



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

May 6, 2011

Mr. Thomas P. Kirwin
Vice-President, Operations (Acting)
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

**SUBJECT: PALISADES NUCLEAR PLANT POST-APPROVAL SITE INSPECTION FOR
LICENSE RENEWAL, INSPECTION REPORT 05000255/2011008(DRS)**

Dear Mr. Kirwin:

On March 22, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed Phase II of the Post-Approval Site Inspection for License Renewal at your Palisades Nuclear Plant. The enclosed report documents the inspection activities, which were discussed on March 22, 2011, with Mr. T. Kirwin, Acting Site Vice President, and other members of your staff.

This inspection was an examination of activities conducted under your renewed license as they relate to the completion of commitments made during the renewed license application process and compliance with the Commission's rules and regulations and the conditions of your operating license. Within these areas, the inspection involved examination of selected procedures and representative records, observations of activities, and interviews with personnel.

On the basis of the sample selected for review, five NRC-identified findings of very low safety significance were identified, three of which involved violations of NRC requirements. However, because these violations were of very low safety significance, and because the issues were entered into your corrective action program, the NRC is treating the issues as Non-Cited Violations (NCVs) in accordance with Section 2.3.2 of the NRC Enforcement Policy. The NRC staff did not identify any instances of incomplete commitments with respect to timeliness or adequacy.

If you contest the subject or severity of the findings, 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. In addition, if you disagree with the cross-cutting aspect assigned to the findings in this report, you should provide a response within 30 days of the date

T. Kirwin

-2-

of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Palisades Nuclear Plant.

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

Sincerely,

/RA/

Ann Marie Stone, Chief
Engineering Branch 2
Division of Reactor Safety

Docket No. 50-255; 72-007
License No. DPR-20

Enclosure: Inspection Report 05000255/2011008
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-255

License No: DPR-20

Report No: 05000255/2011008

Licensee: Entergy Nuclear Operations, Inc.

Facility: Palisades Nuclear Plant

Location: Covert, MI

Dates: January 24 – March 22, 2011

Inspectors: J. Neurauter, Senior Reactor Engineer (Lead)
T. Bilik, Senior Reactor Engineer
N. Féliz Adorno, Reactor Engineer
J. Gavula, Mechanical Engineer
M. Munir, Reactor Engineer
G. O'Dwyer, Reactor Engineer

Approved by: Ann Marie Stone, Chief
Engineering Branch 2
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000255/2011008; 1/24/2011 – 3/22/2011; Palisades Nuclear Plant; Post-Approval Site Inspection for License Renewal

The inspection was conducted by region based inspectors. Five findings of very low safety significance were identified with three associated Non-Cited Violations (NCVs) of the Nuclear Regulatory Commission (NRC) regulations. The significance of most of the findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Cross-cutting aspects are determined using IMC 0310, "Components within Cross-Cutting Areas." Findings for which the SDP does not apply may be (Green) or assigned a severity level after NRC management review. No instances were noted of incomplete license renewal commitments with respect to timeliness or adequacy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

- Green. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure of a licensee non-destructive examination examiner to accomplish activities affecting quality in accordance with procedures. The licensee entered this issue into their corrective action program.

The finding was determined to be more than minor, because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to perform an adequate visual testing examination on liquid Freon piping of refrigeration condensing unit VC-10 did not assure that the intended function of the unit would be maintained consistent with the current licensing basis through the period of ended operation. The finding was of very low safety significance based on a Phase I screening in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase I - Initial Screening and Characterization of Findings," Table 4a because the licensee's re-examination confirmed operability and no loss of safety function. The finding has a cross-cutting aspect in the area of human performance, work practices because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported. [H.4(c)] (Section 4OA5.1.b (1))

- Green. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified by the inspectors for the failure to evaluate test results for tank wall thickness under the scope of the Diesel Fuel Quality and Storage Monitoring Program. Specifically, the licensee did not evaluate the test results associated with the ultrasonic measurement of thickness of the bottom of the 'A' emergency diesel generator day tank and both diesel fire pump day tanks. In addition, the licensee had not developed acceptance criteria for this activity. The licensee entered this issue into their corrective action program. The corrective actions that were considered at the time of this inspection were the development of an acceptance criteria for tank wall thickness and performing an apparent cause evaluation.

The finding was determined to be more than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance because the finding involved a design or qualification deficiency that did not result in a loss of operability or functionality. Specifically, the ultrasonic examination results showed that the wall thicknesses of the inspected tanks were close to the nominal thickness or greater. The finding had a cross-cutting aspect in the area of human performance because the licensee did not have complete design documentation, procedures, and work packages for performing non-destructive examinations of the bottom walls of the tanks under the scope of the Diesel Fuel Monitoring and Storage Aging Management Program. [H.2(c)] (Section 4OA5.1.b (2))

- Green. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to promptly correct a condition adverse to quality associated with the emergency diesel generator fuel oil storage tank, T-10A. Specifically, the licensee did not follow Procedure No 3.26 when addressing the accumulated water in between the partial double wall and on the exterior wall of T-10A. The associated aging effects of the water were not properly managed because these conditions were not evaluated. The licensee entered this issue into the corrective action program. The corrective actions that were been considered at the time of this inspection were to perform an assessment of methods used to integrate operating experiences to their aging management programs, evaluate the cause of not evaluating the potential effects of the water on tank T-10A, and remove the accumulated water.

The finding was determined to be more than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance because the finding involved a design or qualification deficiency that did not result in a loss of operability or functionality. Specifically, the accumulated water in the annulus and on the exterior wall of T-10A had not resulted in the loss of functionality of the tank because there is no indication that either water is leaking from the annulus to the tank interior or fuel oil is leaking into the annulus. The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not identify issues completely because the associated corrective actions focused on the removal of the water and did not consider potential age management of the component. [P.1(a)] (Section 4OA5.1.b (3))

- Green. A finding of very low safety significance was identified by the inspectors for the failure to assure an engineering evaluation was initiated if pipe wall thickness measurements fall below 87.5 percent of nominal pipe wall thickness. Specifically, computer software utilized by the flow accelerated corrosion program was not modified to initiate an engineering evaluation if degraded pipe wall thickness measurements were less than 87.5 percent of nominal pipe wall thickness. The licensee entered this issue into their corrective action program.

The finding was determined to be more than minor because if left uncorrected, the finding would become a more safety significant concern. The inspectors determined that the finding was of very low safety significance because the finding did not involve a design or qualification deficiency; there was no actual loss of safety function, no single train loss of safety function for greater than the Technical Specifications allowed outage time, and no risk due to external events. No violation of regulatory requirements occurred because the affected piping was non-safety-related. The finding has a cross-cutting aspect in the area of Human Performance for the Work Practices component because the licensee failed to provide effective supervisory oversight of work activities such that nuclear safety is supported. H.4(c) (Section 4OA5.1.b (4))

- Green. A finding of very low safety significance was identified by the inspectors for the failure to: (1) develop and implement an oil sampling and analysis aging management program with specific acceptance criteria and trending requirements; and (2) age manage plant equipment with internal oil coolers for potential pressure boundary and/or heat transfer degradation. The licensee entered these issues into their corrective action program.

The finding was determined to be more than minor because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to: (1) provide specific acceptance criteria and trending requirements; and (2) age manage plant equipment with internal oil coolers for potential pressure boundary and/or heat transfer degradation did not assure that plant equipment within the scope of the oil sampling and analysis aging management program would be maintained consistent with the current design basis through the extended period of operation. The inspectors screened the finding using IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The inspectors determined that the finding was of very low safety significance because the finding did not involve a design or qualification deficiency; there was no actual loss of safety function, no single train loss of safety function for greater than the Technical Specifications allowed outage time, and no risk due to external events. No violation of regulatory requirements occurred. The finding has a cross-cutting aspect in the area of Human Performance for the resources component because the implementing procedures did not include guidance defining parameters of the program. [H.2(c)] (Section 4OA5.1.b (5))

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Other Activities

.1 Post-Approval Site Inspection for License Renewal (Phase II) – IP 71003

a. Inspection Scope

(1) Review of Newly Identified Structures Systems and Components (SSCs)

The inspectors discussed the identification of new SSCs, under the purview of Title 10 of the Code of Federal Regulations (CFR) 54.37(b), with the licensee's license renewal staff. The licensee personnel indicated that no new components had been identified that should have been within the scope of its license renewal program.

(2) Review of Revised Commitments

As part of reviewing commitments associated the aging management programs (AMPs) within the scope of the Phase I inspection, the inspectors determined that all five of the commitment revisions (Commitments 7, 23, 26, 40, and 43) were justified. However, inspectors noted that the licensee's commitment change evaluation form (EN-LI-110-ATT-9.4, Revision 2) was not in alignment with Nuclear Energy Institute (NEI) 99-04, Revision 0 and contained mistakes. The licensee initiated Condition Report (CR)-HQN-2010-01101 to address the issue. The inspectors also reviewed the licensee's commitment tracking program to evaluate its effectiveness (see inspection report 05000255/2010010).

The inspectors reviewed the commitments listed below, which are referenced to Appendix A of the Safety Evaluation Report (SER). All Commitment Items were selected except Items 46, 47, 48, 49, 50, 51, 52, 53, 54, and 55, which were reported as complete in the SER; and therefore, not reviewed. Specific documents reviewed are listed in the enclosure.

(3) Review of Aging Management Programs and Commitments

The inspectors reviewed supporting documents including completed surveillance records, conducted interviews, observed non-destructive examination (NDE) activities, performed visual inspection of structures and components, including those not accessible during power operation, and observed the activities described below to verify that the licensee completed the necessary actions to comply with the license conditions that are part of the renewed operating license. The inspectors verified that the licensee implemented the aging management programs included in NUREG-1871, "Safety Evaluation Report (SER)" related to the license renewal (LR) of the Palisades Nuclear Plant" in accordance with 10 CFR Part 54, "Requirements for the Renewal of Operating Licenses for Nuclear Power Plants." The inspectors also verified a selected sample of corrective actions taken as a consequence of the Phase I inspection.

The inspectors reviewed the Commitment Items noted, which are referenced to Appendix A of the SER. Specific review items related to these commitments are also listed:

1. Nickel Alloy Program (Commitment Item 6)

The Alloy 600 Program is an existing program that manages aging due to primary water stress corrosion cracking of the primary coolant system pressure boundary Alloy 600 components, including Inconel 82/182 weld joints and reactor vessel head penetrations.

The inspectors reviewed the program basis document, implementing procedures, interviewed plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Commitment Item 6 is related to this program and was determined to be complete in inspection report 50000255/2010010.

2. ASME Section XI Subsection IWB, IWC, IWD, IWF Inservice Inspection Program

The American Society of Mechanical Engineers (ASME) Section XI IWB, IWC, IWD, IWF Inservice Inspection (ISI) Program is an existing program that facilitates inspections to identify and correct degradation in Class 1, 2, and 3 piping, components, their supports and integral attachments. The program is in accordance with 10 CFR 50.55a, "Codes and Standards."

The inspectors reviewed the program basis document, implementing procedures, interviewed the plant personnel responsible for this program, determined that the Program is consistent with NUREG-1801, Generic Aging Lessons Learned (GALL) Report, Section XI.MI, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, & IWD" and XI.S3 "ASME Section XI, Subsection IWF," and determined that the program is being implemented as described in the SER.

3. Bolting Integrity Program (Commitment Items 10 and 11)

The Bolting Integrity Program is an existing program that manages the aging effects associated with bolting through the performance of periodic inspections. The program also includes repair/replacement controls for ASME Section XI related bolting and generic guidance regarding material selection, thread lubrication and assembly of bolted joints. The program credits activities performed under three separate aging management programs for the inspection of bolting. The three aging management programs are: (1) ASME Section XI IWB, IWC, IWD, IWF Inservice Inspection Program, (2) Structural Monitoring Program, and (3) System Monitoring Program.

Commitment Item 10 specified that the licensee would review and revise the ASME ISI Master Plan, procedures that implement credited License Renewal Programs, and plant maintenance procedures to reflect and reference the applicable guidance provided in NUREG-1339 and Electric Power Research Institute (EPRI) Technical Report (TR)-104213 for safety and non-safety-related bolting. These revisions should also include instructions for selection of bolting material and use of lubricants and sealants, in accordance with the guidelines of EPRI NP-5769 and the additional recommendations of NUREG-1339 to prevent or mitigate degradation and failure of safety-related bolting.

Commitment Item 11 specified that the licensee would evaluate the high strength bolting used for component supports for susceptibility to cracking as described in NUREG-1801, Section XI.M.18, "Parameters Monitored/Inspected," and implement appropriate inspection requirements to provide adequate age-management for these bolts.

The inspectors reviewed the implementing procedures and related corrective action documents, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Based on the timeliness and adequacy of the licensee's actions, the inspectors determined that the licensee met Commitment Items 10 and 11.

4. Boric Acid Corrosion Program (Commitment Items 12, 13, and 14)

The Boric Acid Corrosion Program is an existing program that monitors component degradation due to boric acid leakage through the performance of periodic inspections. It implements the recommendations of NRC Generic Letter 88-05. The program requires periodic visual inspection of all systems within the scope of license renewal that contain borated water for evidence of leakage, accumulations of dried boric acid, or boric acid wastage. The program also provides for visual inspections and early discovery of borated water leaks such that structures, electrical and mechanical components that may be contacted by leaking borated water will not be adversely affected such that their intended functions are impaired.

Commitment Item 12 specified that the licensee would revise applicable plant procedures to include criteria for observing susceptible SSCs, within the scope of license renewal, for boric acid leakage and degradation, during system walkdown inspections. This action was completed with the issuance of procedure EN-DC-178, Revision 3.

Commitment Item 13 is related to this program and was determined to be complete in inspection report 50000255/2010010.

Commitment Item 14 specified that the licensee would revise applicable plant procedures to include inspection of structural steel and non-ASME component supports for evidence of boric acid residue and boric acid wastage/corrosion on a periodic frequency. This action was completed with the issuance of procedures EN-DC-150, Revision 1 and EN-DC-178, Revision 3.

The inspectors reviewed the implementing procedures, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Based on the timeliness and adequacy of the licensee's actions, the inspectors determined that the licensee met Commitment Items 12 and 14.

5. Buried Services Corrosion Monitoring Program (Commitment Items 15 and 39)

The Buried Services Corrosion Monitoring Program is a new program that manages aging effects on the external surfaces of carbon steel, low-alloy steel, and stainless steel components that are buried in soil or sand. This program includes: (a) visual inspections of external surfaces of buried components for evidence of coating damage

and substrate degradation to manage the effects of aging; and (b) visual inspection of the external surfaces of buried stainless steel components for evidence of crevice corrosion, pitting, and microbiologically induced corrosion (MIC). The periodicity of these inspections for carbon, low-alloy, and stainless steel are based on opportunities for inspection such as scheduled maintenance work.

Commitment Item 15 specified that a Buried Services Corrosion Monitoring Program would be developed and implemented. Features of the program would include development and implementation of procedures for inspection of selected buried SSCs for corrosion, pitting and MIC. The periodicity of these inspections was based on opportunities for inspection such as scheduled excavation and maintenance work.

Commitment Item 39 specified that visual inspections of a sample of buried carbon, low-alloy, and stainless steel components would be performed within ten years prior to entering, and within ten years after entering, the period of extended operation. Prior to the tenth year of each period, the licensee would perform an evaluation of available data to determine if sufficient opportunistic inspections have been performed within that period to assess the condition of the components. If insufficient data existed, focused inspection(s) would be performed as needed.

The inspectors reviewed the implementing procedures and the engineering report of inspection samples prior to entering the period of extended operation, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Based on the timeliness and adequacy of the licensee's actions, the inspectors determined that the licensee met Commitment Items 15 and 39.

6. Closed Cycle Cooling Water Program

The Closed Cycle Cooling Water Program manages aging effects in closed cycle cooling water systems not subject to significant sources of contamination, in which water chemistry is controlled and heat is not directly rejected to the ultimate heat sink. The program includes maintenance of system corrosion inhibitor concentrations to minimize degradation and periodic or one-time testing and inspections to assess SSC aging. The program scope includes activities to manage aging in the component cooling water (CCW) system, emergency diesel generator (EDG) jacket cooling water (emergency power system), and shield cooling system (SCS). The program credits the One-Time Inspection Program for the inspection of selected SCS and EDG system heat exchangers, and a representative sample of stagnant portions of the system piping.

The inspectors reviewed the licensing basis, program basis document, implementing procedures, water chemistry controls, and related Corrective Action Program (CAP) documents; and interviewed the plant personnel responsible for this program. The inspectors verified that the program and program enhancements were in place for: (1) maintenance of system corrosion inhibitor concentrations to minimize degradation; (2) periodic or one-time surveillance testing and inspections to evaluate system and component performance; and (3) inspection methods include visual testing, ultrasonic testing, and eddy current testing. The inspectors determined that the program is being implemented as described in the SER.

7. Containment Inservice Inspection Program

The Containment ISI Program is an existing program that is designed to ensure that containment shell concrete, the post-tensioning system and steel pressure retaining elements continue to provide an acceptable level of structural integrity. In addition, it is designed to ensure that the liner (with associated moisture barriers), other leakage limiting steel barriers and pressure retaining bolted connections have not degraded. The Containment Inservice Inspection Program is consistent with, but contains exceptions to, NUREG-1801, Section XI.S1, "ASME Section XI, Subsection IWE," and Section XI.S2, "ASME Section XI, Subsection IWL," and is consistent with Section X.S1, "Concrete Containment Tendon Prestress."

The inspectors reviewed the implementing procedures, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

8. Containment Leakage Testing Program

The Containment Leakage Testing Program is an existing program that ensures that containment leakage is maintained below the upper acceptance limit. This testing program, in conjunction with the Containment Inservice Inspection Program, provides assurance that age related (and other) deterioration of the containment leakage limiting boundary is appropriately managed to ensure that postulated post-accident releases are limited to an acceptable level. The program is implemented through the following testing and examination activities: (1) overall containment leakage (integrated leakage rate or Type A) test to assess the leak tight integrity of the entire pressure boundary; (2) visual examinations of the containment exterior and interior; and (3) local (Type B & C) tests to assess the leak tight integrity of individual penetrations.

The inspectors reviewed the implementing procedures, related tests, work orders, and corrective action documents, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

9. Diesel Fuel Monitoring and Storage Program (Commitment Items 16, 17, and 18)

The Diesel Fuel Monitoring and Storage Program is an existing program that assures the continued availability and quality of fuel oil to be used in diesel generators and diesel fire pumps. The program includes: (a) monitoring and trending of fuel oil chemistry to maintain fuel oil quality and mitigate corrosion; (b) periodic draining, cleaning, and internal inspection of fuel oil storage tanks; and (c) verification of program effectiveness by a one-time measurement of fuel oil storage tank bottom thickness confirming the absence of an aging effect. Fuel oil quality is maintained by monitoring and controlling fuel oil contamination in accordance with the guidelines of the American Society for Testing Materials (ASTM) Standards D 1796, D 2276, D 2709, and D 4057.

Commitment Item 16 specified that the existing Diesel Fuel Monitoring and Storage Program was credited for license renewal with enhancements to develop and implement procedures for periodic draining, cleaning, and visual inspection of diesel fuel oil storage tanks, emergency diesel generator day tanks, and diesel fire pump day tanks.

Commitment Item 17 specified that the existing Diesel Fuel Monitoring and Storage Program was credited for license renewal with enhancements to develop and implement procedures for periodic draining of water accumulated in the bottom of the fuel oil storage and day tanks for the diesel generator and diesel fire pumps.

Commitment Item 18 specified that the existing Diesel Fuel Monitoring and Storage Program was credited for license renewal with enhancements to develop and implement procedures for periodic ultrasonic measurement of thickness of the bottom of the fuel oil storage and day tanks for the diesel generator and diesel fire pumps.

The inspectors reviewed the licensing basis, program basis documents, implementing procedures, NDE records, and related condition reports (CRs) and completed work orders (WOs). In addition, the inspectors interviewed the plant personnel responsible for this program and performed system walkdowns. The inspectors determined that the program is being implemented as described in the SER

Based on the review of the licensee's program, the inspectors identified a finding for the licensee failure to evaluate test results associated with the ultrasonic measurement of thickness of the bottom of one fuel oil day tank and both diesel fire pump day tanks. In addition, the inspectors identified a finding for the failure to promptly correct a degraded condition associated with the potential aging effects to the EDG fuel oil storage tank due to water accumulated in between the tank's inner and outer walls. The tank design includes a partial double wall. These findings are discussed in Section 40A5.1.b.

Based on the timeliness and adequacy of the licensee's actions to correct the issues identified by the inspectors, the inspectors determined that the licensee met Commitment Items 16, 17, and 18.

10. Fire Protection Program (Commitment Items 20, 21, 22, 23, 24, and 25)

The Fire Protection Program is an existing program that includes: (a) fire barrier inspections; (b) electric and diesel-driven fire pump tests; and (c) periodic maintenance, testing, and inspection of water-based fire protection systems. Periodic visual inspections of fire barrier penetration seals, fire dampers, fire barrier walls, ceilings and floors, and periodic visual inspections and functional tests of fire-rated doors are performed to ensure that functionality and operability is maintained. Periodic testing of the fire pumps ensures that an adequate flow of firewater is supplied and that there is no degradation of diesel fuel supply lines. Periodic maintenance, testing and inspection activities of water-based fire protection systems provides reasonable assurance that fire water systems are capable of performing their intended function. Inspection and testing include periodic hydrant inspections, fire main flushing, sprinkler inspections, pipe wall thickness testing and flow tests.

This program manages aging of the fire protection components through detailed fire barrier inspections of fire barrier penetration seals, and fire rated doors. Aging related degradation of fire barrier walls, ceilings and floors are managed by the Structural Monitoring Program. Aging of the diesel-driven fire pump's fuel oil supply line is managed through regularly scheduled fire pump performance tests.

The Fire Protection Program also manages aging of fire water systems through periodic hydrant inspections, flushes, and flow tests, fire main flushing, sprinkler system

inspections, and pipe wall thickness testing. Also included within the scope of the Fire Protection Program is aging management of spare cables for equipment required by Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1971," of 10 CFR Part 50.

Commitment Item 23 specified that the licensee would develop and implement procedures for inspection of below grade fire protection system piping prior to the period of extended operation. Inspections shall be implemented under the Buried Services Corrosion Monitoring Program. In addition, results of wall thickness inspections of above grade fire protection system piping shall be extrapolated to evaluate the wall thickness of below grade fire protection system piping. Procedures shall include acceptance criteria and criteria for further corrective actions, if acceptance criteria are not met.

The inspectors noted that the commitment as stated above reflected some changes that were incorporated into the earlier commitment by the licensee. The inspectors reviewed the commitment change evaluation form and the letter to the NRC to ensure that the changes were adequately evaluated.

The inspectors verified that new procedures were established to implement inspections of fire protection piping. The inspectors reviewed the licensing basis, program basis document, and existing implementing procedures. The inspectors verified that the above enhancements were incorporated into the existing program documents and implementing procedures. The inspectors reviewed CRs and sample calculations. The inspectors specifically verified that procedures Buried Services Corrosion Monitoring Program, Buried Piping and Tanks Inspection and Monitoring Program, Service Water and Fire Protection Inspection Program contained the appropriate procedural steps needed to implement the enhancements of the program.

Commitment Item 24 specified that plant procedures shall be revised to more specifically address identification of aging related degradation and expectations for documentation of fire hydrant condition. Also, these revisions shall include provisions to perform flow testing for fire hydrants within the scope of License Renewal that are credited for fire suppression in Palisades's current licensing basis.

The inspectors reviewed surveillance procedure Fire Suppression Water System Fire Hydrant Flush and verified that the required steps were incorporated into the procedure to verify the implementation of this commitment.

Commitment Item 25 specified that the licensee would develop and implement procedures to replace all sprinkler heads prior to the end of the 50-year service life, or for testing of a representative sample of sprinkler heads prior to the end of the 50-year service life and at 10-year intervals thereafter, per requirements of National Fire Protection Association (NFPA) 25, Section 5.3.

The inspectors reviewed implementing procedure and open work orders to replace sprinkler heads prior to the end of the 50-year service life or for testing of a representative sample of sprinkler heads prior to the end of 50-year service life and at 10-year intervals thereafter.

The inspectors reviewed the implementing procedures, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Based on the timeliness and adequacy of the licensee's actions, the inspectors determined that the licensee met Commitment Items 23, 24, and 25.

Commitment Items 20, 21, and 22 are related to this program and were determined to be complete in inspection report 50000255/2010010

11. Flow Accelerated Corrosion Program (Commitment Item 42)

The Flow Accelerated Corrosion (FAC) Program is an existing program that manages the aging effects due to loss of material due to wall thinning on the internal surfaces of carbon steel or low alloy steel piping and pipe components. The FAC Program implements the guidelines in Nuclear Safety Analysis Center (NSAC) 202L, "Recommendations for an Effective Flow-Accelerated Corrosion Program."

Commitment Item 42 stated that the governing procedure for the FAC Program would be revised to include the value of 87.5 percent nominal wall thickness for non-safety-related piping as the trigger point to initiate an engineering analysis. The engineering analysis would then confirm that the remaining wall thickness is acceptable to support the intended function or to determine corrective action.

The inspectors reviewed the governing procedure, EM-09-08, "Palisades Flow Accelerated Corrosion Program," Revision 13, September 24, 2008, and noted that Step 6.11.2 had been appropriately revised to include a requirement to calculate the remaining service life for any component that is examined and found to be below the screening criteria of 87.5 percent nominal wall thickness. The inspector also noted that the subsequently issued procedure, EN-DC-315, "Flow Accelerated Corrosion Program," Revision 2, January 29, 2009, included Step 5.6[2], which also specified the appropriate screening criteria of 87.5 percent nominal wall thickness.

The inspectors reviewed the licensing basis, program basis documents, implementing procedures, and WOs. In addition, the inspectors interviewed the plant personnel responsible for this program. The inspectors noted that the program used CHECWORKS software for predictive modeling of wall thinning associated with FAC.

The inspectors identified a finding documented in Section 4OA5.1.b (4) and an observation documented in Section 4OA5.1.b (7) related to FAC program. Based on the licensee's actions to correct the concerns, the inspectors determined that the program is being implemented as described in the SER.

Based on the review of the timeliness and adequacy of the licensee's actions, the inspectors determined that the licensee met Commitment Item 42.

12. Non-EQ Commodities Condition Monitoring (Commitment Item 26)

The Non-EQ Electrical Commodities Condition Monitoring Program is a new program that manages aging in selected non-EQ commodity groups within the scope of 10 CFR

Part 54. Program activities are responsive to the NRC guidance provided in NUREG-1801 and industry standards.

Commitment Item 26 specified that the licensee would develop and implement a Non-EQ Electrical Commodities Condition Monitoring Program to conduct periodic inspection of insulated cables and connectors, test sensitive instrumentation circuits, test medium voltage cables, inspect manhole water levels, and inspect non-segregated phase bus and connections.

Commitment Item 26 was changed by the licensee to include inspection of the non-segregated phase bus and connections.

The inspectors reviewed completed work orders for insulation resistance testing of inaccessible medium voltage cables and for inspecting and pumping out water from manholes. The inspectors also reviewed open work orders to conduct periodic testing of medium voltage cables and sensitive instrumentation circuits.

The inspectors reviewed the implementing procedures, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Based on the review of the timeliness and adequacy of the licensee's actions, the inspectors determined that the licensee met Commitment Item 26.

13. One-Time Inspection (Commitment Item 27)

The one-time inspection program was credited by various programs to verify their effectiveness by providing examinations of representative materials in environments where no other data was available to confirm that those programs were adequate.

Commitment Item 27 specified that a one-time inspection program will be developed and implemented. In addition, the commitment specified that the following features will be included in the program:

- Controlling procedures and implementing documents for activities associated with the program.
- Controls to ensure that at least 10 percent of all Class 1 butt welds less than 4" nominal pipe size (NPS) receive a volumetric examination prior to the end of, and within the last 5 years of, the current operating period. In addition, ensure that 100 percent of all Class 1 and 2 high safety significance socket welds 2" NPS and under receive a VT-2 visual inspection each refueling outage.

The inspectors reviewed the licensing basis, program basis documents, implementing procedures, inspection results, and related CRs. In addition, the inspectors interviewed the plant personnel responsible for this program.

The inspectors identified two findings documented in Section 4OA5.1.b (1) and Section 4OA5.1.b (2) related to One-Time Inspection Program. Based on the licensee's actions to correct the concerns, the inspectors determined that the program is being implemented as described in the SER.

Based on the review of the timeliness and adequacy of the licensee's actions, the inspectors determined that the licensee met Commitment Item 27.

14. Open Cycle Cooling Water Program

The Open Cycle Cooling Water Program manages aging effects such as loss of material due to general, pitting, and crevice corrosion, erosion, MIC, and loss of heat transfer due to biological/corrosion product fouling (e.g., sedimentation, silting) caused by exposure of internal surfaces of metallic components to raw, untreated (e.g., service) water. The program's scope includes activities to manage aging in the service water system (SWS) and circulating water system (CWS). The aging effects are managed through (a) monitoring and control of biofouling, (b) flow balancing and flushing, (c) heat exchanger testing, and (d) routine inspection and maintenance program activities to ensure that aging effects do not impair component intended function. Inspection methods include visual (VT), ultrasonic (UT), radiographic (RT), and eddy current (ET) testing. This program is responsive to NRC Generic Letter 89-13. The licensee established a routine inspection and maintenance monitoring program for service water piping and components to ensure that corrosion, erosion, silting, and bio-fouling cannot degrade the performance of the safety-related systems supplied by service water to where they are unable to perform their intended functions.

The inspectors reviewed the licensing basis, program basis document, implementing procedures, water chemistry and bio-fouling controls, and related Corrective Action Program documents; and interviewed the plant personnel responsible for this program. The inspectors verified that the program was in place to ensure proper management of the aging effects in the SWS and CWS. The inspectors verified that the licensee had implemented a program to adequately manage the aging effects through (a) monitoring and control of biofouling, (b) flow balancing and flushing, (c) heat exchanger testing, and (d) routine inspection and maintenance program activities to ensure that aging effects do not impair component intended function. The inspectors verified that the testing and maintenance activities appropriately implemented the actions.

The inspectors determined that the program was implemented as described in the SER.

15. Overhead Load Handling Systems Inspection Program (Commitment Item 28)

The Overhead Load Handling Systems Inspection Program is an existing program that provides for inspections of the structural components and rails of cranes and fuel handling machines associated with heavy load handling that are subject to the requirements of NUREG-0612 and are within the scope of license renewal requiring aging management. For Palisades, these are the Containment Building Polar Crane, the Spent Fuel Pool Overhead Crane, the Containment Building jib and boom cranes, and the reactor and spent fuel pool fuel handling machines. These cranes comply with the Maintenance Rule requirements provided in 10 CFR 50.65. The Overhead Load Handling Systems Inspections Program is primarily focused on structural components that make up the bridge and trolley of the overhead cranes that are within the scope of NUREG-0612.

Commitment Item 28 specified that the licensee revise crane and fuel handling machine inspection procedures to specifically inspect for general corrosion on passive components making up the bridge, trolley, girders, etc., and to inspect rails of Bridge

Cranes for wear. Revision should also include documentation of results of these inspections, acceptance criteria, and qualification requirements for inspectors and crane supervisors.

The inspectors reviewed the implementing procedures, work order and related corrective action documents, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Based on the timeliness and adequacy of the licensee's actions, the inspectors determined that the licensee met Commitment Item 28.

16. Reactor Vessel Integrity (Commitment Items 2, 3, 29, 30, 31, and 32)

The Reactor Vessel (RV) Integrity Surveillance Program manages the reduction of fracture toughness of the reactor vessel due to neutron embrittlement using monitoring methods in accordance with 10 CFR Part 50, Appendix H, "Reactor Vessel Material Surveillance Program Requirements." This program ensures the reactor vessel materials meet 10 CFR Part 50 Appendix G, "Fracture Toughness Requirements," and have adequate margin against brittle fracture caused by pressurized thermal shock.

Commitment Item 2 stated that an equivalent margins analysis would be submitted at least 3 years before beltline material upper shelf energy decreases to less than 50 ft-lb. According to the evaluation contained in WCAP 17341, the upper shelf energy is estimated to decrease below 50 ft-lb in April 2016, and therefore, this effort is not required to be completed until approximately April 2013. The inspectors verified that the licensee had actions in-place to track Commitment Item 2 completion. This commitment will remain open until the equivalent margins analysis is submitted.

Commitment Item 3 stated that prior to exceeding the pressured thermal shock (PTS) screening criteria, the method to manage PTS will be selected and relevant submittals will be made to NRC for review and approval. The licensee's letter dated December 20, 2010, selected PTS management method in accordance with 10 CFR 50.61a, "Alternate Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events." The letter stated that the screening criteria will not be reached until April 2017, and provided reports associated with surveillance data evaluation for the limiting weld wire and a revised PTS evaluation. The letter provided two additional commitments to: 1) perform a volumetric inspection of the reactor vessel beltline region welds during the 2012 refueling outage and 2) transmit a revised PTS evaluation under 10 CFR 50.61a, for review and approval no less than 3 years before the limiting axial welds are projected to reach the PTS screening criteria.

Commitment Item 29 stated that the RV Integrity Program will ensure that neutron fluence due to the power uprate will be accounted for when developing pressure/temperature (P/T) and the low temperature overpressure protection (LTOP) curves for extended operation. The licensee's letter dated March 7, 2011, submitted a license amendment request to revise Technical Specification Limiting Condition for Operation (LCO) 3.4.3, Figures 3.4.1 1 and 3.4.3 2 for the (P/T) limit curves for the primary coolant system heatup and cooldown, and LCO 4.3.12, Figure 3.4.12 1 for the (LTOP) setpoint limit curve. These figures are applicable for a period of 42.1 effective full power years, which corresponds to operation through the expiration of the operating license in 2031.

Commitment Item 30 stated that the licensee will document and establish requirement to save and store all pulled and tested RV surveillance capsules for future reconstitution. Procedure EM-32-03, "Reactor Vessel Integrity Surveillance Program," was issued on April 10, 2007, with Step 6.5.4: "Palisades shall save and store all reactor vessel surveillance capsules pulled and tested after 2006 for future reconstitution use."

Commitment Item 31 stated that the licensee will evaluate and revise as necessary, the surveillance capsule withdrawal and testing schedule of Final Safety Analysis Report (FSAR) Table 4-20 such that at least one capsule remains in the reactor vessel and is tested during the period of extended operation to monitor the effects of long-term exposure to neutron irradiation. Final Safety Analysis Report Table 4-20 was revised to reflect the new surveillance coupon removal schedule, which was approved by the NRC in letter dated August 14, 2007, indicating that capsule W-80 will be removed in approximately 9 years.

Commitment Item 32 stated that the licensee will develop a program level procedure to implement and control Technical Specification and FSAR activities associated with the Reactor Vessel Integrity Surveillance Program. The scope of the program includes activities associated with surveillance capsules, pressure-temperature limit curves, LTOP setpoints, neutron embrittlement calculation methodology, neutron fluence calculations and control, and documentation requirements. The licensee issued Procedure EM-32-03, with a stated purpose to establish a program to implement and control Technical Specification and FSAR activities associated with the Vessel Integrity Surveillance Program. The procedure includes Sections 6.1 Heatup and Cooldown Curves, 6.2 Pressurized Thermal Shock Evaluation, 6.3 Upper Shelf Energy Determination, 6.4 Low Temperature Overpressure Protection Pressure, 6.5 Surveillance Capsule Monitoring, and 6.6 Fluence Monitoring/Trending. The inspectors noted that the procedure had been updated to document recent activities associated with the PTS screening criteria, Upper Shelf Energy determination and LTOP setpoint curves.

The inspectors reviewed the implementing procedures, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Based on review of the timeliness and adequacy of the licensee actions, the inspectors determined that the licensee met Commitment Items 3, 29, 30, 31, and 32.

Commitment No. 2 will remain open until the licensee submits their equivalent margins analysis.

17. Reactor Vessel Internals Inspection Program (Commitment Item 33)

The Reactor Vessel Internals Program is an existing program based on EPRI MRP-227. Enhancements to the Reactor Vessel Internals Program include determination and implementation of augmented inspection requirements necessary to ensure that the reactor vessel internals (RVI) components will maintain the capability to perform their intended functions during the period of extended operation.

Two enhancements (the basis for Commitment Item 33) were planned to bring the Reactor Vessel Internals Inspection Program into conformance with the NUREG-1801

program requirements. The enhancements are: Scope of Program and Detection of Aging Effects: Palisades will participate in the industry initiatives to evaluate the effect of Changes in Dimensions due to Void Swelling, and will report to the NRC at least two years prior to the end of the current operating license the results of the industry initiative and a schedule for augmented inspections that will be required, if any. Palisades will participate in industry initiatives that will generate additional data on aging mechanisms relevant to RVI and develop appropriate inspection techniques to permit detection and characterization of features of interest. Palisades will incorporate any recommended augmented inspections as appropriate.

Commitment Item 33 originally specified that the licensee would participate in industry initiatives that will generate additional data on aging mechanisms relevant to RVI, including void swelling, and develop appropriate inspection techniques to permit detection and characterization of features resulting from this effort will be incorporated into Reactor Vessel Internals Program as applicable. The revised Reactor Vessel Internals Program will be submitted for NRC review and approval by March 24, 2009, (Letter dated August 25, 2005).

However, one of the industry guidance documents needed to develop the program was the Electric Power Research Institute Material Reliability Program (EPRI/MRP) document, MRP-227-Revision 0, "Pressurized Water Reactor Internals Inspection and Evaluation Guidelines." In order to provide time for development of an aging management program that would include EPRI/MRP guidelines (WCAP-17133-NP, "PWR Vessel Internals Program Plan for Aging Management of Reactor Internals at Palisades Nuclear Plant"), the licensee changed the commitment submittal date to March 24, 2010, (Letter dated March 23, 2009).

The inspectors reviewed the program basis document, implementing procedures, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Based on review of the timeliness and adequacy of the licensee actions, the inspectors determined that the licensee met Commitment Item 33.

A new commitment not documented in Appendix A to the SER has been initiated by the licensee [Entergy Nuclear Operations (ENO)] related to the program plan for aging management of the reactor vessel internals. The licensee submitted WCAP-17133-NP to the NRC on March 10, 2010. In a letter dated September 17, 2010, a request for additional information (RAI) was received by the licensee. The RAI noted that the aging management report submitted by the licensee used report MRP-227 as a technical basis for developing the aging management program which is under NRC review. In order to address the RAI, the licensee will review the SER for MRP-227, modify its aging management program, and resubmit the program plan. A revised program plan for aging management of reactor vessel internals will be completed and submitted within a year of issuance of the final NRC safety evaluation for MRP-227. The new commitment is as follows:

"ENO will submit a revised program for aging management of reactor vessel internals within a year of the final NRC safety evaluation for MRP-227.

18. Steam Generator Tube Integrity Program

The Steam Generator Tube Integrity Program is an existing program that manages the aging effects of steam generator tubes and tube repairs. The program also manages the aging effects of accessible steam generator secondary side internal components and incorporates the guidance of NEI 97-06. The program manages aging effects through a balance of mitigation, inspection, evaluation, repair, and leakage monitoring measures. Component degradation is mitigated by controlling primary and secondary water chemistry. Eddy current testing is used to detect steam generator tube flaws and degradation. Visual examinations are performed to identify degradation of accessible steam generator secondary side internal components. Primary to secondary leakage is monitored during plant operation.

The inspectors reviewed the program basis document, implementing procedures, completed inspection reports, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

19. Structural Monitoring Program (Commitment Items 19 and 35)

The Structural Monitoring Program is an existing program that is designed to ensure that age related, (as well as other) deterioration of plant structures (including masonry walls) and components within its scope is appropriately managed to ensure that each such structure or component retains the ability to perform its intended function. The program is implemented through visual examination of these structures, components and other specified items. Damage or degradation found during visual examination may be further evaluated by measurements and testing techniques as appropriate.

This program also implements provisions of the Maintenance Rule, 10 CFR 50.65, that relate to masonry walls and water-control structures. It conforms to the guidance contained in RG 1.160 and Nuclear Utility Management and Resource Council (NUMARC) 93-01, as well as Nuclear Energy Institute publication NEI 96-03. This NEI document, which supplements NUMARC 93-01, contains additional guidance specific to the monitoring of structures.

The Structural Monitoring Program includes requirements for the inspection of water-control structures and structural elements that are accessible above the waterline.

Commitment Item 35 specified that the licensee incorporate into the Structural Monitoring Program all structural members listed in Tables 3.5.2-1 through 3.5.2-10 of the Palisades license renewal application (LRA) that will use the Structural Monitoring Program as an aging management review (AMR).

The inspectors reviewed the implementing procedures; verified future inspection activities were being tracked, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined that the licensee met Commitment Item 35.

Commitment Item 19 is related to this program and was determined to be complete in inspection report 50000255/2010010.

20. System Monitoring Program (Commitment Items 36, 40, and 41)

The System Monitoring Program is an existing plant-specific program that manages aging effects for normally accessible, external surfaces of piping, tanks, and other components and equipment within the scope of License Renewal. These aging effects are managed through visual inspection and monitoring of external surfaces for leakage and evidence of material degradation. The program relies upon periodic system walkdowns to monitor degradation of the protective paint or coating, and/or the exterior steel surface area (if no paint or coatings exist, or if the existing protective paint and coatings are degraded to a point whereby the exterior steel surface is exposed).

Commitment Item 36 specified that existing system walkdown procedures will be enhanced to specifically address the types of components to be inspected, describe the relevant degradation mechanisms and effects of interest, and use the corrective action program (CAP) to document aging related degradation identified during the walkdowns.

Commitment Item 40 specified that the existing maintenance program will be enhanced to periodically inspect and replace, as necessary, the expansion joints/flexible connections in the portions of the heating, ventilation, and air conditioning (HVAC) system that are in-scope for license renewal.

Commitment Item 41 specified that specific methods of inspection for individual components will be identified as part of the System Monitoring Program implementation procedure development.

The inspectors reviewed the licensing basis, program basis documents, implementing procedures, and Model WOs. In addition, the inspectors interviewed the plant personnel responsible for this program and performed system walkdowns. The inspectors determined that the program is being implemented as described in the SER.

Based on review of the timeliness and adequacy of the licensee actions, the inspectors determined that the licensee met Commitment Items 36, 40 and 41.

21. Water Chemistry Program

The Water Chemistry Program is an existing program enhanced to manage aging effects such as loss of material due to general, pitting, and crevice corrosion, cracking due to stress corrosion cracking, and steam generator tube degradation caused by denting, intergranular attack, and outside diameter stress corrosion cracking by controlling the environment to which internal surfaces of systems and components are exposed. The aging effects are minimized by controlling the chemical species that cause the underlying mechanisms. The program provides assurance that an elevated level of contaminants and, where applicable, oxygen does not exist in the systems and components covered by the program, thus minimizing aging effects, and maintaining each component's ability to perform the intended functions.

The inspectors reviewed the licensing basis, program basis document, implementing procedures, chemistry results, and related CRs; and interviewed the plant personnel

responsible for this program. The inspectors verified that program enhancements for increased sampling to verify corrective actions were in place. No issues of significance were identified; however, as a result of inspector questions, the licensee initiated procedure change requests to clarify some aspects of the Water Chemistry Aging Management Program. Based on review of the timeliness and adequacy of the licensee actions, the inspectors determined that the program is being implemented as described in the SER.

22. Inspections of Opportunity for Internal Surfaces and Corrosion Under Insulation (Commitment Items 44 and 45)

Commitment Item 44 specified that procedures will be enhanced to inspect and document the internal condition of applicable components that are in-scope for license renewal when maintenance provides an opportunity. Applicable components are those that have an internal environment, but are not subject to another AMP that could manage the internal environment such that aging degradation of the internal surfaces would not be expected.

Commitment Item 45 specified that insulated piping and components will be verified for corrosion under insulation when maintenance provides an opportunity. The piping and components of interest are those within the scope of the System Monitoring Program, constructed of carbon or low alloy steel, with low normal operating temperatures in an indoor or outdoor environment such that the piping could be wetted under its insulation for extended periods without being detected. The results of these inspections will be reviewed periodically to determine that there were a sufficient number of inspections to provide a representative indication of system condition. If there were insufficient number of opportunities, insulation will be removed from additional sample locations.

The inspectors reviewed the licensing basis, program basis documents, implementing procedures, and Model WOs. In addition, the inspectors interviewed the plant personnel responsible for this program. The inspectors determined that the program is being implemented as described in the SER.

Based on review of the timeliness and adequacy of the licensee actions, the inspectors determined that the licensee met Commitment Items 44 and 45.

23. Compressed Air Program

The Compressed Air Monitoring Program manages aging effects on the internal surfaces of carbon steel, low-alloy steel, copper alloy, and stainless steel components within the scope of license renewal exposed to a compressed air environment. These include such components as piping, traps, heat exchangers, filter housings, dryer housings, accumulators, and valve bodies made of materials like carbon steel, low alloy steel, copper alloys, and stainless steel. The program includes maintenance of the compressors, dryers, and filters associated with the plant instrument air system, high-pressure air system, feedwater purity air system, and associated back-up systems.

The inspectors reviewed the program basis document, implementing procedures, system operating procedures, special test procedures, open and completed work orders and the test results, and determined that the program is being implemented as described in the SER.

24. Oil Sampling and Analysis Program

The Oil Sampling and Analysis Program is an existing program enhanced to manage aging effects on components that have an internal environment of oil, and are constructed of materials that are potentially susceptible to internal aging degradation in that environment, by periodic sampling and analysis of the oil. The purpose of these activities is to ensure that oil system contaminants (primarily water and particulates) are maintained within acceptable limits, thereby preserving an environment that is not conducive to loss of material or reduction of heat transfer. Associated activities include: (1) determination of appropriate analysis to be performed; (2) frequency of analysis; (3) acceptance criteria; (4) trending of results; and (5) corrective actions, if required.

These activities ensure that the lubricating oil environment of these components is maintained such that water and contaminants are minimized. The inspectors reviewed the licensing basis, program basis document, implementing procedures, oil sampling and analysis controls, and related Corrective Action Program documents, oil sample results reports; and interviewed the plant personnel responsible for this program.

The inspectors identified a finding related to the oil sampling and analysis program documented in Section 4OA5.1.b (5). Based on the licensee's actions to correct the finding, the inspectors determined that the program is being implemented as described in the SER.

25. Electrical Equipment Qualification Program

The Electrical Equipment Qualification Program is an existing program that implements the requirements of 10 CFR 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants," at Palisades. Title 10 CFR 50.49(e)(5) contains provisions for aging that require, in part, consideration of all significant types of aging degradation that can affect component functional capability. Title 10 CFR 50.49(e)(5) also requires replacement or refurbishment of qualified components prior to the end of their designated life, unless additional life is established through ongoing qualification. EQ programs manage component thermal, radiation, and cyclical aging through the use of aging evaluation based on 10 CFR 50.49(f) qualification methods.

The inspectors reviewed the program basis document, implementing procedure, administrative procedure, and qualification summaries of sample environmental qualification (EQ) calculations. The inspectors verified that program implementing documents contained the appropriate License Renewal references. The inspectors verified that the licensee conducted an assessment of all EQ components in light of the period of extended operation and completion of EQ checklists reviews, which evaluates operating experience.

Based on the review of the adequacy of the licensee's actions and assessment for the program, the inspectors determined that the program is being implemented as described in the SER.

26. Fatigue Monitoring Program (Commitment Items 4, 5, and 37)

The Fatigue Monitoring Program ensures that limits on the fatigue usage are not exceeded by monitoring and tracking selected cyclic transients. The program provides cycle counting activities for confirming analytically derived cumulative usage values.

Commitment Item 4 states that the effect of the increase in variable speed charging pump out-of-service events may have on these lines (Charging Lines Inboard of the Regenerative Heat Exchanger) will be evaluated, and actions necessary to ensure these lines meet licensing basis design criteria for the extended operating period will be taken. The licensee will complete this evaluation and will advise the NRC of the results, and of any necessary corrective actions, before the end of the current licensed operating period. The licensee added calculation PAL-06Q-305, "Charging Nozzle 60-Year Design Life," Revision 2, to LR-TR-025-Fatigue, Stress, and Fatigue Evaluations for the License Renewal Period. No issues identified during the review of this calculation.

The licensee also issued calculation EA-EC26323-01, "Hot Leg Sampling Piping Cycling Evaluation," Revision 0. This analysis showed that with 14000 cycles (twice that assumed during the 40-year operating cycle, the stresses are below code allowable. During the review of this calculation, the inspector questioned the accuracy of the thermal anchor movement specified in the analysis. After further review, the licensee concluded that the design input used the center of the steam generator for the anchor point in the horizontal direction instead of the center of the reactor vessel. The licensee issue CR-PLP-2011-00423, to document this issue. The associated calculation was revised using the correct thermal anchor movement. Calculation EA-EC26323-01, Revision 2, showed that the stresses continued to meet Code allowable, and therefore the design input error was minor.

The inspectors verified that Palisades was not using the stress portion of FatiguePro to calculate usage factor, but instead only used it for cycle counting. As such, the concern identified in RIS 2008-030, did not apply to the site.

Commitment Item 5 states the licensee will monitor the cumulative number of pressurizer temperature element nozzle fatigue cycles within the Fatigue Monitoring Program, and maintain a special action level to ensure that appropriate actions are taken if at any time the cycle count for any design basis event since 1993 reaches the number assumed by these analyses. The licensee issued calculation EA-EC26323-02, "Reanalysis of Fatigue for the Pressurizer Temperature Instrument Nozzles TE0101 and TE0102," Revision 0. This calculation recomputed the fatigue usage factors of the pressurizer temperature element nozzles for the extended period of operation and included the results in the revision to EM-32-02, Fatigue Monitoring Program. No issues identified.

Commitment Item 37 states a Fatigue Monitoring Program will be developed and implemented. Features of the program will include monitoring and tracking selected cyclic loading transients (cycle counting) and their effects on critical reactor pressure boundary components and other selected components. The licensee issued the following to implement this commitment:

Procedure EM-32-02, "Fatigue Monitoring Program," Revision 1, December 13, 2010.

LR-TR-025-Fatigue, Stress and Fatigue Evaluations for the License Renewal Period, Revision 0, May 2, 2006.

LR-TR-014-TLAA, Time-Limited Aging Analysis Report, Revision 5, July 13, 2006.

The inspectors reviewed the implementing procedures, interviewed the plant personnel responsible for this program, and determined that the program is being implemented as described in the SER.

Based on review of the timeliness and adequacy of the licensee actions, the inspectors determined that the licensee met Commitment Items 4, 5, and 37.

27. Commitment Item 8

Commitment Item 8 specified that in a periodic FSAR update following NRC issuance of the renewed operating license, in accordance with 10 CFR 50.71 (e), the summary descriptions of Aging Management Programs and Time Limited Aging Analyses, provided in Appendix A, will be incorporated into appropriate sections of the FSAR.

The inspectors reviewed the FSAR and determined that the licensee met Commitment Item 8 as described in the SER.

28. Commitment Item 9

Commitment Item 9 specified that the Quality Program implementation procedures will be expanded to apply the elements of corrective action, confirmation process, and administrative controls to both safety-related and non-safety-related systems, structures, and components that are subject to aging management review for license renewal.

The inspectors reviewed the FSAR and implementing procedures and determined that the licensee met Commitment Item 9 as described in the SER.

29. Commitment 38

Commitment Item 38 specified that the final text and schedule of licensee commitments that are confirmed by NRC in the final SER for the Palisades Renewed Operating License will be incorporated into appropriate locations of the FSAR in the first regular FSAR update under 10 CFR 50.71 (e) following NRC issuance of the renewed operating license.

The inspectors reviewed the FSAR and determined that the licensee met Commitment Item 38 as described in the SER.

30. Commitment Item 43

Commitment Item 43 originally specified that the licensee will perform a neutron absorption ("blackness") test of selected cells in the NUS spent fuel racks prior to March 24, 2011, to validate that there is no significant degradation of the neutron absorption capability. An additional test will be performed within the first 10 years following the start of the period of extended operation. If degradation is identified in either test, an evaluation of the condition will be performed under the NMC Corrective Action Program. If applicable, this evaluation will consider the potential need for additional or more frequent testing.

Commitment Item 43 was revised to specify that the licensee will perform a neutron absorption ("blackness") test of selected cells in the NUS spent fuel racks prior to March 24, 2011, to validate that there is no significant degradation of the neutron absorption capability. If degradation is identified, an evaluation of the condition will be performed under the ENO Corrective Action Program. If applicable, this evaluation will consider the potential need for additional testing.

Initial testing was completed prior to March 2011 in accordance with the commitment. The testing showed excessive degradation. As a result, the criticality analysis was revised such that it no longer took credit for the neutron absorber in the NUS spent fuel pool racks to maintain sufficient margin to criticality. Therefore, since no credit was taken for the neutron absorber in the NUS racks, there was no need for additional testing. License Amendment 236 revised the Technical Specification to apply spent fuel storage restrictions for the NUS racks.

Based on review of the timeliness and adequacy of the licensee actions, the inspectors determined that the licensee met Commitment Item 43.

b. Findings and Observations

The inspectors identified five findings of very low safety significance, two observations of minor significance and two violations of minor significance.

(1) Failure to Assure Adequate Resolution for Remote Visual Examinations

Introduction: A finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure of a licensee NDE examiner to accomplish activities affecting quality in accordance with procedures.

Description: During the Phase I inspection conducted October 4, 2010 through October 22, 2010, unresolved item (URI) 05000255/2010010-02, "Adequacy of the One-Time Inspections Using Remote Visual Examinations," was identified by the inspectors involving potential inadequacies in the One-Time Inspection Program.

The inspectors were concerned about the reliability of the results of several one-time boroscopic inspections (remote visual) performed to detect loss of material mechanisms such as crevice, pitting, and general corrosion. During some of the examinations witnessed, the inspectors observed that the Character Card was calibrated perpendicular to the boroscope, but the surface being examined was parallel to the

boroscope. Also, several visual examination record sheets reviewed by the inspectors contained reference to 18 percent neutral gray card instead of the character card, inspection angle of 30 to 45 degrees as opposed to the actual angle of zero degrees used during examinations. The inspectors were also concerned this examination would not be likely to detect pitting due to the geometric constraints of the areas examined and the non-flexible boroscope used. The licensee captured these concerns in Condition Reports CR-PLP-2010-5624, CR-PLP-2010-5283 and CR-PLP-2010-04836.

Upon further investigation, the licensee determined that characters on the ASME Character Card could be read with only one of the two boroscopic probes used in 8 one-time examinations. Since the specific probe used to perform each examination was not traceable, the licensee repeated the 8 one-time examinations, including the examination on liquid Freon piping of refrigeration condensing unit VC-10. The inspectors verified the results of the licensee's repeat examinations were acceptable.

Analysis: The inspectors determined that failure to perform an adequate one-time VT inspection on MV-VA531 in accordance with procedures was contrary to 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and was a performance deficiency. The performance deficiency was determined to be more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, the failure to perform an adequate VT examination did not assure that the intended function of the unit would be maintained consistent with the current licensing basis through the extended period of operation.

The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," Attachment 0609.04, "Phase I - Initial Screening and Characterization of findings," Table 4a for the mitigating system cornerstone. The inspectors determined that the finding was of very low safety significance (Green) because the inspectors answered no to all of the worksheet questions. Specifically, once completed correctly, the licensee confirmed operability and no-loss of safety function.

This finding has a cross-cutting aspect in the area of Human Performance for the Work Practices component because the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported. [H.4(c)]

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

Specifically, Step 5.2.3 of CEP-NDE-0901 "VT-1 Examination" state that "A procedure demonstration shall be performed to verify suitable conditions for direct and remote examination by resolution of the characters in Table 3." Furthermore, Step 5.2.3.1 states that "Conditions for performance of the examination are acceptable if the resolution of characters on a near-distance vision test chart or character card is acceptable."

Contrary to the above, on October 18, 2010, a licensee NDE examiner performing a VT-1 (one-time inspection) examination on MV-VA531, failed to verify acceptable resolution by use of the character card as specified in Steps 5.2.3 and 5.2.3.1 of CEP-NDE-00901. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CR-PLP-2010-05624, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000255/2011008-01) "Failure to Assure Adequate Resolution for Visual Examinations."

(2) Test Results for Diesel Fuel Oil Tanks Not Evaluated

Introduction: A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified by the inspectors for the failure to evaluate test results for tank wall thickness under the scope of the Diesel Fuel Quality and Storage Monitoring Program.

Description: On January 26, 2011, the inspectors noted that the licensee did not evaluate the test results associated with the ultrasonic measurement of thickness of the bottom of the 'A' EDG day tank (i.e., T-25A) and both diesel fire pump day tanks (i.e., T-24 and T-40). In addition, the inspectors noted that the licensee had not developed acceptance criteria for this activity.

The activity to obtain these ultrasonic measurements is associated with Commitment Item 18 which is part of the Diesel Fuel Monitoring and Storage Aging Management Program. License Renewal Commitment Item 18 stated that procedures will be developed and implemented for periodic ultrasonic measurement of thickness of the bottom of fuel oil storage tanks, EDG day tanks, and diesel fire pump day tanks.

At the time of this inspection, the licensee had developed and implemented these procedures and had performed the ultrasonic measurement of thickness of the bottom of T-25A, T-24, and T-40 under WOs 51625317-02, 52193809-01, and 52215736-01 respectively. However, neither the procedures nor work packages included the acceptance criteria for minimum wall thickness. Because an acceptance criterion was not included in the work documentation, the inspectors questioned if the results were evaluated on a case by case basis. The licensee confirmed that the fire protection system engineer did not receive a copy of the T-24 and T-40 ultrasonic results and that the EDG system engineer received a copy of the T-25A ultrasonic results but did not have any direction to evaluate the test results. As a result, these test results were not evaluated.

The inspectors concluded that the activity to monitor the material condition of the tanks was not complete because the test results were not evaluated in all the examinations performed at the time of this inspection. In addition, because an acceptance criteria was not developed for these and future examinations, the inspectors were concerned that the aging of these components may not be managed.

The licensee captured the inspectors' concerns in their CAP as CR-PLP-2011-00480 and CR-PLP-2011-00680. The corrective actions that were been considered at the time of this inspection were the development of an acceptance criteria for tank wall thickness and performing an apparent cause evaluation. The licensee confirmed that the

ultrasonic examination results showed that the wall thicknesses of the inspected tanks were close to the nominal thickness or greater.

Analysis: The inspectors determined that the failure to evaluate test results for tank wall thickness under the scope of the Diesel Fuel Quality and Storage Monitoring Program was contrary to 10 CFR Part 50, Appendix B, Criterion XI, and was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, although the ultrasonic examination results performed at the time of this inspection showed that the wall thicknesses of the inspected tanks were close to the nominal thickness or greater, there was a programmatic concern that ultrasonic examination results are not evaluated such that aging effects could be identified and managed for the in-scope components of the Diesel Fuel Quality and Storage Monitoring Program including safety-related tanks.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 3b for the mitigating system cornerstone. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability or functionality. Specifically, the ultrasonic examination results showed that the wall thicknesses of the inspected tanks were close to the nominal thickness or greater.

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance because the licensee did not have complete design documentation, procedures, and work packages for performing non-destructive examinations of the bottom walls of the tanks under the scope of the Diesel Fuel Monitoring and Storage Aging Management Program. Specifically, the applicable procedures and work packages did not include acceptance criteria for wall thickness. In addition, the design documentation of the tanks did not establish the minimum acceptable wall thickness, nor provided instructions to evaluate the results. [H.2(c)]

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," requires in part, that test results shall be documented and evaluated to assure that test requirements have been satisfied.

Contrary to the above, on December 16, 2009, and February 6 and August 5, 2010, the licensee failed to evaluate tests results to assure that test requirements were satisfied. Specifically, the licensee did not evaluate the results of ultrasonic examinations performed to assess the condition of the bottom walls of tanks T-24, T-40, and T-25A. Because this violation was of very low safety significance and it was entered into the licensee's CAP as CR-PLP-2011-00480 and CR-PLP-2011-00680, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. (NCV 05000255/2011008-02) "Test Results for Diesel Fuel Oil Tanks Not Evaluated."

(3) Tank T-10A Not Age Managed for Effect of Identified Water

Introduction: A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to evaluate the aging effects of water accumulation in between the partial double wall and on the exterior wall of the EDG fuel oil storage tank (i.e., T-10A).

Description: On January 27, 2011, the inspectors learned during a system walkdown that T-10A was a double wall tank and that water had accumulated in between the two walls (i.e., annulus). During interviews with plant personnel, the inspectors became concerned that the associated aging effects of the accumulated water were not properly managed because the condition of the affected annulus region was not evaluated.

The licensee initially identified the presence of water at the annulus of T-10A on May 11, 2006, when the fuel tank leak detector alarmed. The purpose of the double wall was to provide a redundant barrier to the inner wall preventing a spill of diesel fuel oil to the soil. The leak detector provided indication of a breach of the inner wall. However, in 2006, the leak detector alarmed because water was intruding into the annulus from the environment. The licensee captured the 2006 water intrusion in their CAP as CR-PLP-2006-02736 and determined that the cause of this condition to be a faulty gasket at the leak detector pipe that allowed in-leakage. The corrective actions included replacement of the gasket and removal of the accumulated water. However, although the water removal effort cleared the alarm, the licensee was unsuccessful in removing all of the water. The licensee did not perform an evaluation to assess the potential aging effects of this residual volume of water on the tank walls.

The leak detection alarmed again on July 21, 2008. The licensee determined the cause to be external leakage of water that resulted in the water level to rise past the leak detector setpoint. The licensee captured this event in their CAP as CR-PLP-2008-03138. The corrective action was to remove the accumulated water. Again, the licensee was able to clear the alarm but was unsuccessful in removing all of the water and did not perform an evaluation to assess the potential aging effects of this residual volume of water on the tank walls.

On May 2009 the leak detection alarmed again. The licensee captured this event in their CAP as CR-PLP-2009-02891. The corrective actions included removal of the accumulated water and an evaluation of the water that accumulated in the annulus of the tank. The evaluation concluded that there was no hole in the outer wall of T-10A because the water levels around the tank (i.e., outside the tank) and in the annulus did not correlate, and that the most likely explanation was condensation of the volume of water that could not be removed following the 2006 water intrusion event. In addition, the evaluation determined that no specific corrective actions were needed other than removing as much water as possible when the leak detector alarmed. The evaluation did not consider the potential aging effects of the accumulated water on the tank walls.

The leak detection alarmed again on March 2010. The licensee captured this event in their CAP as CR-PLP-2010-01112 and CR-PLP-2010-06510. The corrective action was to schedule a water removal activity on May 2011. Again, an evaluation was not performed to assess the potential aging effects of this remaining volume of water on the tank walls.

The inspectors were concerned because the accumulated water in the annulus of T-10A created an environment that could promote corrosion of the tank walls, and this condition was not evaluated. Also, the potential for corrosion could be exacerbated at surface area regions that were periodically dried and re-wetted with fresh oxygenated water.

In response to inspectors' questions, the licensee indicated that an ultrasonic measurement of the tank bottom was already scheduled for the year 2012 as part of License Renewal Commitment Item 18 and that this activity would make an assessment of the condition of the tank bottom wall thickness. However, the inspectors noted that this activity was scheduled six years after the water intrusion was first identified without an evaluation of the acceptability of the condition until the examination. In addition, the inspectors had reasonable doubt that the scope of the activity scheduled for 2012 would have been sufficient to assess the condition of the tank because the accumulated water in the annulus affected surface area of regions other than the bottom of the tank. Because the potential aging effects of the water intrusion events were not considered, there was no reasonable assurance that the scope of the ultrasonic inspections would have been adjusted accordingly. Also, the inspectors noted that the ultrasonic inspection periodicity of ten years was established to monitor the material condition of the bottom of the tank where water could accumulate assuming that the environment of the annulus was air, which would not promote corrosion. However, since water had accumulated in the annulus of the tank, corrosion may occur on both sides of the inner wall simultaneously which would result in faster degradation. The licensee had not evaluated if the established periodicity needed to be adjusted.

The inspectors also noted that Procedure No 3.26, "Implementation of Palisades Renewed License Requirements," stated that consideration of internal and external operating experience could result in changes to aging management programs and/or aging management activities. In addition, it stated that processing and evaluation of internal operating experience is governed by EN-LI-102, "Corrective Action Process." However, although the water intrusion events were captured in the CAP, the licensee did not evaluate the aging effects of the water accumulated in between the double wall of T-10A in accordance with EN-LI-102. The inspectors determined that the discovery of water accumulated in the annulus of T-10A would have been screened as a condition adverse to quality because EN-LI-102 stated that a condition adverse to quality includes failures, malfunctions, deficiencies, deviations, defects, and non-conformances. Further, it stated that aging and corrosion were examples of such conditions.

The licensee captured the inspectors' concerns in their CAP as CR-PLP-2011-00684 and CR-PLP-2011-00676. The corrective actions that were been considered at the time of this inspection were to perform an assessment of methods to maintain awareness of appropriate staff of aging issues and strategies, strengthen requirements for updating aging management programs based on operating experience, and flagging issues in the CAP that may suggest the need for changes in aging management strategies. In addition, the licensee planned to evaluate the cause of not evaluating the potential effects of the water accumulated at the annulus of T-10A and continued tracking the water removal effort with CR-PLP-2010-06510.

The inspectors further noted that T-10A was subjected to water contact on the exterior wall surface. This tank was designed to be inside a vault and in contact with dry sand. Since a wetted surface area was not in accordance with the original design, the inspectors were concerned that a wetted exterior surface area also needed an

evaluation of the potential aging effects of water contact on the tank exterior wall. The licensee entered the concern into the CAP as part of CR-PLP-2011-00684.

Analysis: The inspectors determined that the failure to evaluate the aging effects of water accumulation inside the double wall of T-10A was contrary to Procedure No 3.26 and was a performance deficiency. In addition, the inspectors determined that the failure to evaluate the aging effects of water in contact with the exterior wall of T-10A was contrary to Procedure No 3.26 and was a performance deficiency. The performance deficiencies were determined to be more than minor because if left uncorrected, it would become a more safety significant concern. Specifically, the failure to consider internal operating experience to ensure that age related deterioration of SSCs within the scope of aging management programs, such as the aging effects of water accumulation in the annulus region and on the exterior wall of the T-10A, will not provide assurance that their intended function would be maintained consistent with the current licensing basis through the period of extended operation. This finding impacted the mitigating system cornerstone.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 3b for the mitigating system cornerstone. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability or functionality. Specifically, both the water inside the annulus and the water on the exterior wall of T-10A had not resulted in the loss of functionality of the tank because there was no indication that either water was leaking from the annulus to the tank interior or fuel oil was leaking into the annulus.

The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not identify issues completely. Specifically, the licensee failed to evaluate the aging effects of the water accumulation in the annulus and on the exterior wall of T-10A because the associated CRs focused in the removal of the water and did not identify potential implications to age management of the component. [P.1(a)]

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed and accomplished by procedures appropriate to the circumstances.

Contrary to the above, as of January 27, 2011, the licensee did not follow Procedure No 3.26 when addressing the accumulated water in between the partial double wall and on the exterior wall of T-10A. Specifically, the licensee failed to evaluate the aging effects of this internal operating experience in accordance with EN-LI-102 as required by Procedure No 3.26. The T-10A tank is a safety-related component. Because this violation was of very low safety significance and it was entered into the licensee's CAP as CR-PLP-2011-00684 and CR-PLP-2011-00676, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. (NCV 05000255/2011008-03) "Tank T-10A Not Age Managed for Effect of Identified Water."

(4) Flow Accelerated Corrosion Program Acceptance Limits Not in Accordance with Design Standard

Introduction: A finding of very low safety significance was identified by the inspectors for the failure to assure an engineering evaluation was initiated if pipe wall thickness measurements fall below 87.5 percent of nominal pipe wall thickness. Specifically, computer software utilized by the FAC program was not modified to initiate an engineering evaluation if degraded pipe wall thickness measurements were less than 87.5 percent of nominal pipe wall thickness.

Description: As part of license renewal Commitment 42, the licensee revised the governing procedure for the FAC program to include the value of 87.5 percent of nominal wall thickness to non-safety-related piping as a trigger point to initiate an engineering analysis to confirm that the remaining wall thickness was acceptable to support the intended function or to determine corrective action, as applicable. The inspectors confirmed that the governing procedure, EN-DC-315, included the 87.5 percent trigger point to initiate an engineering analysis.

Piping design standards utilized by the licensee incorporate pipe wall thickness manufacturing tolerances (plus or minus 12.5 percent of pipe nominal wall thickness) in acceptance criteria that ensure pressure boundary integrity. Therefore, pipe wall thickness measured to be greater than 87.5 percent of nominal pipe wall thickness ensures pressure boundary integrity. However, piping with pipe wall thickness measurements below 87.5 percent of nominal pipe wall thickness needs further engineering evaluation based on actual pipe wall measurements to ensure pressure boundary integrity in accordance with the design standards.

In order to verify implementation of the program, the inspectors reviewed Palisades' "1R21 Flow Accelerated Corrosion Outage Report," dated October 29, 2010. Contrary to the criteria specified in the controlling procedure, the inspectors identified several inspections in which the trigger point value, Taccept, was specified as 60 percent nominal pipe wall thickness. During discussions, licensee personnel stated that the Taccept values are automatically retrieved from the CHECWORKS models and that the Taccept values apparently had not been updated to reflect the revised trigger point specified in the governing procedure. As a result of this discrepancy, the licensee issued CR-PLP-2011-00679 to document that the CHECWORKS models had not been updated as required by EN-DC-315, "Flow Accelerated Corrosion Program," regarding the screening value of 87.5 percent of nominal wall thickness. The inspectors concluded that FAC affected piping with a minimum of 60 percent nominal wall thickness provided reasonable assurance of pressure boundary integrity for non-safety-related piping (i.e., operable, but non-conforming to piping design standards).

Analysis: The inspectors determined that the failure to ensure the FAC program initiated an engineering evaluation if pipe wall measurements were below 87.5 percent of nominal pipe wall thickness was contrary to piping design standards and a performance deficiency. The performance deficiency was determined to be more than minor because if left uncorrected, the finding would become a more safety-significant concern. Specifically, the failure to perform an engineering evaluation did not assure that intended pressure integrity function of affected piping would be maintained consistent with the current design basis through the extended period of operation.

The inspectors screened the finding using IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve a design or qualification deficiency; there was no actual loss of safety function, no single train loss of safety function for greater than the Technical Specifications allowed outage time, and no risk due to external events.

The finding has a cross-cutting aspect in the area of Human Performance for the Work Practices component because the licensee failed to provide effective supervisory oversight of work activities such that nuclear safety is supported. Specifically, licensee management did not assure the 87.5 percent pipe wall acceptance limit revised by Entergy procedures was implemented in the FAC program. [H.4(c)]

Enforcement: No violation of regulatory requirements occurred because the affected piping was non-safety-related. (FIN 5000255/2011008-04) "Flow Accelerated Corrosion Program Acceptance Limits Not in Accordance with Design Standard."

(5) Failure to Implement Adequate Oil Sampling and Analysis Aging Management Program

Introduction: A finding of very low safety significance was identified by the inspectors for the failure to: (1) develop and implement an oil sampling and analysis aging management program with specific acceptance criteria and trending requirements; and (2) age manage plant equipment with internal oil coolers for potential pressure boundary and/or heat transfer degradation.

Description: During review of the licensee's implementation of the oil sampling and analysis aging management program description in the FSAR, the inspectors identified that implementing procedures did not include specific acceptance criteria and trending requirements. On February 23, 2011, the licensee entered the concern into their CAP as CR-PLP-2011-00887.

In addition, during review of the license renewal application and the NRC Safety Evaluation Report, the inspectors identified that only plant equipment with external oil coolers was included in the oil sampling and analysis aging management program. The inspectors in consultation with NRC staff concluded that plant equipment with internal oil coolers needed to be age managed for potential pressure boundary and/or heat transfer degradation. On March 15, 2011, the licensee entered the concern into their CAP as CR-PLP-2011-01270.

Analysis: The inspectors determined that the failure to develop and implement an oil sampling and analysis aging management program with specific acceptance criteria and trending requirements was contrary to FSAR Section 1.9.1.24 and a performance deficiency. The inspectors also determined that the failure to age manage plant equipment with internal oil coolers for potential pressure boundary and/or heat transfer degradation in addition to plant equipment with external oil coolers was a performance deficiency. The performance deficiencies were determined to be more than minor because if left uncorrected, the finding would become a more safety-significant concern. Specifically, the failure to: (1) provide specific acceptance criteria and trending requirements; and (2) age manage plant equipment with internal oil coolers for potential pressure boundary and/or heat transfer degradation did not assure that plant equipment

within the scope of the oil sampling and analysis aging management program would be maintained consistent with the current design basis through the extended period of operation.

The inspectors screened the finding using IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve a design or qualification deficiency; there was no actual loss of safety function, no single train loss of safety function for greater than the Technical Specifications allowed outage time, and no risk due to external events. Specifically, the licensee's current oil sampling program monitors plant equipment with internal oil coolers for indication of water intrusion and particulate matter.

The finding has a cross-cutting aspect in the area of Human Performance for the resources component because the implementing procedures did not include guidance defining parameters of the program. H.2(c)

Enforcement: No violation of regulatory requirements occurred.
(FIN 5000255/2011008-05) "Failure to Implement Adequate Oil Sampling and Analysis Program."

(6) License Renewal Records and Record Keeping Not in Accordance with 10 CFR 54.37(a)

During review of the oil sampling and analysis aging management program, the inspectors identified a concern that the licensee did not maintain all license renewal records in a permanent records system. Specifically, the licensee stored oil sampling data in the non-permanent "J-drive" where these records could have been inadvertently deleted.

In Paragraph 54.37(a) of 10 CFR Part 54 stipulates: "The licensee shall retain in an auditable and retrievable form for the term of the renewed operating license all information and documentation required by, or otherwise necessary to document compliance with, the provisions of this part."

Because the licensee did not identify any examples where a license renewal related record was missing, and on February 7, 2011, the licensee entered the concern into their CAP as CR-PLP-2011-00602, this concern is considered to be of minor significance.

(7) Computer Software Not Classified in Accordance with Licensee Software Quality Assurance Program

During review of the FAC program, the inspectors identified a concern related to the licensee's software quality assurance classification for the CHECWORKS software program. Specifically, the inspectors were concerned that appropriate software quality assurance requirements were not being applied for installation and testing prior to use by the FAC program.

As an additional effort to verify the implementation of FAC program, the inspectors reviewed Procedure EN-IT-104, "Software Quality Assurance Program," Revision 6, to ensure the predictive software, CHECWORKS, was appropriately controlled. According

to licensee personnel, CHECWORKS was classified as Level C, "Business Important." The inspectors noted that this classification level applied to software products that "are important to compliance or required by law or regulations outside the NRC licensing basis." [emphasis added] The inspectors questioned whether this software should be classified as Level B, "Regulatory Commitment," since FSAR Section 1.9.1.11 now stated that an effective FAC program includes an analysis using a predictive code such as CHECWORKS..." which appeared to make CHECWORKS part of the NRC licensing basis and fulfills a regulatory commitment. In addition, the inspectors questioned whether this software was relied on for any safety-related components, which would indicate that it should be classified as Level A, "Safety-Related." The licensee issued CR-PLP-2011-00587 to document this potential concern. During follow-up conversations, the licensee clarified that this software is not solely relied-on for safety-related components because additional manual verification is conducted for those components. The licensee subsequently determined that the CHECWORKS software should be classified as Level B, Regulatory Commitment.

Because the licensee had performed CHECWORKS software validation prior to use by the FAC program (documentation not required for Level C software) this concern is considered to be of minor significance. The licensee entered the concern into their CAP as CR-PLP-2011-00587 with corrective actions to: (1) categorize CHECWORKS as Level B software; (2) perform an Entergy fleet extent of condition for CHECWORKS software quality assurance classification; and (3) perform an extent of condition to identify other regulatory commitment software classified as Level C.

(8) Minor Violation of 10 CFR 54.13(a) Related to Buried Services Monitoring Program

During the performance of this inspection, the inspectors identified that the descriptions of diesel fuel oil tank T-10A in the Palisades Nuclear Plant license renewal application (LRA) and in the license's final responses to NRC aging management program (AMP) audit questions, documented in the NRC's Summary Report of License Renewal Review Questions for the Palisades AMP Audit, were not accurate in all material respects.

In license renewal application Section B.2.1.5, "Buried Services Corrosion Monitoring Program," states, in part, that Palisades has no buried tanks in sand or soil. Additionally, the Summary Report of License Renewal Review Questions for the Palisades AMP Audit documents the licensee's response to staff questions regarding the configuration of tanks within the scope of license renewal. The licensee's response states, in part, that the Diesel Fuel Oil Storage Tank is below grade but is contained in a vault and not exposed to an environment of soil.

However, the inspectors tank T-10A is a dual wall tank with an outer wrapper plate constructed of 3/16-inch steel plate covering the lower 330 degrees of the tank. The tank is enclosed in a concrete vault, which is backfilled with dry compacted sand. As such, tank T-10A is buried with the wrapper plate and upper 3 circumferential feet of the tank in direct contact with the compacted sand. Therefore, the descriptions of tank T-10A in the Palisades LRA and in the Palisades AMP audit Summary Report of License Renewal Review Questions are not accurate.

The inspectors determined that an Impact to the Regulatory Process occurred because the licensee failed to provide complete and accurate information. Specifically, 10 CFR 54.13 states, "Information provided to the Commission by an applicant for a renewed license or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant must be complete and accurate in all material respects."

The inspectors determined the violation is of minor significance because it did not result in a change in the agency's decision with respect to license renewal, and Tank T-10A was already being monitored as part of the Buried Services Corrosion Monitoring Program. Specifically, the interstitial space between the tank shell and the wrapper plate is monitored by the licensee for the presence of fluid through the use of a level detector and alarm. Monitoring of the interstitial space for the presence of water is an acceptable method for managing the aging of the exterior surfaces of the tank, as discussed in GALL Report AMP XI.M41, "Buried and Underground Piping and Tanks." The accuracy of information concern was entered into the CAP as CR-PLP-2011-01331.

(9) Minor Violation of 10 CFR 54.13(a) Related to Auxiliary Feedwater (AFW) Pump Turbine Bearing Oil Coolers

During the staff's review of issues identified during the performance of this inspection, the staff identified that the Palisades LRA included an incomplete aging management review for the auxiliary feedwater (AFW) pump turbine bearing oil coolers (or cooling chambers). Specifically, in accordance with NEI 95-10 Revision 4 and the Standard Review Plan-License Renewal, Revision 0, the licensee did not, (a) identify that the bearing oil coolers for the AFW turbines are passive and long-lived components with in-scope heat transfer and pressure boundary functions and (b) provide an aging management review (and associated line items) to determine how the aging effects associated with the bearing oil coolers were to be managed. Therefore, the aging management review provided in the Palisades LRA for the AFW pump turbine bearing oil coolers was incomplete.

The inspectors determined that an Impact to the Regulatory Process occurred because the licensee failed to provide complete and accurate information. Specifically, 10 CFR 54.13 states, "Information provided to the Commission by an applicant for a renewed license or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant must be complete and accurate in all material respects."

The inspectors determined the violation is of minor significance because it did not result in a change in the agency's decision with respect to license renewal, and AFW bearing oil coolers are already being monitored. Specifically, the licensee has existing programs that can effectively manage aging in a manner that is similar to what is recommended in the GALL Report that was in effect at the time of the license renewal application review process, and the SSC in question has otherwise been appropriately age managed. The accuracy of information concern was entered into the CAP as CR-PLP-2011-01331.

.2 Closure of Unresolved Item (URI) 05000255/2010010-02

During the Phase I inspection (Inspection Report 05000255/2010010), URI 05000255/2010010-02, "Adequacy of the One-Time Inspections Using Remote Visual Examinations," was identified by the inspectors involving potential inadequacies related to the reliability of the results of several one-time boroscopic inspections (remote visual) performed to detect loss of material mechanisms, such as crevice, pitting, and general corrosion. The licensee captured these concerns in Condition Reports CR PLP 2010 5624, CR-PLP-2010-5283 and CR-PLP-2010-04836.

Licensee corrective actions were reviewed as part of this inspection; refer to Section 4OA5.1.b (1). URI 0500255/2010010-02 is closed.

4OA6 Management Meetings

.1 Exit Meeting Summary

On March 22, 2011, the inspectors presented the inspection results to Mr. T. Kirwin and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

T. Kirwin, Acting Site Vice-President
 P. Anderson, Licensing Manager
 A. Blind, Engineering Director
 M. Cimock, Sr. Programs Engineer
 B. Dotson, Licensing Supervisor
 J. Erickson, Licensing
 J. Hager, Sr. Programs Engineer
 N. Lane, Projects Manager
 J. Miksa, Programs Engineering Manager
 K. Smith, LR Project Manager
 B. Vincent, BCP/Engineering Support

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000255/2011008-01	NCV	Failure to Assure Adequate Resolution for Remote Visual Examinations (Section 4OA5.1.b (1))
05000255/2011008-02	NCV	Test Results for Diesel Fuel Oil Tanks Not Evaluated (Section 4OA5.1.b (2))
05000255/2011008-03	NCV	Tank T-10A Not Age Managed for Effect of Identified Water (Section 4OA5.1.b (3))
05000255/2011008-04	FIN	Flow Accelerated Corrosion Program Acceptance Limits Not in Accordance with Design Standard (Section 4OA5.1.b (4))
05000255/2011008-05	FIN	Failure to Implement Adequate Oil Sampling and Analysis Aging Management Program (Section 4OA5.1.b (5))

Closed

05000255/2011008-01	NCV	Failure to Assure Adequate Resolution for Remote Visual Examinations (Section 4OA5.1.b (1))
05000255/2011008-02	NCV	Test Results for Diesel Fuel Oil Tanks Not Evaluated (Section 4OA5.1.b (2))
05000255/2011008-03	NCV	Tank T-10A Not Age Managed for Effect of Identified Water (Section 4OA5.1.b (3))
05000255/2011008-04	FIN	Flow Accelerated Corrosion Program Acceptance Limits Not in Accordance with Design Standard (Section 4OA5.1.b (4))
05000255/2011008-05	FIN	Failure to Implement Adequate Oil Sampling and Analysis Aging Management Program (Section 4OA5.1.b (5))
05000255/2010010-02	URI	Adequacy of the One-Time Inspections Using Remote Visual Examinations. (Section 4OA5.2.)

LIST OF DOCUMENTS REVIEWED

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

4OA5 Other Activities

License Renewal Program Basis Documents

LR-AMPBD-21-ONE-TIME; License Renewal Aging Management Program Basis Document; Revision 2

NUREG-1871; Safety Evaluation Report Related to the License Renewal of Palisades Nuclear Plant; January 2007

Nickel Alloy Program (Commitment Item 6)

AR 00895971; Place License Renewal Flags in Equipment database; October 19, 2005

AR01176301; Update Passport License Renewal Attribute for New ID's; June 30 2010

EC 0000014389; Equipment Database Bulk Update; February 2, 2010

FP-E-RTC-02; Equipment Classification –Q List; Revision 4

FP-PE-RLP-01; Renewed Licensed Program; Revision 3

ITAR 01176301-03 and ITAR 01154512-04; Passport Test Plan for Bulk Update of Panel X270; July 8, 2010

ASME Section XI Subsection IWB, IWC, IWD, IWF Inservice Inspection Program

EM-09-13; Palisades Nuclear Plant Engineering Manual Procedure; Revision 13

Forth 10-Year Interval Master Inservice Inspection Plan; Revision 20

LO-LAR-2009-00244; ASME Section XI IWB, IWC, IWD, IWF ISI; September 14, 2009

LR-AMPBD-02-ASMEISI; ASME Section XI IWB, IWC, IWD, IWF Inservice Inspection Program; Revision 3

PLP-RPT-10-00003; Review of the ASME Section XI IWB, IWC, IWD, IWF Inservice Inspection Aging Management Program for License Renewal Implementation; Revision 0

PLP-RPT-10-00003; Review of the ASME Section XI IWB, IWC, IWD, IWF Inservice Inspection Aging Management Program for License Renewal Implementation; Revision 0

Procedure No 9.06; Code Requirements for ASME Section XI Repairs and Replacements; Revision 12

Procedure No EM-09-03; Inservice Inspection: Revision 17

Bolting Integrity Program (Commitment Items 10 and 11)

Administrative Procedure 9.06; Code Requirements for ASME Section XI Repairs and Replacements; Revision 12

CR-PLP-2009-027788; CK-CVC2088 Hinge Pin Cover Studs over Torqued; dated May 20, 2009

CR-PLP-2009-03379; J-9401 Bottom Door Fastener Stripped and Will Not Fully Tighten; dated July 1, 2009

CR-PLP-2009-04911; System Engineering Walkdown Identified 1-2 Emergency Diesel Generator Missing Bolt on Heat Shield; dated October 22, 2009

CR-PLP-2009-05176; HPSI Pump P-99B Missing Hardware; dated November 9, 2009

CR-PLP-2009-05324; Fastener Found Loose and Stripped on Junction Box J1088; dated November 17, 2009

CR-PLP-2010-02683; Dried Boric Acid found on Primary Coolant Pump P-50A Outlet Pipe Flange; dated July 1, 2010

CR-PLP-2010-04394; Boric Acid on Pressurizer Valves CV-1057 and CV-1059; dated October 4, 2010

CR-PLP-2010-05034; Hardware Galling and Inadequate Tensioning Identified on Main Transformer EX-10; dated October 14, 2010

CR-PLP-2010-05501; Safety Injection Pipe Support HGR/GC9-H3.9 Missing Bolt; dated October 22, 2010

CR-PLP-2010-05518; HX E-31, S/G Blowdown Inlet Packing Gland Follower Bolt Eroding; dated October 23, 2010

EM-09-03; Inservice Inspection; Revision 17

EM-09-13; Inservice Inspection Pressure Testing Program; Revision 13

EM-24; Fastener Preload; Revision 2

EN-DC-141; Design Inputs; Revision 8

EN-DC-150; Condition Monitoring of Maintenance Rule Structures; Revision 1

EN-DC-178; System Walkdowns; Revision 3

EN-EV-112; Chemical Control Program; Revision 10

Fourth 10-Year Master Inservice Inspection Plan; Revision 20

Fourth 10-Year Master Inservice Inspection Plan; Revision 20

LR-AMPBD-03-BOLTINTEG; License Renewal Program Basis Document: Bolting Integrity Program; Revision 3

MSM-M-45; Removal, Installation, and Repair of Pipe Supports; Revision 9

MSM-M-48; Standard Torque Values; Revision 4

MSM-M-65; Pipe Flange Joint Disassembly, Inspection, and Assembly Using Spiral Wound Gaskets; Revision 4

PLP-RPT-10-00004; Review of the Bolting Integrity Aging Management Program for License Renewal Implementation; Revision 0

RT-42; Visual Examination of Plant Snubbers; Revision 8

RT-71A-1; Primary Coolant System, Class1, Examination of Bolted Connections;
Revision 7

Boric Acid Corrosion Program (Commitment Items 12, 13, and 14)

EN-DC-150; Condition Monitoring of Maintenance Rule Structures; Revision 1

EN-DC-159; System Monitoring Program; Revision 5

EN-DC-178; System Walkdowns; Revision 3

Buried Services Program (Commitment Items 15 and 39)

2009 Cathodic Protection Annual Survey Report; dated September 25, 2009

CEP-BPT-0100; Buried Piping and Tanks Inspection and Monitoring; Revision 0

EC 27632; Perform Evaluation of Inspection Opportunities Prior to License Renewal per
Commitment LO-LAR-2009-244-38; dated March 2, 2011

EM-09-24; Service Water and Fire Protection Program; Revision 3

EM-32-04; Buried Services Corrosion Monitoring Program; Revision 3

EN-DC-343; Buried Piping and Tanks Inspection and Monitoring Program; Revision 3

EN-EP-S-002-MULTI; Buried Piping and Tanks General Visual Inspection; Revision 0

EN-IS-112; Trenching, Excavating, and Ground Penetrating Activities; Revision 6

LR-AMPBD-05-BURIEDSVCS; License Renewal Program Basis Document: Buried
Services Corrosion Monitoring Program; Revision 2

Palisades' Buried Services Corrosion Monitoring Life Cycle Management Plan;
Revision 3 dated February 9, 2010

PLP-RPT-10-00006; Engineering Report: Review of Buried Services Corrosion
Monitoring Aging Management Program for License Renewal Implementation;
Revision 0

PLP-RPT-2011-00008; Engineering Report: Perform Evaluation of Inspection
Opportunities Prior to License Renewal per Commitment LO-LAR-2009-244-38;
Revision 0 dated March 16, 2011

Closed Cycle Cooling Water Program

LR-AMPBD-06-CCCW; Closed Cycle Cooling Water Program Basis Document;
Revision 3

QO-15; Inservice Test Procedure – CCW Pumps Performed on September 16, 2010;
Revision 29

QO-15; Inservice Test Procedure – CCW Pumps Performed on July 29, 2010;
Revision 28

RT-71F; CCW System Class 2 and 3 Inservice Test Performed on March 27, 2008;
Revision 4

Containment Inservice Inspection Program

PA-N1028-500; Final Report for the 35th Year Containment IWL Inspection at Entergy's
Palisades Nuclear Plant; October 31, 2008

PLP-RPT-10-00009; Review of the Containment Inservice Inspection Aging Management Program for License Renewal Implementation; January 12, 2011

WO00148827-01; Palisades 1R20 Refuel Outage IWE Section XI Visual Examinations; April 17, 2009

Containment Leakage Testing Program

CR-PLP-2007-03984; Penetration MZ-69 Phase 1 Leak Rate Exceeded Trouble Shooting Leakage Value of 1000cc/min; dated September 15, 2007

CR-PLP-2008-03401; Potential Trend for Containment Airlock Doors Failing to Meet Local Leak Rate Test; dated August 8, 2008

CR-PLP-2009-01471; Containment Penetration MZ-17 Leakage Higher than Expected during Local Leak Rate Test; dated March 30, 2009

CR-PLP-2010-05291; Phase 2 Test on MV-VA602 Performed Incorrectly; dated October 19, 2010

DWO-13; LLRT – Local Leak Rate Tests for Inner and Outer Personnel Air Lock Seals; Revision 21

DWO-13; Local Leak Rate Tests for Inner and Outer Personnel Air Lock Seals; dated November 12, 2010

EN-DC-334; Primary Containment Leakage Rate Testing (Appendix J); Revision 1

ENN-SEP-APJ-010; Primary Containment Leakage Rate Testing Program Plan; Revision 1

GP-R-85101001; General Physics Corporation Integrated Leakage Test Report; dated May 1, 2001

LR-AMPBD-09-CONTLRT; License Renewal Aging Management Program Basis Document, Containment Leakage Testing Program; Revision 2

PLP-RPT-10-00010; Engineering Report: Review of Containment Leakage Testing Aging Management Program for License Renewal Implementation; Revision 0

PLP-RPT-10-0054; 1R21 Refueling Outage Local Leak Rate Test (LLRT) Summary Report; dated January 7, 2011

RO-32; Technical Specification Surveillance Procedure; dated October 26, 2010

RO-32; Technical Specification Surveillance Procedure; dated October 26, 2010

RO-32; Technical Specification Surveillance Procedure; dated October 26, 2010

RO-32; Technical Specification Surveillance Procedure; Revision 31

RT-36; Containment Integrated Leak Rate Test; Revision 19

SO-11; Verify Containment Purge and Ventilation Isolation Valves Closed; Revision 10

Diesel Fuel Monitoring and Storage Program (Commitment Items 16, 17, and 18)

CEP-NDE-0505; UT Examinations; Revision 4

CH1.7; Chemistry Trending Program; December 14, 2010

COP-22A; Diesel fuel Oil Testing Program; December 10, 2010

CR-PLP-2006-02736; T-10A Leak Detector Alarming; May 11, 2006

CR-PLP-2007-01344; T-24 High Particulates; March 23, 2007
CR-PLP-2008-03138; T-10A Leak Detection is Alarming; July 21, 2008
CR-PLP-2009-02891; Possible Breach in Shell of T-10A; May 29, 2009
CR-PLP-2010-01112; T-10A Inner Hull Liquid Sensor Alarming; December 17, 2010
CR-PLP-2010-01918; T-24 Particulate Level above Normal; May 7, 2007
CR-PLP-2010-06510; T-10A Inner Shell Level 17 inches high; December 9, 2010
FOSO-1; Fuel Oil Filtration; December 6, 2010
FPSP-RM-3; Inspection and Preventive Maintenance of Fire Pump Diesel K-5;
January 5, 2011
FPSP-RM-4; Inspection and Preventive Maintenance of Fire Pump Diesel K-10;
January 5, 2011
LR-AMPBD-10-DSL FUEL; Diesel Fuel Monitoring and Storage Program Basis
Document; Revision 2
WO51614273; T-10A Filtration; August 20, 2008
WO51625317-02; T25A Clean, Inspect, and NDE; February 9, 2010
WO51802559; T-40 Inspection and Preventative Maintenance; August 7, 2009
WO52193809; T-24 Day Tank PM; December 17, 2009
WO52193946; T-24 Inspection and Preventative Maintenance; December 17, 2009
WO52215736; T-40 Day Tank PM; August 5, 2010
WO52262022; T-10A Sampling; November 1, 2010
WO52273180; Water Check and Removal T-25A/B; August 17, 2010

Fire Protection Program (Commitment Items 20, 21, 22, 23, 24, and 25)

Calc. No. EA-EC24931-04; "Engineering Analysis of Component KBF-901-E350";
October 2-, 2010
CR-PLP-2010-04273; "Ultrasonic Thickness Measurement of Fire Protection Piping";
October 2, 2010
EM-09-24; "Service Water and Fire Protection Inspection Program"; Revision 2
EM-32-04; "Buried Services Corrosion Monitoring Program"; Revision 2
EN-DC-343; "Buried Piping and Tanks Inspection and Monitoring Program"; Revision 3
FPIP-4; "Fire Protection System and Fire Protection Equipment"; Revision 27
FPSP-SO-3; "Fire Suppression Water System Fire Hydrant Flush"; Revision 6
WO 00243329; "FPSP-RO-9, Replace Fire Sprinklers in Rooms 223 and 328";
January 1, 2016
WO 00243332; "FPSP-RO-9, Replace Fire Sprinklers in Room 224"; January 1, 2016
WO 00259135; "FPSP-RO-9, Replace Fire Sprinklers in Room 116A"; January 1, 2016
WO 00259137; "FPSP-RO-9, Replace Fire Sprinklers in Room 116"; January 1, 2016

WO 00259139; "FPSP-RO-9, Replace Fire Sprinklers in Room 116B"; January 1, 2016
WO 00259140; "FPSP-RO-9, Replace Fire Sprinklers in Room 332"; January 1, 2016
WO 00259142; "FPSP-RO-9, Replace Fire Sprinklers in Room 250"; January 1, 2016
WO 00259144; "FPSP-RO-9, Replace Fire Sprinklers in Room 725"; January 1, 2016
WO 00259145; "FPSP-RO-9, Replace Fire Sprinklers in Rooms 136 & 136A";
January 1, 2016

Flow Accelerated Corrosion Program (Commitment Item 42)

Cavitation/Corrosion Inspections on Raw Water Piping and Valves; (No date or revision)
EM-09-08; Palisades Flow Accelerated Corrosion Program; Revision 1
EN-DC-315; Flow Accelerated Corrosion Program; Revision. 2
EN-IT-104; Software Quality Assurance Program; Revision 6
Palisades "R21 Flow Accelerated Corrosion Outage Report; dated October 29, 2010
Palisades Nuclear Plant, Cooling Water Examination Scope 2006 Outage No. 18;
Revision 2
Palisades Nuclear Power Plant Flow Accelerated Corrosion Examination Master Plan;
Revision 4

Non-EQ Commodities Condition Monitoring (Commitment Item 26)

EN-DC-346; "Cable Reliability Program"; Revision 0
LR-AMPBD-17-NONEQELEC; "License Renewal Aging Management Program Basis";
Revision 4
MSE-E-52; "Periodic Testing of Sensitive Instrumentation Circuits in Scope of License
Renewal;" Revision 3
MSE-E-55; "Periodic Inspection and Testing of Non-Segregated Bus in Scope of License
Renewal"; Revision 2
WO 00198409-01; 152-105 Cable Condition Monitoring for License Renewal;
October 19, 2010
WO 00251826-01; FM-1040 Test Cables per MSE-E-52; December 14, 2010
WO 00251827-01; FM-1039 Test Cables per MSE-E-52; December 14, 2010
WO 00251828-01; FM-1041 Test Cables per MSE-E-52; December 15, 2010
WO 00257698; License Renewal Testing of SUT 1-2 Cables to 1C/1D/1E; Due
December 10, 2020
WO 00257700; EX-03 Tan Delta Testing of Cables, License Renewal; Due
April 20, 2016
WO 00258424; License Renewal Testing of SUT 1-3 Cables to Buses 1B/1G; Due
April 20, 2016
WO 51612952; PM on EX-03 Cables to Buses A and F; April 29, 2006
WO 51612953; PM on EX-05 Cables to Buses B and G; April 29, 2006

WO 51657522-01; Megger Cables NE-5, NE-6, NE-7 and NE-8/License Renewal;
October 15, 2010

WO 52299497-01; Inspection and Pump Out of Manholes; December 16, 2010

One-Time Inspection (Commitment Item 27)

CR-PLP-2009-00453; OTI Finding: VT-1 Inspection of F-13B; February 3, 2009

CR-PLP-2010-00313; OTI Finding: VT-1 Inspection of CK-MS402 Internals;
January 22, 2010

CR-PLP-2010-02309; OTI Finding: VT-1 Inspection of FD-1 and CK-RW421 Internals;
June 9, 2010

CR-PLP-2010-03694; Rate of Corrosion for OTI Not Documented; August 31, 2010

CR-PLP-2010-05150; OTI Findings Associated With T-73 Quench Tank;
October 16, 2010

EM-09-13; In-Service Inspection Pressure Testing Program; 9/23/10

EM-32-05; One-Time Inspection Program; December 16, 2010

LR-AMPBD-21-ONETIME; One-Time Inspection Program Basis Document; Revision 2
One-Time Inspection Master Plan; December 6, 2010

Proc No ONP-6.2; Loss of Component Cooling; Revision 10

WO144387; OTI: MV-SW233; April 6, 2009

WO197338; OTI: YS-8260D; November 30, 2009

WO203059; OTI: CK-FO1796; August 17, 2010

WO203060; OTI: SV-5600; August 10, 2010

WO203255; OTI: P-947A; January 13, 2010

WO205007; OTI: DT-1479; February 9, 2010

WO210844; OTI: FD-1; June 9, 2010

WO211266; OTI: ACCUM-EHC-GAS SPACE (T-1020); October 22, 2010

WO214848; UT of ESS-2.5-SIS-1B1-16 (small bore weld); October 29, 2010

WO214851; UT of ESS-2.5-SIS-2A1-16 (small bore weld); October 29, 2010

WO214851; UT of ESS-2.5-SIS-2A1-16 (small bore weld); October 29, 2010

WO214864; UT of PCS-3-PSS-1B1-15 (small bore weld); October 29, 2010

WO214869; UT of PCS-3-PSS-1B1-16 (small bore weld); October 29, 2010

WO214870; UT of PCS-3-PSS-1B1-17 (small bore weld); October 29, 2010

WO214871; UT of PCS-3-PSS-1B1-18 (small bore weld); October 29, 2010

WO231681; UT of PCS-3-PSS-2A1-3 (small bore weld); October 29, 2010

WO231682; UT of PCS-3-PSS-2A1-4 (small bore weld); October 29, 2010

WO231683; UT of PCS-3-PSS-2A1-5 (small bore weld); October 29, 2010

WO24610201; OTI: E-64A-TUBES-ADMIRALTY; October 2, 2010

WO51624725-01; E-24D Feedpump Turbine Lube Oil Cooler; December 26, 2009

WO51624728-01; E-24A Feedpump Turbine Lube Oil Cooler; December 26, 2009

WO51633968; OTI: T-73; January 3, 2011

WO51637409; OTI: UT of T-2 Bottom; October 2, 2010

WO51657332-01; V-1A/B Air Side Inspection; March 31, 2009

WO51671762; OTI: F-13B; February 11, 2009

WO51688452; OTI: CK-MS402; December 9, 2009

Open Cycle Cooling Water Program

LR - AMPBD - 9 – OCCW, Open Cycle Cooling Water Program, Revision 2

Master Heat Exchanger Testing Plan, January 13, 2011

Raw Water Corrosion Program Report for Operational Cycle 19 and 2007 Refueling Outage Issued November 13, 2007

Raw Water Corrosion Program Report for Operational Cycle 20 and 2009 Refueling Outage issued February 11, 2010

Overhead Load Handling Systems Inspection Program (Commitment Item 28)

CLP-M-6; Inspection of Heavy Load Lift Devices; Revision 13

CR-PLP-2010-02553; Excessive Movement Identified in Polar Crane Bridge Drive Gearbox; dated June 27, 2010

CR-PLP-2010-02608; Polar Crane Speed Control for Auxiliary Hoist Did Not Operate Properly; dated June 27, 2010

CR-PLP-2010-05403; Containment Jib Crane L-906 Continually Leaks Oil during Normal Operation; dated October 21, 2010

EM-32-01; Aging Management Inspections of Cranes and Lifting Devices; Revision 1

FHS-M-26; Installation of Auxiliary Fuel Handling Hoist on the Spent Fuel Handling Machine; Revision 11

LR-AMPBD-20-OVHDLLOAD; Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems Program; Revision 2

MSM-M-13A; Reactor Building Polar Crane L-1 Periodic Inspection; Revision 1

MSM-M-13C; Spent Fuel Pool Crane L-3 Periodic Inspection; Revision 1

MSM-M-33; Containment Boom Crane and Containment Hatch Crane Mechanical Inspection and Lubrication; Revision 8

PLP-RPT-10-00017; Engineering Report: Review of Overhead Load Handling Systems Inspection Aging Management Program for License Renewal Implementation; Revision 0

PMRQ 50083288; REFOUT PMs on L-1, L-3, L-6, and L-906; Refuel Outage Periodicity

RFL-D-16; Reactor Vessel Closure Head Removal; Revision 10

RFL-F-2; Refueling Machine (RFM); Revision 6

RFL-F-3; Spent Fuel Handling Machine (SFHM); Revision 6

RFL-R-16; Reactor Vessel Closure Head Installation; Revision 7
WO 206772-10; MSM-M-33, L-906 Containment Boom Crane; dated October 4, 2010
WO 212072-01; FHS-M-26, H-14B Install Auxiliary Hoist; dated June 6, 2010
WO 214239; RFL-R-16, Reactor Vessel Closure Head Installation; dated
October 20, 2010
WO 241792-01; MSM-M-13, L-1 Mechanical Inspection; dated June 25, 20
WO 412243-06; RFL-L-2, H-11 Prepare Reactor Cavity Refueling Trolley for Operation;
dated April 14, 2010
WO 52201532-01; RFL-F-3, H-14 Spent Fuel Handling Machine; dated
November 19, 2010
WO 52206047-01; MSM-M-13C, L-3 Fuel Pool Building Crane Annual Inspection; dated
November 5, 2010

Reactor Vessel Integrity (Commitment Items 2, 3, 29, 30, 31, and 32)

LO-LAR-2009-00244-32; Date Unknown
LO-LAR-2009-00244, Corrective Action 00002; Due Date Extended to
December 30, 2011; dated December 15, 2010
Entergy Letter PNP 2011-016 to U. S. Nuclear Regulatory Commission with
Attachments; Subject: Updated Palisades Reactor Vessel Pressurized Thermal Shock
Evaluation; dated December 20, 2010
Entergy Letter PNP 2011-016 to U. S. Nuclear Regulatory Commission; Subject: License
Amendment Request for Primary Coolant System Pressure-Temperature Limits; dated
March 7, 2011
EM-32-03; Reactor Vessel Integrity Surveillance Program; Issued April 10, 2007
LO-LAR-2009-00244-29; dated September 15, 2009
LO-LAR-2009-00244-30; dated July 21, 2010
LO-LAR-2009-00244-31; dated July 26, 2010
LO-LAR-2009-00244-32; dated December 20, 2010
LO-LAR-2009-00244-3; dated December 20, 2010
FSAR Table 4-20; Reactor Vessel Surveillance Coupon Removal Schedule

Reactor Vessel Internals Inspection Program (Commitment Item 33)

EM-09-03; Palisades Nuclear Plant Engineering Manual Procedure; Revision 17
Letter; Program Plan for Aging Management of Reactor Vessel Internals;
March 10, 2010
LO-LAR-2009-00244; Reactor Vessel Internals Program Submittal; September 16, 2009
LR-AMPBD-23-VSLINTERNALS; Reactor Vessel Internals Inspection Program;
Revision 3
Steam Generator Tube Integrity Program
EN-DC-317; Steam Generator Program; Revision 5

PLP-RPT-10-00021; Review of the Steam Generator Tube Integrity Aging Management Program for License Renewal Implementation; Revision 0

EM-09-05; Steam Generator Program; Revision 18

SG-SGMP-10-24; 1R21 Steam Generator Condition Monitoring Report; dated October 26, 2010

SG-SGMP-11-1; 1R21 Inspection Plan and Eddy Current Analysis Results; January 2011

Structural Monitoring Program (Commitment Items 19 and 35)

EM-09-20; Boric Acid Corrosion Control Program; Revision 4

EM-25-01; Maintenance Rule Structural Monitoring; Revision 3

EN-DC-150; Condition Monitoring of Maintenance Rule Structures; Revision 1

EN-DC-178; System Walkdowns; Revision 3

EN-DC-343; Buried piping and Tanks Inspection and Monitoring Program; Revision 3

LR-AMPBD-25-STRUCMON; License Renewal Aging Management Program Basis Document, Structural Monitoring Program, Revision 3

MSM-M-16; Inspection of Water Tight Barriers; Revision 17

MSM-M-45; Removal, Installation, and Repair of Pipe Supports; Revision 9

Palisades Nuclear Plant, 10 CFR 50.65 Maintenance Rule First Interval/Third period (2007-2009) Structural Monitoring Report; dated September 15, 2010

PLP-RPT-10-00022; Engineering Report: Review of Structures Monitoring Aging Management Program for License Renewal Implementation; Revision 0

PMRQ 50081834-12; Diver Inspection of Discharge Structure; due date March 1, 2012

PMRQ 50083389-01; Diver Inspection of SW Intake; March 1, 2012

PMRQ 50085983-01; Divers Clean/ Inspect SW Pump Bay; March 1, 2012

PMRQ 50085993-01; Sample Ground Water for Structures Monitoring – License Renewal; due date February 2, 2011 PMRQ 50081834-04; Diver Inspection/Cleaning of Intake Crib; due date March 15, 2012

RT-42; Visual Inspection of Plant Snubbers; Revision 8

RT-92; Inspection Containment Sump Envelope; Revision 5

WO 00208038-01; Diver Inspection/Cleaning of Intake Crib; Completed November 10, 2010

WO 00214421-02; Divers to Clean/Inspect SW Pump Bay; Completed October 25, 2010

WO 52295784-01; Ground Water Sampling for Aggressive Environment; completed December 6, 2010

System Monitoring Program (Commitment Items 36, 40, and 41)

EN-DC-159; System Monitoring Program; Revision 5

EN-DC-178; System Walkdowns; Revision 3

EN-MS-S-036-L; System Categorization and Renewed License Walkdown Requirements; November 12, 2010

FTK-ESPP-G00009; Conduct Walk-Downs of Assigned Systems Qualification; Revision 2

LR-AMPBD-28-SYSMON; System Monitoring Program Basis Document; Revision 2
Model WO00259224; VHX-53, Clean and Inspect Cooling Coils; December 15, 2010
Model WO51625889; V-1A&B, Containment Air Cooler Inspection; November 26, 2010
Model WO51625890; V-2A&B, Containment Air Cooler Inspection; November 26, 2010
Model WO51625891; V-3A&B, Containment Air Cooler Inspection; November 26, 2010
Model WO51625892; V-4A&B, Containment Cooler Inspection; November 26, 2010
Model WO51629423; VHX-27A, Clean and Inspect Cooling Coils; November 26, 2010
Model WO51629424; VHX-27B, Clean and Inspect Cooling Coils; November 26, 2010
Model WO51639464; V-8A&B, Fuel Handling Area Exhausters; November 26, 2010
Model WO51639496; V-95, Perform PM; December 5, 2010

Water Chemistry Program

COP-33; Plant Water Storage and Transfer Systems Chemistry; December 28, 2010
CR-PLP-2010-02846; May 2010 SIRW TOC Sample Missing; July 12, 2010
CR-PLP-2010-03085; May 2010 SIRW and SFP Calcium Samples Lost; July 12, 2010
LO-PLPLO-2009-00101; 2nd Quarter 2010 Chemistry Self-Assessment Report; October 9, 2010
LO-PLPLO-2009-00107; 3rd Quarter 2010 Chemistry Self-Assessment Report; 2010
LR-AMPBD-26-CHEMISTRY, Water Chemistry Program Basis Document, Revision 3
Procedure 7.19, Chemistry Program, Revision 12

Inspections of Opportunity for Internal Surfaces and Corrosion Under Insulation (Commitment Items 44 and 45)

Model WO258772-01; Service Water Corrosion under Insulation Inspection; December 15, 2010
Model WO259427-01; Liquid Radwaste System Internal Condition Assessment; December 15, 2010
Model WO259431-01; Gaseous Radwaste System Internal Condition Assessment; December 15, 2010
Model WO259432-01; Domestic Water System Internal Condition Assessment; December 15, 2010
Model WO259433-01; Heating Steam and Condensate System Internal Condition Assessment; December 15, 2010
Model WO259993-01; Fire Protection System Corrosion under Insulation Inspection; January 4, 2011

Model WO260001-01; Outside Piping Corrosion under Insulation Inspection;
WO259993-01; Fire Protection System Corrosion under Insulation Inspection; January
WI-MSM-M-30; Inspection of opportunity; Revision 0

Compressed Air Program

Completed Proc No T-205-A; Test Performed Periodically per CMT 1013041 System
Pressure > 150 psig Plant Mode 5 or 6; October 18, 2010

Completed Proc No T-205-B; Test Performed Periodically per CMT 1013041 System
Pressure > 150 psig. Plant Mode 5 or 6; October 8, 2010

Completed Proc No T-205-C; Turbine Building's High Pressure Air System Performance
Verification; December 25, 2010

EM-32-06; Compressed Air Monitoring Program; Revision 1

LR-AMPBD-07-COMPAIR; "License Renewal Aging Management Program Basis";
Revision 0

SOP-19; System Operating Procedure, "Instrument Air System"; Revision 53

T-205-A; Special Test Procedure; "East Engineered Safeguards High Pressure Air
System Performance Verification"; Revision 7

T-205-B; Special Test Procedure; "West Engineered Safeguards High Pressure Air
System Performance Verification"; Revision 8

Oil Sampling and Analysis Program

EM-27, Lubrication Analysis and Monitoring, Revision 9

Electrical Equipment Qualification Program

Admin. Proc. 9.12; Environmental Qualification of Electrical Equipment; Revision 15

Calc No E48-Cable-01; GE Vulkene XLPE Insulated and PVC Jacketed or Neoprene
Jacketed Instrumentation Cable Qualification Summary; Revision 14

Calc No E48-Cable-03; GE Butyl Insulated and PVC Jacketed 5 Kv Cable Qualification
Summary; Revision 13

Calc. No. E48-Cable-05; Okonite Ethylene Propylene Insulated & Neoprene Jacketed
Power and Control Cable Qualification Summary; Revision 12

Calc. No. E48-XMTR-02; Rosemount Model 1154 Transmitters; Revision 6

EN-DC-164; Environmental Qualification Program; Revision 1

LR-AMPBD-11-EEQ; "License renewal Aging Management Program Basis Document";
Revision 2

Fatigue Monitoring Program (Commitment Items 4, 5, and 37)

EA-EC26323-01; Hot Leg Sampling Piping Cycling Evaluation; Revision 0

EA-EC26323-02; Reanalysis of Fatigue for the Pressurizer Temperature Instrument
Nozzles TE0101 and TE0102; Revision 0

EM-32-0; Fatigue Monitoring Program; Revision 1

LO-LAR-2009-00244-03; dated December 20, 2010

LO-LAR-2009-00244-36; dated December 21, 2010

LR-TR-014-TLAA; Time-Limited Aging Analysis Report; Revision 5

LR-TR-025-Fatigue, Stress and Fatigue Evaluations for the License Renewal Period, Revision 0, dated May 2, 2006

PAL-06Q-305; Charging Nozzle 60-Year Design Life; Revision 2

Palisades Letter; Subject: Updated Palisades Reactor Vessel Pressurized Thermal Shock Evaluation; dated December 20, 2010

Miscellaneous Commitments (Commitment Items 9 and 43)

ENO Palisades Letter to NRC; Subject: Revision to License Renewal Commitments; dated September 3, 2010

NRC Letter to ENO Palisades; Subject: Palisades Plant – Issuance of Amendment Re: Spent Fuel Pool Region I Storage Requirements (TAC No. ME0161); dated February 6, 2009

CR-PLP-2008-03067; South Panel of Cell Q-6 Does Not Meet Minimum Areal Density Assumed in Criticality Analysis of Record; dated July 15, 2008

EN-LI-102; Corrective Action Process; Revision 15

LO-LAR-2009-00244; NRC Commitment; dated September 14, 2009

LO-LAR-2009-244-42; Commitment Change Evaluation; dated January 21, 2011 ENO Palisades Letter to NRC; Subject: License Amendment Request for Spent Fuel Pool Region I Criticality; dated November 25, 2010

Procedure 10.41; Site Procedure and Policy Processes; Revision 45

10 CFR 54.37(b)

CR-PLP-2010-03701; License Renewal Focused Self Assessment; dated August 31, 2010

EC 19965; Turning Gear Oil Pump P-26 Load Shed

EC 22189; Change Safety Classification of Spent Fuel Pool System Equipment LO-WTPLP-2010-00469

EC-26659; Report of Newly Identified SSCs - 10 CFR 54.37(b) Review; dated January 21, 2011

EN-DC-115; Engineering Change Process; Revision 10

PLFAM-ESPP-10CFR54.37; Familiarization Guide for Palisades 10 CFR 54.37(b) Determination Process; Revision 0

PMRQ 50082948; E-908A, Condensate Pump P-2A Motor Bearing Cooler Replacement; due date March 8, 2012

PMRQ 50082949; E-908B, Condensate Pump P-2B Motor Bearing Cooler Replacement; due date September 1, 2013

PMRQ 50082950; E-909A, Condensate Pump P-2A Thrust Bearing Cooler Replacement; due date March 1 2015

PMRQ 50082950; E-909A, Condensate Pump P-2A Thrust Bearing Cooler Replacement; due date March 1 2015

PMRQ 50082951; E-909B Condensate Pump P-2B Thrust Bearing Cooler Replacement; due date March 1 2015

SEP-PLP-LR-001; Program Section: 10 CFR 54.37(b) Determination; Revision 000

Closure of URI 05000255/2010010-02

CEP-NDE-0901; VT-1 Examination; Revision 4

CR-PLP-2010-04836; URI of One-Time Inspections Using Borescope; October 11, 2010

CR-PLP-2011-05624; Resolution and Repeat Inspections Using Borescope; October 26, 2010

CR-PLP-2010-05283; VT-1 of M-980 (EHC reservoir); October 11, 2010

10-MAO-43; Visual Examination Report of MV-CC109; October 9, 2010

10-MAO-49A; Visual Examination Report of M-980; October 23, 2010

NRC-Identified Corrective Action Reports

Action Program – E-64 tubing; February 14, 2011

CR-PLP-2011-00402; Oil frequency noted in Attachment 1 of EM-27 for Feedwater pump P-8B does not match PMID 50083897; January 26, 2011

CR-PLP-2011-00423; Design calculation EA-EC26323-01 used improper design input; January 27, 2011

CR-PLP-2011-00428; T-25A&B are not sampled quarterly for particulates; January 27, 2011

CR-PLP-2011-00433; Design calculation EA-EC24931 used improper design input; January 28, 2011

CR-PLP-2011-00446; Indications of a leak on MV-DE650; January 29, 2011

CR-PLP-2011-00447; Indications of a leak at the sensing line for level glass LG-1452; January 29, 2011

CR-PLP-2011-00448; Indications of a leak at MV-DE101; January 29, 2011

CR-PLP-2011-00449; Indications of a leak were identified at MV-DE645; January 29, 2011

CR-PLP-2011-00450; Indications of a leak were identified at MV-DE649; January 29, 2011

CR-PLP-2011-00464; EM-27 Attachment 1 does not identify specific locations for turbine bearing oil samples; January 31, 2011

CR-PLP-2011-00480; PM activities for the bottom thickness measurements of the diesel fuel oil tanks do not include limits for the UT evaluation; January 31, 2011

CR-PLP-2011-00587; NRC identified Oil AMP deficiencies; February 7 2011

CR-PLP-2011-00602; NRC identified lack of 10 CFR 54.37(a) records; February 7, 2011

CR-PLP-2011-00630; NRC identified no CR written for 3rd quarter 2010 Chemistry Self-assessment Report's negative observation; February 9, 2011

CR-PLP-2011-00676; Effectiveness of operating experience assimilation by aging management program owners; February 11, 2011

CR-PLP-2011-00679; CHECWORKS input parameter not updated in FAC program; February 11, 2011

CR-PLP-2011-00680; Failure to evaluate the results of NDE inspections of T-25A, T-24, and T-40; February 11, 2011

CR-PLP-2011-00684; Failure to take adequate corrective action with regards to removal of water that had collected between the inner and outer walls of tank T-10A; February 11, 2011

CR-PLP-2011-00723; Failure to enter a condition adverse to quality into the Corrective CR-PLP-2011-00745; NRC could not close License Renewal Commitment 39 based on closure documentation provided; February 15, 2011

CR-PLP-2011-00887; NRC conclusion Oil Sampling and Analysis Program not implemented in accordance with FSAR description; February 23, 2011

CR-PLP-2011-00916; NRC indentified lack of elevated particle count evaluation documentation; February 24, 2011

CR-PLP-2011-00983; Incorporate T-926 into Buried Services Corrosion Monitoring Aging Management Program; February 28, 2011

CR-PLP-2011-01270; Revise EM-27 to list internal oil coolers embedded within active equipment as separate components for purpose of aging management; March 15, 2011

CR-PLP-2011-01331; Administrative CR to document certain license renewal information provided to NRC in 2005 now viewed as inaccurate; March 18, 2011

LIST OF ACRONYMS USED

ADAMS	Agency wide Document Access Management System
AFW	Auxiliary Feedwater
AMP	Aging Management Program
AMR	Aging Management Review
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing of materials
CAP	Corrective Action Program
CCW	Component Cooling Water
CR	Condition Report
CFR	Code of Federal Regulations
CWS	Circulating Water System
EDG	Emergency Diesel Generator
ENO	Entergy Nuclear Operations
EPRI	Electric Power Research Institute
EQ	Environmental Qualification
ET	Eddy Current Test
FAC	Flow Accelerated Corrosion
FSAR	Final Safety Analysis Report
GALL	Generic Aging Lessons Learned
HVAC	Heating, Ventilation, and Air Conditioning
IMC	Inspection Manual Chapter
IR	Inspection Report
ISI	Inservice Inspection
LCO	Limiting Condition for Operation
LTOP	Low Temperature Overpressure Protection
LR	License Renewal
LRA	License Renewal Application
MIC	Microbiologically Induced Corrosion
NCV	Non-Cited Violation
NDE	Nondestructive Examination
NEI	Nuclear Energy Institute
NFPA	National Fire Protection Association
NSAC	Nuclear Safety Analysis Center
NPS	Nominal Pipe Size
NRC	Nuclear Regulatory Commission
NSAC	Nuclear Safety Analysis Center
NUMARC	Nuclear Utility Management and Research Council
PARS	Publicly Available Records
P/T	Pressure/Temperature
PTS	Pressurized Thermal Shock
RAI	Request for Additional Information
RT	Radiographic Test
RV	Reactor Vessel
RVI	Reactor Vessel Internals
SCS	Shield Cooling System
SDP	Significance Determination Process
SER	Safety Evaluation Report
SSC	Structure, System, and Component
SWS	Service Water System

TR	Technical Report
URI	Unresolved Item
UT	Ultrasonic Test
VT	Visual Test
WO	Work Order

C. Schwarz

-2-

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

Sincerely,

Ann Marie Stone, Chief
Engineering Branch 2
Division of Reactor Safety

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

Enclosure: Inspection Report 05000255/2011008
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

DISTRIBUTION:

Daniel Merzke
RidsNrrPMPalisades Resource
RidsNrrDorLpl3-1 Resource
RidsNrrDirslrib Resource
Cynthia Pederson
Steven Orth
Jared Heck
Allan Barker
Carole Ariano
Linda Linn
DRPIII
DRSIII
Patricia Buckley
Tammy Tomczak
ROPreports Resource

DOCUMENT NAME: G:\DRSIII\DRS\Work in Progress\PAL 2011 008 DRS LR JEN.docx

Publicly Available Non-Publicly Available Sensitive Non-Sensitive

To receive a copy of this document, indicate in the concurrence box "C" = Copy without attach/encl "E" = Copy with attach/encl "N" = No copy

OFFICE	RIII	DRS	RIII	DRS		
NAME	JNeurauter:ls		AMStone			
DATE	05/06/11		05/06/11			

OFFICIAL RECORD COPY