether or not the document was coded for trending before a condition report can be closed. Even though a "Yes" or "No" was required to close a condition report, program guidance required trend codes on all condition reports.
- C While reviewing approximately 40 condition reports, the inspectors identified several examples of trending activities that were not completed in accordance with the guidance specified in the trending manual. Specifically, three condition reports did not have any coding; five condition reports did not have coding for human performance, which included the barriers for prevention; and, twelve items did not have the inappropriate action (what went wrong) statement. In addition, the inspectors noted that equipment failure coding in the licensee's work management system, while specified in the trend manual guidance, was not yet available. Licensee personnel generated condition report AR01013090 to address this issue.
- C The DRUM (Department Roll-Up Meeting) was an assessment tool for trending performance from a variety of sources including condition reports, operating experience information, and performance indicators. The inspectors reviewed the quarterly DRUM results that were available against the guidelines contained in fleet guide FG-PA-DRUM-01, "Departmental Roll-Up Meeting (DRUM) Manual – Department Performance Trending." The inspectors identified several issues in completing the DRUM, which included: only one department had completed their 4th quarter 2005 DRUM on time; the format used for the DRUM reports varied widely in that some departments summarized performance while other departments provided the condition report trend assessment in detail; and, some departments did not assess the human performance area as specified in the manual. Also, the inspectors noted

that licensee personnel had previously generated condition report AR01010937 because the tool needed to extract data from the corrective action system database regarding human performance trends for the DRUM's was not ready for use. Therefore, the inspectors concluded that the DRUM summaries were of limited value in providing trending information.

The inspectors concluded that the actions taken to date to address problems in coding of condition reports for trend analysis have not been fully effective. While additional actions to address this issue were included in the licensee's improvement plan, the inspectors noted that the plan did not include a periodic sampling of data and follow-up evaluation. Consequently, the effectiveness of any additional actions to address this continuing problem would not be measured. Licensee personnel generated condition report AR01013080 to evaluate this issue.

While problems with the coding of condition reports for trend analysis has continued for several years, the inspectors did not identify any adverse trends that had not been previously identified by licensee personnel. Therefore, the inspectors determined that this issue was of minor significance.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors observed several condition report screening meetings to verify that the significance level of identified problems was characterized commensurate with the safety significance. The inspectors reviewed a sample of approximately 20 corrective actions identified in the backlog that were greater than 120 days old to verify that the actions were appropriately prioritized.

The inspectors reviewed documentation, including 9 root cause evaluations and approximately 30 apparent cause evaluations, to verify that extent of condition, potential generic implications, common causes and previous occurrences were appropriately addressed. For significant conditions adverse to quality, the inspectors verified that root and contributing causes were identified. The inspectors also reviewed fleet guides FG-PA-ACE-01, "Apparent Cause Evaluation Manual," and FG-PA-RCE-01, "Root Cause Evaluation Manual," to verify that the evaluations were completed in accordance with the fleet guides.

To verify that applicable operating experience information was appropriately evaluated, the inspectors reviewed documentation for a sample of operating experience information that had been generated since January 2004. The sample included 20 items generated from various sources such as vendor safety advisory letters, 10 CFR Part 21 reports, industry operating events, licensee internal operating experience and NRC generic communications issued as Generic Letters and Information Notices.

The inspectors also reviewed a sample of evaluations in condition reports that were generated for findings documented in NRC reports since January 2004. Included in the

sample were six findings with associated Non-Cited Violations, three licensee-identified findings and two findings that were not violations of NRC requirements. The inspectors verified that the findings were evaluated to the appropriate depth and thoroughness relative to the significance or potential impact of each issue.

(2) Assessment

The inspectors concluded that the condition report screening meetings appropriately characterized the significance of identified problems; backlogged open action items greater than 120 days old were appropriately prioritized; operating experience information was evaluated and addressed in a timely manner commensurate with safety significance; and, the NRC and licensee-identified findings were evaluated to the appropriate depth and thoroughness relative to the significance or potential impact of each issue.

In general, cause evaluations were conducted in accordance with the guidance specified in applicable fleet manuals; appropriate root and contributing causes were identified for significant conditions adverse to quality; and, the cause evaluations adequately addressed extent of condition, potential generic implications, common causes and previous occurrences when applicable.

However, the inspectors identified examples of corrective action program documentation issues that demonstrated a lack of rigor. The examples included a lack of documented justification for downgrading the significance of a condition report and the required level of evaluation. The inspectors determined that the downgrade was appropriate and noted that condition reports that were downgraded over the last 6 months all included the documented justification. Therefore, this issue was considered to be of minor significance.

The inspectors also identified a proceduralized operator workaround in a surveillance procedure that licensee personnel had to evaluate as noted below:

(I) Proceduralized Operator Workaround

During an assessment of apparent cause evaluation ACE003312, "RT (Refueling Test)-8C/RT-8D Do Not Adequately Test Load Shed Contacts Associated With Blocking 1A Compressor," the inspectors reviewed the quarterly surveillance test procedure (QO-21) for the turbine driven auxiliary feedwater pump. The inspectors identified that the procedure included statements that appeared to be a proceduralized workaround for plant equipment that supported turbine driven auxiliary pump operation. Specifically, the procedure directed the operators to "RAP" on the steam trap cap flange to unstick trap valves. The trap was installed to remove condensate from the turbine driven auxiliary feedwater steam lines to prevent a buildup of condensate, which could adversely impact the turbine. The inspectors were concerned that this maintenance activity may mask a degraded trap that could fail to reseal during a design event, without operator intervention, and potentially jeopardize the equipment's performance.

Licensee personnel performed an operability recommendation and concluded that with one trap bypassing steam, the turbine driven auxiliary pump's performance would remain acceptable. In addition, the steam flow entering the room would be limited by a sized orifice that would prevent excess steam from impacting room equipment. The inspectors determined that the operability recommendation was reasonable and therefore this issue was considered to be of minor significance. However, the inspectors concluded that this was a proceduralized workaround and licensee personnel generated condition report AR01015197 to evaluate this issue.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed documentation to verify that corrective actions were appropriately focused to resolve the identified problem; that corrective actions were implemented or scheduled to be implemented in a timely manner commensurate with the safety significance; and, that implementation due date extensions were adequately justified. For significant conditions adverse to quality, the inspectors also verified that the corrective actions appropriately addressed the root and contributing causes.

The documentation reviewed was primarily for problems that had been identified between January 2004 and January 2006, and included: 9 root cause evaluations; approximately 30 apparent cause evaluations; approximately 16 items of operating experience information from various sources such as vendor safety advisory letters, 10 CFR Part 21 reports, industry operating events, licensee internal operating experience and NRC generic communications issued as Generic Letters and Information Notices; previously documented findings in NRC inspection reports regarding six findings with associated Non-Cited Violations, three licensee-identified findings and two findings that were not violations of NRC requirements; and, a list of repeat maintenance preventable functional failures that occurred over the last 2 years. The inspectors also reviewed documentation over a 5-year period pertaining to 480 volt breaker/motor operated valve failures and in-service test/Technical Specification surveillance test failures.

(2) Assessment

The inspectors concluded that corrective actions were generally effective at resolving identified problems. Corrective actions were appropriately focused to resolve conditions adverse to quality and were, for the most part, being implemented in a timely manner commensurate with the safety significance. The inspectors did not identify instances when due dates for corrective actions were inappropriately extended beyond the initially determined implementation date. Appropriately focused corrective actions were implemented in a timely manner to address applicable industry operating experience information. Corrective actions adequately resolved problems noted in condition reports reviewed over a 5-year period regarding 480 volt breaker/motor operated valve failures and in-service test/Technical Specification surveillance test failures. For significant conditions adverse to quality, the inspectors concluded that appropriately focused corrective actions were identified for contributing causes.

However, the inspectors identified a few examples of ineffective corrective actions that were determined to be of minor significance. The examples included corrective actions that were not implemented as planned; a corrective action that was apparently closed but not effectively implemented; corrective actions that were not properly focused to prevent recurrence for significant conditions adverse to quality; and, a corrective action to prevent recurrence that was initially implemented and then altered when plant procedures were replaced by fleet procedures. These examples are discussed below.

(I) Corrective Actions Not Implemented as Planned

- (1) The inspectors reviewed apparent cause evaluation ACE002847, "Pressurizer Spray Valve CV-1057 Did Not Close During Plant Transient," and other referenced documents. The inspectors noted that the pressurizer spray valves had a history of failing to fully close or sticking caused by excessive boric acid buildup on the valve coupler and gland due to packing leaks. The inspectors also noted that valve repairs have been limited by high radiation dose fields near the valve. The apparent cause evaluation identified limited life for rubber seals (o-rings) in environmental conditions of high dose and high temperatures as a contributing cause to past valve failures. The corrective actions included replacing the positioner for valve CV-1057 during the outage in 2002 and for the redundant spray valve CV-1059 during the outage in 2004.

However, during a planned maintenance outage in December 2005, licensee personnel conducted inspections to address recurring problems with CV-1059. Specifically, condition report CAP048316 was initiated when CV-1059 did not indicate fully closed during stroking in June of 2005, and condition report CAP049499 was initiated when the valve again failed to indicate fully closed during a plant trip in September 2005. During the inspection, licensee personnel discovered that boric acid accumulation impacted the position indication and caused the valve to not indicate completely shut but was actually closed. In addition, during troubleshooting the system engineer noted that the closing time of the valve was twice as long as expected.

Licensee personnel subsequently determined that the corrective action in apparent cause evaluation 002847 to install the new positioner on CV-1059 during the 2004 refueling outage was not accomplished. Instead, only the positioner relay was replaced, which was subsequently determined to be the incorrect part during cause evaluation CE01009099. The incorrect part contributed to the slow valve stroking time. Post maintenance testing done in 2004 did not detect the part problem because the radiation dose field was determined to be too high to observe the valve stroke.

The spray valves have a maintenance rule function to maintain reactor coolant system pressure but do not have a specific safety function. During discussions with licensee personnel, the inspectors determined that the maintenance rule function could be satisfied even though the

valve was stroking slow. Therefore, the inspectors concluded that the failure to implement the corrective action identified in apparent cause evaluation 002847 to replace the spray valves positioner was an issue of minor significance. Licensee personnel generated condition report AR01012736 to address this issue. However, the inspectors noted that the current issues with the high radiation dose field near the valve and the continued packing leaks did not have a formalized long term plan. Licensee personnel planned to include this issue during the evaluation of CAP01012736.

- (2) The inspectors reviewed root cause evaluation RCE000360, "Reactor Trip Due to a Fire on P-2B Condensate Pump," as a followup to an associated very low safety significance finding that was previously documented in NRC Inspection Report 2004012.

Licensee personnel determined that the root cause for the condensate pump motor bearing failure and resultant fire was pump and motor misalignment due to inadequate maintenance instructions. One corrective action to prevent recurrence was to develop a procedure that provides motor to pump shaft alignment instructions and acceptance criteria. Per the identified corrective action, alignment instructions in the new procedure were to include a definition of total indicated runout and how it was to be measured.

Work Instruction WI-CDS-02, "Condensate Pump P-2A and P-2B Shaft Alignment," was developed and implemented on December 7, 2005. However, the inspectors noted that while the procedure contained acceptance criteria, the procedure did not define total indicated runout or how it was to be measured. The licensee initiated AR 01015141 to review the issue.

Based on discussions with maintenance personnel, the inspectors noted that they understood the definition of total indicated runout and that training was provided on how to measure it. Therefore, the inspectors concluded that this issue was of minor significance.

(ii) Corrective Action Closed But Not Effectively Implemented

The inspectors reviewed condition report CAP015215, "PPACS Were Deleted Which Are Required to Implement Section XI Requirements," from the 5-year expanded scope review for surveillance test failures. The issue pertained to testing component cooling water system relief valves. The evaluation had been completed and the corrective actions were closed because new preventive maintenance activities (PPAC's) had been created as required. The inspectors verified that the new PPAC's had been created but also noted that the PPAC's were listed as "inactive" in the work management process. Consequently, the specific preventive maintenance activities had not been planned or scheduled. Therefore the inspectors concluded that the corrective actions had not been effectively implemented.

However, the preventive maintenance activities were not overdue and the grace period will not expire until 2008. Consequently, there was no impact to the operability or reliability of the plant equipment. Therefore the inspectors concluded that this issue was of minor significance. Licensee personnel generated condition report AR01015131 to evaluate this issue and planned to do an extent of condition review.

(iii) Corrective Actions Not Properly Focused To Prevent Recurrence

The inspectors reviewed root cause evaluations RCE000375, "Organizational Weakness for Service Water Valves CV 0823/0826," and RCE000378, "Loss of Rear Bus Due to Testing." The inspectors concluded that each evaluation identified corrective actions to prevent recurrence that may not be properly focused as summarized below:

- (1) Root cause evaluation RCE000375 was conducted to determine why the organization failed to adequately identify and correct the material issues with safety-related valves CV-0823 and CV-0826, service water control valves to the component cooling heat exchangers, for several years. The failure to take timely corrective actions was previously documented in NRC Inspection Report 2005004 as a finding of very low safety significance with an associated Non-Cited Violation.

Licensee personnel determined that the root cause was a lack of organizational commitment citing several examples including: poor staffing and ownership; no formal troubleshooting; incorrectly downgraded root cause evaluations; inadequate justification to remove work from a refueling outage; and, a lack of rigor in the corrective action process.

Two corrective actions to prevent recurrence were identified, which focused on strengthening the process to prevent removing work activities from the outage scope. However, the corrective actions did not focus on the complex problem solving issues that occurred.

One corrective action to prevent recurrence created a decision making flowchart regarding equipment assessment and prioritization. However, the flowchart was never implemented and was subsequently canceled by the Engineering Supervisor and the Plant Manager. Based on additional questioning by the inspectors, licensee personnel generated AR01014993 to evaluate the action being cancelled by the Engineering Supervisor and the Plant Manager without being approved by the Performance Assessment Review Board as required by the guidance in fleet procedure FP-ARP-001, "CAP Action Request Process," Attachment 6, "Documentation Expectations and Guidance."

The other action to prevent recurrence was to change outage priority codes to ensure items which can impact the plant are properly coded to preclude removing them from the outage scope. However, prior to the

2004 outage, where the valves were scheduled to be repaired, neither valve was considered degraded or non-conforming; the system was not in maintenance rule a(1) status; and operating the valves was not considered a workaround. Consequently, using the current guidance in fleet procedure FP-WM-WOI-01, "Work Identification, Screening and Validation," the valve work would have been coded priority-3 or less and subject to possible removal from the outage as was done in 2004.

The inspectors noted that the evaluation and resultant corrective actions did not focus on the process which caused the problem solving to not be effective. The evaluation identified some issues regarding problem solving such as not getting the vendor involved early and not getting valve experts or cross-functional teams together. However, the corrective actions to prevent recurrence did not address these issues. Therefore, the inspectors concluded that the corrective actions were not properly focused to prevent recurrence.

The inspectors verified that actions to resolve the material issues with CV-0823 and CV-0826 were scheduled to be completed in the 2006 refueling outage. Therefore, this issue was considered to be of minor significance. However, the inspectors considered this a missed opportunity to address why the problem solving teams were not effective during this complex issue. The licensee initiated AR 01018205 to address this issue.

- (2) RCE000378 evaluated the loss of one 345 kilo-volt electrical bus in the switchyard, Rear Bus, when Electric Network Services technicians, contract personnel for the switchyard owner, Michigan Electric Transmission Company, incorrectly performed planned testing. This issue was previously documented in NRC Inspection Report 2005006 as a self-revealed finding of very low safety significance.

Licensee personnel subsequently determined the root cause to be that Palisades personnel did not provide sufficient oversight during operations and testing in the switchyard. The corrective action to prevent recurrence was to establish expectations for the Work Control Center Manager to coordinate with Operations and attend a face-to-face pre-job briefing led by the Electric Network Services contract personnel prior to switchyard work activities. The inspectors concluded that this corrective action may not prevent recurrence in that the root cause was a lack of oversight of switchyard activities yet the corrective action did not require actual oversight of work activities.

However, it appeared that licensee personnel did not have total control in preventing recurrence because Palisades does not own the switchyard. Also, licensee operations and work control personnel may not have sufficient knowledge of switchyard details and expertise to provide effective oversight of switchyard activities. Because the actions taken

will provide licensee personnel with a better understanding of planned switchyard work and because this problem has not recurred, the inspectors concluded that this issue was of minor significance. The licensee initiated AR 01018194 to address this issue.

(iv) Fleet Procedure Altered Corrective Actions to Prevent Recurrence

The inspectors identified the following example of a corrective action to prevent recurrence identified in a root cause evaluation that was altered when a site specific procedure was cancelled and replaced with a fleet procedure:

- (1) RCE000343 evaluated opening the incorrect electrical links by maintenance personnel during a planned activity on the control room ventilation system. Licensee personnel determined the root cause was incorrect written work order instructions for the task. For the corrective action to prevent recurrence, maintenance personnel developed procedural guidance for the use of peer checks in the work order process to clearly identify when peer checks are to be performed, how they will be documented and how the peer check comments will be resolved. The action was completed and procedural guidance was incorporated into Administrative Procedure 5.01, "Processing Work Requests/Work Orders," as Attachment 13, "Planning/Peer Review Checklist."

On September 29, 2005, Administrative Procedure was superseded by fleet procedure, FP-WM-PLA-01, "Work Order Planning Process." The inspectors noted that although the fleet procedure discussed peer checks, the review criteria was not as stringent and did not require the clear documented guidance with comment resolution. Consequently, the original corrective action to prevent recurrence had been altered. However, the inspectors noted that most of the planners were still using the originally developed checklist as an informal guide. Also, the inspectors did not identify any planning quality issues of significance. Therefore this issue was considered to be of minor significance. Licensee personnel generated AR01012979 to evaluate this issue.

d. Assessment of Safety-Conscious Work Environment

(1) Inspection Scope

During inspection activities, the inspectors discussed implementation of the corrective action program with licensee management and plant staff. The inspectors utilized the questions contained in Appendix 1 of Inspection Procedure 71152, "Identification and Resolution of Problems," as guidance to assess whether there were impediments to establishing a safety conscious work environment and, to identify if informal processes existed where problems could be identified and tracked outside the corrective action program. The inspectors also discussed implementation of the Employee Concerns Program with the program manager and reviewed documentation to verify that nuclear safety issues entered into the Employee Concerns Program were adequately addressed.

(2) Assessment

The inspectors did not identify any impediments to establishing a safety conscious work environment and concluded that licensee personnel were willing to raise safety concerns. Licensee management and plant staff did not express any concerns regarding the safety conscious work environment. The inspectors did not identify any examples or indications that plant staff was reluctant to raise nuclear safety or regulatory issues and did not identify any underlying factors that caused a reluctance to raise issues. Licensee personnel were generally familiar with the corrective action program and the employee concerns program where concerns could be raised. Issues entered into the employee concerns program were addressed in a timely and appropriate manner.

e. Resolution of License Renewal Items

(1) Inspection Scope

The inspectors followed up on issues requiring additional evaluation that were documented in NRC Inspection Report 2005009 regarding license renewal. The inspectors reviewed documented evaluations for condition reports AR01002162, "Standing Water in Power Cable Manholes in Bus 1C Room," and AR01002251, "Corrosion Identified in EC-137 (DFP-41 Ctrl) During License Renewal Walkdown;" interviewed licensee personnel; reviewed operability determinations; and, assessed corrective actions taken to date.

(2) Assessment

- (i) Condition report AR01002162 was initiated to evaluate water accumulating in medium voltage cable ways. Licensee personnel concluded that there was no immediate operability issue and the cables could reasonably have been expected to perform the design function in the near term. For corrective actions, licensee personnel generated a preventive maintenance activity (PPAC) to conduct a monthly inspection and remove any accumulated water. The first PPAC, was completed in January 23, 2006, per work order WO 00110963 01 and no water was present. Because there is no known cable or cable way degradation, the inspectors concluded that implementing preventive maintenance activities to inspect for and remove any accumulating water were reasonable corrective actions.
- (ii) Condition report AR01002251 was initiated to evaluate corrosion that was found at the bottom of diesel driven fire pump control panel. Licensee personnel completed an operability assessment and concluded that the corrosion did not adversely impact the equipment and that this was a longer term issue where repairs were required. The inspectors walked down the control panel and noted that some of the corrosion had been removed. The remaining corrosion would need to be eliminated to prevent future impact to the equipment. The inspectors verified that a work order to remove the remaining corrosion had been developed and scheduled. The inspectors concluded that actions taken were reasonable.

4OA6 Management Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. Paul Harden and other members of licensee management in an exit meeting on February 17, 2006. Mr. Harden acknowledged the findings presented and indicated that no proprietary information was provided to the inspectors.

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

P. Harden, Site Vice President
D. Mims, Site Director
M. Carlson, Engineering Director
T. Blake, Nuclear Safety Assessment Manager
T. Brown, Nuclear Oversight Manager
E. Chatfield, Corrective Action Supervisor
B. Dotson, Regulatory Compliance
T. Fouty, Engineering Programs Manager
J. Kryska, Human Performance Coordinator
D. Malone, Regulatory Compliance Supervisor
W. Nelson, Corrective Action Program Coordinator
B. Nixon, On Line Work Manager
C. Scott, Employee Concerns Manager
R. Scudder, Operations/Engineering CAP Liaison
B. Wiese, Nuclear Oversight Supervisor

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000255/2006003-01	NCV	Failed Swagelok Fitting on High Pressure Safety Injection Flow Transmitter FT-0312
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Closed

05000255/2006003-01	NCV	Failed Swagelok Fitting on High Pressure Safety Injection Flow Transmitter FT-0312
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Discussed

None

LIST OF DOCUMENTS

The following is a list of licensee documents reviewed during the inspection, including documents prepared by others for the licensee. Inclusion of a document on this list does not imply that NRC inspectors reviewed the entire documents, but, rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. In addition, inclusion of a document on this list does not imply NRC acceptance of the document, unless specifically stated in the body of the inspection report.

Plant Procedures

FG-PA-DRUM-01, Department Roll Up Meeting (DRUM) Manual - Department Performance Trending, Revision 2
FP-PA-OE-01, Operating Experience Program, Revision 3
FG-PA-CTC-01, CAP Trend Code Manual, Revision 4
NMC OE Coordinator Guidelines, Revision 1
FP-PA-ARP-01, Cap Action Request Process, Revision 9
FG-PA-ACE-01, Apparent Cause Evaluation Manual; Revision 3
FG-PA-RCE-01, Root Cause Evaluation Manual; Revision 7
EM-28-02, Check Valve Program, Revision 5
MO-7A-1, Emergency Diesel Generator 1-1, Revision 61
QO-37, Main Steam Isolation and Bypass Valve Testing, Revision 6
QO-21, InService Test Procedure - Auxiliary Feedwater Pumps, Revision 25
E-238, AFW Pump Turbine Steam valves, Revision 28
FP-RP-JPP-01, RP Job Planning, Revision 0
Administrative Procedure 4.28, Control Of Palisades Switchyard, Revision 0

Root Cause Evaluations

RCE000343, Incorrect Links Operated During Maintenance on VC-11 (Control Room HVAC Refrig C), February 5, 2005
RCE000359, PCS Heat up Exceeded Technical Specification, August 16, 2004
RCE000369, Apparent Trend in Failing to Meet Posting Requirements for 10 CFR 20.190, November 12, 2005
RCE000375, Organizational Weakness for SW flow Valves, CV 0823/826, April 27, 2005
RCE000377, Unexplained Jumper on AFW Pump Low Suction Trip Switch, April 11, 2005
RCE000378, Loss Of Rear Bus Due to Testing, May 27, 2005
RCE000379, Unusual Event Entered Due to Excessive PCS Leakage, May 12, 2005
RCE000326, Loss of Off Site Power the Results in Loss of Shutdown Cooling, May 22, 2003
RCE000360, Reactor Trip Due to Fire on P-2B Condensate Pump, August 31, 2004

Apparent Cause Evaluations

ACE002788, NFPA Fire Code Concern Regarding Sprinkler Head in EER 275, October 16, 2002
ACE002837, Pressurizer Spray Valve Did Not Close During Plant Transient, December 4, 2005
ACE003273, Discovery of a High Radiation Area, February 13, 2004

ACE003306, Adverse Trend in EDG 1-1 Maintenance Rule Availability Performance Monitoring, March 26, 2004
ACE003312, RT-8C/RT-8D Do Not Adequately Test Load Shed Contacts Associated With Blocking 1A Compress, April 8, 2004
ACE003323, K6a, Diesel 1-1, #6 Connecting Rod Found Potentially Installed Wrong, May 3, 2004
ACE003341, Smoke Coming from P-66B, HPSI Pump During Testing, June 4, 2004
ACE003371, Diesel Generator 1-2 Fuel Injector for 8R Non-functional, July 8, 2004
ACE003393, Potential Adverse Trend - Large Pump Motor Bearing Failures, September 2, 2004
ACE003414, Unexpected High Dose Rates Noted During Radiography in Containment, September 27, 2004
ACE003418, C Safety Injection Tank Outlet Failed to Close During Surv RO-105, September 29, 2004
ACE003432, CK-CA476 Seat Leakage Test Did Not Meet Surveillance Acceptance Criteria, November 5, 2004
ACE003438, Potential For Preconditioning of Technical Specification Test RT-92, October 26, 2004
ACE003441, Inconsistent Radiological Posting of Airborne Radioactivity Areas, November 5, 2004
ACE003461, Failure Of Security to Use the CA Program (repeat event), November 24, 2004
ACE003497, Security Unable to Respond to Fire Drill, January 27, 2006
ACE003507, Battery Charger #3 (ED-17) Failure During Performance of RE-135 Testing, January 28, 2005
ACE003527, Untimely Protective Action Recommendation (EM14), February 25, 2005
ACE003528, Discrepancies with Meeting Code Testing Requirements for Buried Piping, February 25, 2005
ACE003552, Electrical Equipment Room Pressure Greater than Control Room Envelop Pressure, April 15, 2005
ACE003553, Inadequate Work Planning/ALARA Planning for Safeguard Room Cooler (V-27) Work, April 18, 2005
ACE003554, Fuel Handling Procedure GOP-11 Appears to Allow TS Prohibited Alignment, April 18, 2005
ACE003555, Failed PMT for WO 24520223 on HPSI P-66A Discharge RV-3267, April 21, 2005
ACE003577, Corrective Action Not Implemented as Intended, May 26, 2005
ACE003585, MO-3064, Redundant HPSI to Reactor Coolant Loop 2A, Would Not Go Closed, June 9, 2005
ACE003587, Potential Repeat Failure of MO-3064 Redundant HPSI to Reactor Loop 2A Isolation, June 9, 2005
ACE003588, Potential Trend in Radiological Posting/Labeling Events, June 10, 2005
ACE003600, Unsatisfactory Response to SOER 03-01 "Emergency Power Reliability", July 8, 2005
ACE003615, P-18B, Fuel Oil Transfer Pump, Tripped During Testing, August 5, 2005
ACE003647, Possible Incorrect Mrule Functional Failure Determinations for MO-3064 Events, September 23, 2005
ACE01001824 Trend, 39 Action Requests written for Emergency Lighting Units, December 22, 2005
ACE01003479, Operability Determinations and Recommendations Quality Issue, November 11, 2005

ACE01009443, FT-0312 HP Safety Injection Flow Transmitter Loop 2A Line Break,
January 4, 2006

Condition Reports

CAP0279748, Thermal Hotspot Found on 52-426, April 11, 2002
CAP0279769, Several Problems Noted Breaker (52-91), November 05, 2002
CAP01008999, Circuit Breaker 52-1206 (P-55B) Failure, November 03, 2005
CAP035737, Breaker 52-251 Pick-Up Current Too High, May 16, 2005
CAP034855, VOP-1042A and VOP-1043A Low Margin due to Calibration Restriction,
November 11, 2004
CAP047828, Torque Switch Setting on MO-3064 Found Low During Testing, May 10, 2005
CAP045175, Apparent Trend in Failing to Meet Posting Requirements of 10 CFR 20.1902,
November 11, 2004
CAP045001, Inconsistent Radiological Posting of Airborne Radioactivity Areas, November 3,
2004
CAP045047, Sealand Container with Radiological Material Not Stored with in a RMA,
November 3, 2004
CAP045152, Unposted Radiation Area in Decay Room Elevation 625' Auxiliary Building,
November 10, 2004
CAP044537, Discontinuities Exist in UT for Penetration 29 & 30, October 11, 2004
CAP014387, Main Steam Isolation CV-0501 Slow Close, May 9, 2001
CAP041377, 5 Fire Water Suppression Systems Identified with Pendant Sprinklers w/o Bends,
May 4, 2005
CAP013269, Combustible Loading Calculation Does Not Reflect Combustible Loading,
November 30, 2000
CAP036568, EDG 1-2 Failed to Start with in Acceptance Criteria Using One Air Start Motor,
July 9, 2003
CAP030772, Potential Preconditioning Concern for EDG Monthly Testing, November 20, 2001
CAP015215, PPACS Were Deleted Which Are Required to Implement ASME Section XI,
October 16, 2001
CAP008714, LPSI Pump (P-67A) Vibration In the Alert Range, March 24, 2001
CAP008723, LPSI Pump (P-67A) Vibration In the Alert Range per QO-20, March 30, 2001
OTH012302, Close Out of NOS Red Issue on Inservice Testing, March 24, 2005
CAP045466, RV-0704 Did Not Lift With-in As Found Setpoint Tolerance, November 30, 2004
CAP040167, PMT Failed on F4-c Spray Nozzle, February 24, 2004
CAP008858, DBA Sequencer Test Annunciator Logic Is Inconsistent Across AI Windows,
April 12, 2001
CAP009041, P56B MiniFlow Failed QO-5 Stroke Time Test, May 30, 2001
CAP013645, Potential Deficiency in Surveillance Procedure QO-41 Testing, February 9, 2001
CAP013463, Technical Surveillance Test RO-28, RT-85C and RT 85D Did Not Account For
Instrument Uncertainty, January 12, 2001
CAP030232, Test Results Reveal Questionable Closure Capability of CV-0742 and CV-0744,
December 1, 2001
CAP00264427, Found Sprinkler Head Plugged, March 30, 2005
CAP01010937, Unable to Retrieve Passport Trend Data From Passport Action Tracking,
January 18, 2006
CAP041377, 5 Fire Water Suppression Systems Identified with Pendant Sprinkler w/o u-bends,
May 4, 2004

CAP014306, During QO-38 Breakaway Torque for CK-ES3166 Exceeds Its Upper Band, April 28, 2001
CAP004491, Stroke Time of CV0501 Too Long, July 21, 1995
CAP040346, Narrowly Focused Apparent Adverse Trend Evaluation, March 3, 2004
CAP048210, MO-3064, Redundant HPSI to Reactor Coolant Loop 2A, Would Not Go Closed, June 6, 2005
CAP040129, Actions Linked to CAP 038447 After It Was Cleared, February 23, 2004
CAP040203, Potential Concerns With the Completion of CA 019960, February 25, 2004
CAP040310, Data Entry Error for CAP 037616 Significance Level, March 2, 2004
CAP040314, Long Term Tracking for Closure of Corrective Actions, March 2, 2004
CAP040346, Narrowly Focused Apparent Adverse Trend Evaluation, March 3, 2004
CAP040385, Monitoring of Radioactive Gas Effluent Monitoring Performance Issues May Have Been Inappropriate, March 3, 2004
CAP040407, Condition Reports Not Initiated for Self Assessment Findings, March 3, 2004
CAP040816, Unresolved Issue (URI) from Licensed Operator (LOR) Biennial Inspection, March 26, 2004
Trend AR 01001824, ELU-88 App R Lighting Unit is Defective, October 25, 2005
AR01003469, Trend Data is not in 59 percent of 2005 ARs, November 11, 2005
AR01010266, Issues Identified with DRUM Manual FG-PA-DRUM-01, January 13, 2006
AR 01003469, Trend Data is Not Included in 59 percent of 2005 ARs, November 11, 2005
Trend Code Action Request Samples, 11/2/05-11/11/05 and 1/15-1/30/06,
00780034, 00883104, 00891820, 00840750, 00787111, 01000947, 01000001, 01006290,
01007602, 00775277, 01006909, 01006133, 00865843, 00876927, 00891696, 00457459,
00425735, 00869173, 01004728, 01004779, 01009001, 00443169, 01003206, 00875745,
01006182, 00566302, 00845949, 01002640, 01002724, 01002746, 01002752, 01002781,
01002785, 01002834, 01003262, 01003206, 01003137, 01003078, 01002883, 01003606,
01003576, 01003540, 01003489, 01003469, 01003467, 01003428, 01003393
CE 13830, Pressurizer Main Spray, CV-1059 Failed to Fully Close, July 11, 2005
MRE00367, Electrical Equip Rm Pressure Greater than Control Rm Envelope Pressure - No FF, April 15, 2005
MRE00377, Unusual Event Entered Due to Excessive PCS Leakage (MO-3064) - MR Evaluation, June 9, 2005
CAP044047, Potential Encroachment of Heavy Load Path Restrictions in Containment, September 28, 2004
CAP043227, CCW P-52A Secured Due to Failure of the Outboard Motor Bearing, August 27, 2004
CAP046159, CV-0826, CCW HX E-54B SW Outlet Failed to Open, January 16, 2005
CAP034533, Operators Communication Continues to be a Challenge in High Noise Areas, March 26, 2003
C-PAL-94-0940, IN 92-015 Unisolatable PCS Compression Fittings, October 28, 1994
C-PAL-95-128, PCS Leak at DPI 0112BB, August 15, 1995

Operating Experience

CAP042381, INPO JIT/Motor Operated Valve Actuator Maintenance or Manual Operation, July 7, 2004
CAP033523, NRC Information Note 2003-03: Part 21, February 20, 2003
CAP042783, Fisher Information Notice/Part 21, FIN 2004-02, August 2, 2004

CAP045148, NRC IN 04-19, Problems Associated with Backup Power Supplies to ERF and Equipment, November 10, 2004
CAP040797, OE 17937 Unacceptable Very High and Locked High Radiation Physical Barriers, March 26, 2004
CAP037425, OE16839 (Palo Verde)-Stuck Open Pressurizer Spray, September 8, 2003
CAP045951, EPRI Report 1009568, "Overview Report of Zinc Addition in PWRs", January 4, 2005
CAP031206, NSAL-02-9, FB/HFB Molded Case Circuit Breakers with Undersized Terminals, September 9, 2002
CAP042268, OE 18417 – (TP) Fracture of AFW CV Follower Pin Due to Hydrogen Embrittlement, June 29, 2004
CAP042406, OE18621 – Cooper Orientation of ASCO NP-1 Series Solenoid Valves, July 8, 2004
30-Day Response to GL 96-06, "Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions, October 21, 1996
WO 24010422, Containment Air Cooler VHX-4 Outlet, April 19, 2001
CAP041727, OE 18244 - MOV Spring Back Torque Limiting Sleeve Received w/o Slots, May 26, 2004
OE11820, Damaged Terminal Block Discovered in MCC, January 10, 2001
OE12337, Condensate Pump Trip Due to Motor Lead Joint, March 17, 2001
OE12337, Condensate Pump Trip Due to Motor Lead Joint, March 17, 2001
OE14584, Contractor Injured During handling of Razor Wire, September 12, 2002
OE15349, Reactor Head Safety Relief Valve Pilot Leakage, January 15, 2003
CAP039961, 10CFR-21 Notice Regarding Model 977-201 and 977-210 Wide Range Area Monitor, February 12, 2004
CAP041073, OE Single Failure May Exceed Acceptance Criteria for SBLOCA, April 12, 2004
CAP047580, Limitorque TB 05-01 Received, April 21, 2005

Audits, Assessments and Self-Assessments

FSA 50012, Focused Self-Assessment, December 2005
NOS 2005-001-8-08, Corrective Action Quarterly Effectiveness Review, July 8, 2005
NOS 2005-001-8-011, Effectiveness Review for RCE 00357: Ineffective Use of the Corrective Action Program, February 18, 2005
NOS 2005-001-8-012, Effectiveness Review for Closure of NOS findings, March 4, 2005
MOV Program Focused Self-Assessment, October 2002

Miscellaneous Documents

USNRC SER 2/28/86, Single Failure Issue For Main Steam Isolation Valves and Main Feed Valves
Site Action Plan to Improve Trend Coding and Trend Analysis, Revision 2.
DRUM Results from Programs and Component Engineering (no date)
DRUM Results from Training, 4th qtr 2005, January 12, 2006
DRUM Results from Maintenance, 4th qtr 2005, (no date)
DRUM Results from Work Control, 4th qtr 2005, January 12, 2006
DRUM Results from Operations, 4th qtr 2005, January 16, 2006
DRUM Results from Systems and Reactor Engineering, 4th qtr 2005, (no date)
DRUM Results Business Support, 4th qtr 2005, February 13, 2006

EM-28-04, Palisades MOV Trend Summary Report, 07/2001 to 06/2003
EM-28-04, Palisades MOV Trend Summary Report, 04/2003 to 12/2004
WO00111118, Remove Solenoid Valve for VOP Maintenance, January 31, 2005
Work Order samples, 1/27/2006 to 1/31/2006, 00031371, 00030976, 00031115, 00028346,
00025198, 00031121
DBD 2.11, Pressurizer Pressure Control, Revision 1

Corrective Action Backlog Items Reviewed

01001020-01, Conduct a Condition Evaluation
00882703-08, Perform Structural Analysis of Leak Detection Piping
00843515-19, Procedure Changes as a Result of UE Due to RCS Leakage
00755794-10, Pilot Operated Relief Valve PRV-1042B Failed Open
00734020-08, Process New PPAC to Inspect VHX-4 to Approval Status
00554309-01, 2004 Focus Area Radiological Dose Performance
00888683-28, Provide Training to PARB Members on Reviewing RCE's
00860545-04, Calculation Incorrectly Modeled SGT 1-1 Tap Changer
00814531-06, Goal Monitoring for CV-0823
00814531-07, Goal Monitoring for CV-0826
00801816-04, CATPR - Rewind Condensate Pump P-2A Motor EMA-2105
00781611-05, Framatome Procedure Use for Penetrations 29 and 30
00776085-04, Radioactive Contamination Found on PPM Truck Bed
00580067-05, Resolve OBD Condition of MCC Short Circuit CRNTS > 490 VAC
00887135-03, Conduct Training of Operators and Schedulers for EOOS Change
00875431-01, Generic Letter 2004-01 Requests For Additional Information
00871961-02, Error in Loss Coefficient for Containment Spray Valve
00855765-03, Water in Manholes 1, 2 and 4 and Cables in Water
00855765-02, Water in Manholes 1, 2 and 4 and Cables in Water
00817452-02, Potentially Undersized Fuses Installed In AFW Pump
00789398-07, Insufficient RP Supervisory Oversight During RO17
00787943-01, Potential Fire Induced Cable May Spuriously Operate
00454944-02, Unlikely to Meet RV Testing Commitments

Condition Reports Generated During the Inspection

01014412, Overdue GAR Affects Level B Corrective Action, February 13, 2006
01014790, ACE Contains Inadequate Information, February 15, 2006
01012880, Inability / Difficulty to Retrieve PassPort Data, January 31, 2006
01013080, Trend Coding Not Performed IAW Trend Manual, February 2, 2006
01013090, Equipment Trend Coding Not Performed IAW Trend Manual, February 2, 2006
01013700, Extension Request Approvals Not Being Processed IAW ARP-01, February 7, 2006
01013907, Commitments Are Not Always Tracked in Site/Fleet Procedures, February 8, 2006
01014678, Action Tracking Keyword Usefulness is Questionable, February 14, 2006
01013171, UFSAR Discrepancy on PZR Spray Valve Function, February 3, 2006
01015197, AFW Pump Steam Trap Blow Down Concerns, February 16, 2006
01014950, FSAR Discrepancy in Class of Power to Fuel Oil Transfer Pumps, February 16,
2006
01014967, Inaccurate Operability Recommendation Statement, February 16, 2006
01015131, Legacy PPAC in Inactive Status Associated With CAP015215, February 16, 2006

01014993, CAPR CA027239 (RCE375) Revision Not Approved by PARB, February 16, 2006
01012736, Corrective Actions From ACE002837 Were Not Fully Completed, January 31, 2006
01015141, Approved Corrective Action Effectiveness Questioned by NRC, February 16, 2006
01015270, Unresolved CCW Issue Identified During NRC PI&R Inspection, February 17, 2006
01018194, Root Cause Potentially Not Fully Addressed, March 10, 2006
01018205, Root Cause May Not be Fully Addressed, March 10, 2006