



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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February 1, 2010

Mr. Christopher J. Schwarz
Site Vice President
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

**SUBJECT: PALISADES NUCLEAR PLANT INTEGRATED
INSPECTION REPORT 05000255/2009005**

Dear Mr. Schwarz:

On December 31, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Palisades Nuclear Plant. The enclosed inspection report documents the inspection results, which were discussed on January 7, 2010, with you and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings of significance were identified.

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

Sincerely,

/RA/

John B. Giessner, Chief
Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 05000255/2009005
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000255/2009005

Licensee: Entergy Nuclear Operations, Inc.

Facility: Palisades Nuclear Plant

Location: Covert, MI

Dates: October 1, 2009, to December 31, 2009

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Branch 4
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000255/2009005; 10/01/2009 – 12/31/2009; Palisades Power Plant; Integrated Inspection Report

The report covered a 3 month period of inspection by resident and regional inspectors. There were no findings of significance identified. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated July 2006.

A. NRC-Identified and Self-Revealed Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

The plant began the inspection period at 100 percent power and remained at or near 100 percent power throughout the inspection period.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Winter Seasonal Readiness Preparations

a. Inspection Scope

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

- condensate storage tank; and
- safety injection and refueling water storage tank.

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

b. Findings

No findings of significance were identified.

.2 Readiness for Impending Adverse Weather Condition – Frazil Ice Prevention

a. Inspection Scope

On December 17, 2009, weather conditions conducive to frazil ice formation were present. The inspectors reviewed licensee procedures regarding frazil ice prevention

and ensured appropriate actions were taken. The inspectors also performed a walkdown of systems used to detect and mitigate frazil ice, which included observations of operator performance in the field and equipment functionality. Specific documents reviewed during this inspection are listed in the Attachment.

This inspection constituted one readiness for impending adverse weather condition sample as defined in IP 71111.01-05.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

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

- P66A high pressure safety injection (HPSI) pump during B HPSI outage;
- 1-1 emergency diesel generator during work on a fuel oil transfer pump;
- auxiliary feedwater with B auxiliary feed water pump out-of-service; and
- right train emergency cooling systems with left train components out-of-service.

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

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

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

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

- charging pump rooms;
- control room ventilation rooms;
- component cooling water pump room;
- cable spreading room; and
- battery rooms.

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

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

b. Findings

No findings of significance were identified.

1R06 Flooding (71111.06)

.1 Underground Vaults

a. Inspection Scope

The inspectors selected underground bunkers/manholes subject to flooding that contained cables whose failure could disable risk-significant equipment. The inspectors determined that the cables were not submerged, that splices were intact, and that appropriate cable support structures were in place. In those areas where dewatering devices were used, such as a sump pump, the device was operable and level alarm circuits were set appropriately to ensure that the cables would not be submerged. In

those areas without dewatering devices, the inspectors verified that drainage of the area was available, or that the cables were qualified for submergence conditions. The inspectors also reviewed the licensee's corrective action documents with respect to past submerged cable issues identified in the corrective action program to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following underground bunkers/manholes subject to flooding:

- man holes 1,2, and 3

This inspection constituted one underground vaults sample as defined in IP 71111.06-05.

b. Findings

No findings of significance were identified

.2 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the UFSAR, and abnormal operating procedures to identify licensee commitments. The inspectors performed a walkdown of the following plant area to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments:

- component cooling water room

In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee's corrective action documents with respect to past flood-related items identified in the CAP to verify the adequacy of the corrective actions. The specific documents reviewed are listed in the Attachment to this report.

This inspection constituted one internal flooding sample as defined in IP 71111.06-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program (71111.11)

a. Inspection Scope

On November 19, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator regualification examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew

performance problems and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

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

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

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

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- 2400 VAC system;
- service water; and
- shutdown cooling system.

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

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

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

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

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

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

- risk associated with service water pump 7C failure;
- risk associated with planned maintenance on B HPSI pump;
- risk associated with planned maintenance during the week of November 2, 2009, which included safety injection actuation system quarterly test and emergency diesel generator 1-1 monthly test and;
- risk associated with planned maintenance on the fuel transfer system.

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

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

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- pressurizer heaters following loss of heaters;
- service water pumps following coupling failure;
- 1-1 emergency diesel generator after shorting test leads; and
- reduced recirculation flow in high pressure safety injection pump P-66A during test.

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

This operability inspection constituted four samples as defined in IP 71111.15-05.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- service water pump P-7C following shaft repair;
- auxiliary hot shutdown panel following maintenance;
- I/I-0011A isolator replacement; and
- turbine first stage pressure line following replacement.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TS, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the

equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted four post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

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

- left channel nuclear instrumentation calibrations (routine);
- quarterly safety injection system test;
- P-52B component cooling water in-service test after pump bearings oil changed;
- electrical distribution TS surveillance testing; and
- QO-5 valve testing.

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

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, demonstrated operational readiness, and consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency were in accordance with TSs, the UFSAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of

Mechanical Engineers code, and reference values were consistent with the system design basis;

- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted four routine surveillance testing samples and one inservice testing sample, as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings of significance were identified.

1EP2 Alert and Notification System Evaluation (71114.02)

a. Inspection Scope

The inspectors held discussions with Emergency Preparedness (EP) staff regarding the operation, maintenance, and periodic testing of the Alert and Notification System in the Palisades Nuclear Power Plant's plume pathway Emergency Planning Zone (EPZ). The inspectors reviewed monthly trend reports and siren test failure records from April 2007 through September 2009. Information gathered during document reviews and interviews was used to determine whether the Alert and Notification System equipment was maintained and tested in accordance with Emergency Plan commitments and procedures. Additionally, the inspector observed a monthly rotation siren test conducted from the South Haven dispatch center to verify the test was conducted in accordance with the approved procedure. Documents reviewed are listed in the Attachment to this report.

This alert and notification system inspection constituted one sample as defined in IP 71114.02-05.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

a. Inspection Scope

The inspectors reviewed and discussed with plant EP staff the emergency plan commitments and procedures that addressed the primary and alternate methods of initiating an Emergency Response Organization (ERO) activation to augment the on shift ERO as well as the provisions for maintaining the ERO emergency telephone book. The inspectors also reviewed reports and a sample of corrective action program records of unannounced off-hour augmentation tests, which were conducted from April 2007 through September 2009, to determine the adequacy of post drill critiques and associated corrective actions. The inspectors reviewed the EP training records of a sample of approximately 23 ERO personnel assigned to key and support positions to determine the status of their ERO position training. Documents reviewed are listed in the Attachment to this report.

This emergency response organization augmentation testing inspection constituted one sample as defined in IP 71114.03-05.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope

The inspectors reviewed the Quality Assurance staff's 2008 and 2009 audits of the Palisades Nuclear Power Plant emergency preparedness program to determine if the independent assessments met the requirements of 10 CFR 50.54(t). The inspectors also reviewed critique reports and samples of corrective action program records associated with the 2008 biennial exercise, as well as various EP drills conducted in 2008 and 2009, in order to determine that the licensee fulfilled drill commitments and to evaluate the licensee's efforts to identify, track, and resolve concerns identified during these activities. Additionally, the inspectors reviewed a sample of corrective actions related to the EP program and activities to determine whether corrective actions were completed in accordance with the site's corrective action program. Documents reviewed are listed in the Attachment to this report.

This correction of emergency preparedness weaknesses and deficiencies inspection constituted one sample as defined in IP 71114.05-05.

b. Findings

Unresolved Item 20090005-02 Adequacy of Evaluation of Interface with State and Local Governments

Introduction: The inspector reviewed the quality assurance audits conducted pursuant to 10 CFR 50.54(t) for the adequacy of the independent evaluation of the interface of the licensee with State and local governments.

Description: For the Palisades Nuclear Power Plant EPZ, Michigan Department of State Police Emergency Management Division is the leading state agency for emergency response planning and operations. The local governments in the EPZ include Allegan, Berrien, and Van Buren counties. In the 2008 Quality Assurance audit report, the auditor evaluated the interface of the licensee with State and local Governments as satisfactory. The auditor made contact with officials from the Michigan State Police, Allegan, and Van Buren County. During the 2009 audit, the auditor made contact with Berrien County and also evaluated the interface as adequate.

Palisades follows the Entergy Nuclear Emergency Plan Master Audit Plan which lists the evaluation of the adequacy of the interfaces with State and local governments as a mandatory core scope element. The licensee reported the mandatory scope elements are to be evaluated during the surveillance conducted every 12 months. The Entergy Nuclear Management Manual states the audits of the emergency preparedness program must review all elements of the program at least once every 24 months. If an audit is to be performed beyond 12 months from the previous audit, an assessment shall be performed to include performance indicators. Pending review of additional information requested from the licensee concerning the licensee's methods and performance indicators for evaluating the adequacy of the interface with the State and local governments in order to determine if the audit plan and schedule met the requirements of 10 CFR 50.54(t), this issue is considered an Unresolved Item (URI), 05000255/2009005-02.

2. RADIATION SAFETY

2OS1 Access Control to Radiologically Significant Areas (71121.01)

a. Inspection Scope

The inspectors reviewed the licensee's Occupational Exposure Control Cornerstone performance indicator (PI) to determine whether the conditions resulting in any PI occurrences had been evaluated and whether identified problems had been entered into the licensee's CAP for resolution.

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

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

.1 Calibration and Testing of Radiation Monitoring Instrumentation

a. Inspection Scope

The inspectors determined what actions were taken when, during calibration or source checks, an instrument was found significantly out of calibration or exceeded as-found acceptance criteria. Should that occur, the inspectors determined whether the licensee's actions would include a determination of the instruments previous uses and the possible consequences of that use since the prior successful calibration. The inspectors also

reviewed the results of the licensee's most recent 10 CFR Part 61 source term (radionuclide mix) evaluations to determine if the radiation sources that were used for instrument calibration and for instrument checks were representative of the plant source term.

This inspection when combined with activities reported in 05000255/2009003 constituted one sample as defined in IP 71121.03-5.

b. Findings

No findings of significance were identified.

.2 Self-Contained Breathing Apparatus Maintenance/Inspection and Emergency Response Staff Qualifications

a. Inspection Scope

The inspectors reviewed the status and surveillance records of self-contained breathing apparatus that were staged in the plant and ready-for-use and evaluated the licensee's capabilities for refilling and transporting self-contained breathing apparatus air bottles to-and-from the control room and operations support center during emergency conditions. The inspectors determined if control room staff and other emergency response and Radiation Protection personnel were trained, respirator fit tested, and medically certified to use self-contained breathing apparatus, including personal bottle change-out. Additionally, the inspectors reviewed self-contained breathing apparatus qualification records for numerous members of the licensee's radiological emergency teams to determine if a sufficient number of staff were qualified to fulfill emergency response positions, consistent with the licensee's emergency plan and the requirements of 10 CFR 50.47.

This inspection constituted one sample as defined in IP 71121.03-5.

The inspectors reviewed the qualification documentation for at least 50 percent of the onsite, or as applicable, offsite contract personnel that performed maintenance on manufacturer designated vital self-contained breathing apparatus components. The inspectors also reviewed vital component maintenance records for several self-contained breathing apparatus units that were designated as ready-for-use. The inspectors also evaluated, through record review and observations, if the required air cylinder hydrostatic testing was documented and current and if the Department of Transportation required retest air cylinder markings were in place for several randomly selected self-contained breathing apparatus units and spare air bottles. The inspectors reviewed the onsite maintenance procedures governing vital component work, as applicable, including those for the low-pressure alarm and pressure-demand air regulator. The inspectors reviewed the licensee's maintenance procedures and the self-contained breathing apparatus manufacturer's recommended practices to determine if there were any inconsistencies between them.

This inspection constituted one sample as defined in IP 71121.03-5.

b. Findings

No findings of significance were identified.

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (71122.01)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed the configuration of the licensee's gaseous and liquid effluent processing systems to confirm that radiological discharges were properly mitigated, monitored, and evaluated with respect to public exposure. The inspectors reviewed the performance requirements contained in General Design Criteria 60 and 64 of Appendix A to 10 CFR Part 50 and in the licensee's Radiological Effluent Technical Specifications and Offsite Dose Calculation Manual. The inspectors also reviewed any abnormal radioactive gaseous or liquid discharges and any conditions since the last inspection when effluent radiation monitors were out-of-service to verify that the required compensatory measures were implemented. Additionally, the inspectors reviewed the licensee's quality control program to verify that the radioactive effluent sampling and analysis requirements were satisfied and that discharges of radioactive materials were adequately quantified and evaluated.

The inspectors reviewed each of the radiological effluent controls program requirements to verify that the requirements were implemented as described in the licensee's Radiological Effluent Technical Specifications. For selected system modification (since the last inspection), the inspectors reviewed changes to the liquid or gaseous radioactive waste system design, procedures, or operation, as described in the UFSAR and plant procedures.

The inspectors reviewed changes to the Offsite Dose Calculation Manual made by the licensee since the last inspection to ensure consistency was maintained with respect to guidance in NUREG-1301, 1302, and 0133, and Regulatory Guides 1.109, 1.21, and 4.1. If differences were identified, the inspectors reviewed the licensee's technical basis or evaluations to verify that the changes were technically justified and documented.

The inspectors reviewed the radiological effluent release report(s) for 2007 and 2008 in order to determine if anomalous or unexpected results were identified by the licensee, entered in the CAP, and adequately resolved.

The inspectors reviewed any significant changes in reported dose values from the previous radiological effluent release report, and the inspectors evaluated the factors which may have resulted in the change. If the change was not explained as being influenced by an operational issue (e.g., fuel integrity, extended outage, or major decontamination efforts), the inspectors independently assessed the licensee's offsite dose calculations to verify that the licensee's calculations were adequately performed and were consistent with regulatory requirements.

The inspectors reviewed the licensee's correlation between the effluent release reports and the environmental monitoring results, as provided in Section IV.B.2 of Appendix I to 10 CFR Part 50.

This inspection constitutes one sample as defined by Inspection Procedure 71122.01-5.

b. Findings

No findings of significance were identified.

.2 Onsite Inspection

a. Inspection Scope

The inspectors performed a walkdown of selected components of the gaseous and liquid discharge systems (e.g., gas compressors, demineralizers and filters (in use or in standby), tanks, and vessels) and reviewed current system configuration with respect to the description in the UFSAR. The inspectors evaluated temporary waste processing activities, system modifications, and the equipment material condition. For equipment or areas that were not readily accessible, the inspectors reviewed the licensee's material condition surveillance records, as applicable. The inspectors reviewed any changes that were made to the liquid or gaseous waste systems to verify that the licensee adequately evaluated the changes and maintained effluent releases as low as reasonably achievable.

During system walkdowns, the inspectors assessed the operability of selected point of discharge effluent radiation monitoring instruments and flow measurement devices. The effluent radiation monitor alarm set point values were reviewed to verify that the set points were consistent with Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual requirements.

For effluent monitoring instrumentation, the inspectors reviewed documentation to verify the adequacy of methods and monitoring of effluents, including any changes to effluent radiation monitor set-points. The inspectors evaluated the calculation methodology and the basis for the changes to verify the adequacy of the licensee's justification.

The inspectors observed the licensee's sampling of liquid and gaseous radioactive waste (e.g., sampling of waste steams) and observed selected portions of the routine processing and discharge of radioactive effluents if those activities occurred during the onsite inspection. Additionally, the inspectors reviewed several radioactive effluent discharge permits, assessed whether the appropriate treatment equipment was used and whether the radioactive effluent was processed and discharged in accordance with Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual requirements, including the projected doses to members of the public.

The inspectors interviewed staff concerning effluent discharges made with inoperable (declared out-of-service) effluent radiation monitors to determine if appropriate compensatory sampling and radiological analyses were conducted at the frequency specified in the Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual. For compensatory sampling methods, the inspectors reviewed the licensee's practices to determine if representative samples were obtained and if the licensee routinely relied on the use of compensatory sampling in lieu of adequate system maintenance or calibration of effluent monitors.

The inspectors reviewed surveillance test results for non-safety-related ventilation and gaseous discharge systems high efficiency particulate air and charcoal filtration to verify that the systems were operating within the specified acceptance criteria. In addition, the inspectors assessed the methodology the licensee used to determine the stack/vent flow rates to verify that the flow rates were consistent with the Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual.

The inspectors reviewed the licensee's program for identifying any normally non-radioactive systems that may have become radioactively contaminated to determine if evaluations (e.g. 10 CFR 50.59 evaluations) were performed per IE Bulletin 80-10. The inspectors did not identify unidentified contaminated systems that may have been unmonitored discharge pathways to the environment.

The inspectors reviewed instrument maintenance and calibration records (i.e., both installed and counting room equipment) associated with effluent monitoring and reviewed quality control records for the radiation measurement instruments. The inspectors performed this review to identify any degraded equipment performance and to assess corrective actions, as applicable.

The inspectors reviewed the radionuclides that were included by the licensee in its effluent source term to determine if all applicable radionuclides were included (within detectability standards) in the licensee's evaluation of effluents. The inspectors reviewed waste stream analyses (10 CFR Part 61 analyses) to determine if hard-to-detect radionuclides were also included in the source term analysis.

The inspectors reviewed a selection of monthly, quarterly, and annual dose calculations to ensure that the licensee had properly demonstrated compliance with 10 CFR Part 50, Appendix I, and Radiological Effluent Technical Specifications dose criteria.

The inspectors reviewed licensee records to identify any abnormal gaseous or liquid tank discharges (e.g., discharges resulting from misaligned valves, valve leak-by, etc) to determine if the licensee had implemented the required actions. The inspectors determined if abnormal discharges were assessed and reported as part of the Annual Radioactive Effluent Release Report consistent with Regulatory Guide 1.21.

The inspectors reviewed the licensee's effluent sampling records (sampling locations, sample analyses results, flow rates, and source term) for radioactive liquid and gaseous effluents to verify that the licensee's information satisfied the requirements of 10 CFR 20.1501.

This inspection constitutes one sample as defined by IP 71122.01-5.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, licensee event reports (LERs), and Special Reports related to the radioactive effluent treatment and monitoring program since the last inspection to determine if identified problems were entered into the CAP for resolution. The inspectors also assessed whether the licensee's self-assessment program was capable of identifying repetitive deficiencies or significant individual deficiencies in problem identification and resolution.

The inspectors reviewed corrective action reports from the radioactive effluent treatment and monitoring program since the previous inspection, interviewed staff, and reviewed documents to determine if the following activities were conducted in an effective and timely manner commensurate with their importance to safety and risk:

- initial problem identification, characterization, and tracking;
- disposition of operability/reportability issues;
- evaluation of safety significance/risk and priority for resolution;
- identification of repetitive problems;
- identification of contributing causes;
- identification and implementation of effective corrective actions;
- resolution of Non-Cited Violations (NCVs) tracked in the corrective action system;
- implementation/consideration of risk significant operational experience feedback; and
- ensuring problems were identified, characterized, prioritized, entered into a corrective action, and resolved.

This inspection constitutes one sample as defined by IP 71122.01-5.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Transients per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Transients per 7000 Critical Hours performance indicator for the period from the fourth quarter 2008 through the third quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the reactor engineering database, event reports, and NRC Integrated Inspection Reports for the period of fourth quarter 2008 through the third quarter 2009 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any

problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one unplanned transients per 7000 critical hours sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.2 Safety System Functional Failures

a. Inspection Scope

The inspectors sampled licensee submittals for the Safety System Functional Failures performance indicator for the period from the fourth quarter of 2008 through the third quarter of 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," definitions and guidance, were used. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, condition reports, and event reports for the period of October 2008 through September 2009 to validate the accuracy of the submittals. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one safety system functional failures sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.3 Mitigating Systems Performance Index - Cooling Water Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Cooling Water Systems performance indicator for the period from the fourth quarter 2008 through the third quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator narrative logs, condition reports, MSPI derivation reports, event reports, and NRC Integrated Inspection Reports for the period of October 2008 through September 2009 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the PI data collected or transmitted for this

indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings of significance were identified.

.4 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the Reactor Coolant System (RCS) Leakage performance indicator for the period from the fourth quarter 2008 through the third quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator logs, reactor coolant system leakage tracking data, and leakage calculation procedures to validate the accuracy of the submittals. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one reactor coolant system leakage sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.5 Drill/Exercise Performance

a. Inspection Scope

The inspectors sampled the licensee's PI submittals for Drill/Exercise Performance for the period from the third quarter 2008 through third quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance were used as contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5. The inspectors verified the accuracy of the number of reported drill and exercise opportunities and the licensee's critiques and assessments for timeliness and accuracy of the opportunities. The inspectors reviewed the licensee's documentation for control room simulator training sessions, the 2008 biennial exercise, and other designated drills to validate the accuracy of the submittals. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one drill/exercise performance sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.6 Emergency Response Organization (ERO) Drill Participation

a. Inspection Scope

The inspectors sampled licensee submittals for the ERO Drill Participation PI for the period from the third quarter 2008 through the third quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance were used as contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5. The inspectors reviewed the licensee's records and ERO roster to validate the accuracy of the submittals for the number of ERO members assigned to fill key positions and the percentage of ERO members who had participated in a performance enhancing drill or exercise. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one ERO drill participation sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.7 Alert and Notification System

a. Inspection Scope

The inspectors sampled the licensee submittals for the Alert and Notification System PI for the period from the third quarter 2008 through third quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance were used as contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5. The inspectors reviewed the records of the licensee's reported number of successful siren operability tests as compared to the number of siren tests conducted during the reporting period to validate the accuracy of the submittals. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one alert and notification system sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.8 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspectors sampled licensee submittals for the Occupational Radiological Occurrences performance indicator for the period from the third quarter 2008 through third quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used. The inspectors reviewed the licensee's assessment of the PI for occupational radiation safety to determine if indicator related data was adequately assessed and reported. To assess

the adequacy of the licensee's PI data collection and analyses, the inspectors discussed with radiation protection staff, the scope and breadth of its data review, and the results of those reviews. The inspectors independently reviewed electronic dosimetry dose rate and accumulated dose alarm and dose reports and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also conducted walkdowns of locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one occupational radiological occurrences sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

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

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

b. Findings

No findings of significance were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

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

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

b. Findings

No findings of significance were identified.

.3 Semiannual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 40A2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6 month period of April 2009 through September 2009, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the normal CAP such as in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted a single semiannual trend inspection sample as defined in IP 71152-05.

Assessment and Observations

Both the inspectors and licensee continue to identify issues regarding inadequate work preparation and execution. Although the licensee wrote Condition Report (CR) CR-PLP-2008-4383 to correct work preparation issues, this CR did not lead to improvement in work preparation and execution. The planning group initiated CR -PLP-2009-4906 in October 2009 for further evaluation of the issues. Several recent issues involved delays during work within limited TS allowed outage times. The inspectors determined that the new corrective actions were better focused on the areas

needing improvement and that appropriate levels of management were now engaged to ensure work preparation and execution improvement occurs.

b. Findings

No findings of significance were identified.

.4 Annual Sample: Review of Operator Workarounds

a. Inspection Scope

The inspectors evaluated the licensee's implementation of their process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of the Operator Workarounds (OWAs) on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents. Additionally, the inspectors observed operators performing rounds to detect the presence of undocumented burdens and workarounds.

The inspectors performed a review of the cumulative effects of OWAs. The documents listed in the Attachment were reviewed to accomplish the objectives of the inspection procedure. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into their CAP and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an Initiating Event, if the challenge was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of Mitigating Systems, impaired access to equipment, or required equipment uses for which the equipment was not designed. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified operator workarounds.

This review constituted one operator workaround annual inspection sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

.5 Selected Issue Followup Inspection: Substantive Cross-Cutting Issue: Procedures

a. Inspection Scope

In the mid-cycle performance review, the licensee had a substantive cross-cutting issue regarding quality of procedures and labeling held open. The inspectors reviewed the licensee's progress in addressing the substantive cross-cutting issues to determine if the licensee's actions provided confidence that the licensee would resolve the substantive cross-cutting issue. The inspectors reviewed the licensee's reports related to the

procedure improvement effort. The licensee has made progress with completion of procedure screening criteria, screening 60 procedures and developing methods to track procedure revisions. The inspectors reviewed three procedures that were subject to the screening criteria. The inspectors also walked down portions of two of the procedures. The inspectors noted many instances where component labels were not identical to nomenclature in the procedure. The inspectors also identified other errors in the reviewed procedures that should have been identified using the checklist developed to ensure procedure quality. The licensee documented these issues in the CAP. No deficiencies were of more than minor significance. However, over the past two quarters, there have not been significant performance deficiencies related to procedure quality. With the increase in emphasis in documenting procedure deficiencies, development of a procedure improvement infrastructure and increase in management awareness of procedure quality issues, the licensee has established a level of confidence that they will resolve the issue with procedure quality.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

.6 Selected Issue Followup Inspection: Substantive Cross-Cutting Issue: Planning

a. Inspection Scope

In the mid-cycle performance review, the licensee had a substantive cross-cutting issue regarding quality of work planning. The inspectors reviewed the licensee's progress in addressing the substantive cross-cutting issue to determine if the licensee's actions provided confidence that the licensee would resolve the substantive cross-cutting issue. The apparent cause evaluation that was performed by the licensee determined that a lack of familiarity and practice with the change management process led to ineffective use of change management as a human performance tool. The inspectors reviewed the findings that contributed to the cross-cutting issue, recent issues dealing with work planning (outlined in the Semi-Annual Trend Review description above), and corrective actions taken. The inspectors determined that while more consistent use and awareness of the change management policy would reasonably reduce the likelihood of planning issues in risk significant plant changes and activities, it may not be adequate to address the recent issues in work planning discovered during more routine plant maintenance evolutions. The licensee is taking action to address these items not related to change management. The inspectors also noted an increase in the utilization of change management tools by site personnel during the review, and there were no findings related to the planning cross-cutting aspect for the last two quarters. Combined with actions being taken separately to address the recent trend in planning issues described in the Semi-Annual Trend Review, the inspectors concluded the licensee has identified appropriate corrective actions and has made progress with implementation of the corrective actions.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

.7 Selected Issue Follow-up Inspection: Failure of Service Water Pump P-7C Coupling

a. Inspection Scope

The inspectors completed one inspection sample regarding problem identification and resolution by conducting in-depth review of the following corrective action records:

- CR-PLP-2009-04519, "Received Alarm EK-1149, Service Water (SW) Standby Pump Running,"
- CR-PLP-2009-04571, "The Station is in Event Response for Loss of SW Pump P-7C," and
- Root Cause Evaluation Report, SW Pump P-7C Failure to Provide Discharge Pressure.

The inspectors evaluated the licensee's actions in accordance with the performance attributes identified in IP 71152. Specifically, the inspectors reviewed licensee corrective action records to determine if:

- the problems were accurately identified;
- system operability and reportability were adequately ascertained;
- the extent of condition and generic implications were appropriately addressed;
- classification and prioritization of problem was commensurate with safety significance;
- root and contributing causes were identified;
- corrective actions were appropriately focused to correct the problem; and
- timely corrective actions were completed or proposed commensurate with the safety significance of the issues.

The inspectors also reviewed other licensee records which included: Section 9.1 "Service Water System" of the Palisades UFSAR, TS 3.7.8; and records related to the procurement and fabrication of the SW pump P-7C line shaft couplings.

b. Findings

No findings of significance were identified.

40A3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 Notice of Enforcement Discretion (NOED) for Repair to Service Water Pump P-7C

a. Inspection Scope

The licensee submitted an oral request for enforcement discretion for TS 3.7.8, required action A.1, B.1, and B.2. on October 1, 2009. The licensee requested discretion in order to complete repairs on the P-7C service water pump which had a failed coupling. The NRC granted approval per telecom on October 1 with a follow-up written request on October 5. After the NRC granted verbal approval of the NOED, the inspectors verified

the licensee performed mitigating actions committed to in the NOED. However, the licensee restored the pump to an operable status without entering the period of enforcement discretion. On October 6, 2009, the licensee informed the inspectors that the commitments related to independent verification of the hardness of the couplings were not completed. In accordance with IMC Part 9900, the inspectors opened URI 05000255/2009005-01 to track inspection of the NOED activities. Because some commitments were not completed and the information potentially impacted the regulatory process, URI 05000255/2009005-01 will remain open pending determination of significance.

Prior to approval for granting the NOED, the inspectors (from the site, headquarters and the region) reviewed the licensee's basis for the NOED in accordance with NRC Manual Chapter 9900, "Technical Guidance, Operations- Notice of Enforcement Discretion." The inspectors also reviewed the scheduled work activities, environmental conditions, compensatory actions planned, and the site's readiness to implement the NOED. The review of these items is also documented in the NRC approval letter for NOED 09-3-002 dated October 7, 2009.

This event follow-up review constituted one sample(s) as defined in IP 71153-05

b. Findings

Unresolved Item 20090005-01 NOED for Repair to Service Water Pump P-7C

Introduction:

During the request for a NOED, the licensee committed to performing an independent verification of hardness on each pump coupling. Subsequently, the licensee informed the inspectors that an independent verification of hardness had not been completed on each coupling.

Description:

On September 29, while at 100 percent power, the upper shaft coupling for the P-7C service water pump failed, rendering the pump inoperable. The licensee determined that the pump would not be operable prior to expiration of the 72 completion time. On October 1, the licensee verbally requested enforcement discretion to avoid a shutdown. During the request, the licensee informed the NRC that the failed coupling likely failed due to improper heat treatment of the coupling that resulted in high out of specification hardness. Since the testing requirements in place should have identified the out of specification hardness, the licensee committed to independently testing each coupling for hardness prior to installation. The licensee reiterated that each coupling would be independently hardness tested prior to installation in the written NOED request. Subsequently, the licensee informed the NRC that the independent hardness test had not been performed. The licensee wrote a CR to document this item and evaluated that the P-7C was operable. The independent hardness test could not be performed with the pump re-assembled. The inspectors evaluated the licensee's assessment of operability of the P-7C pump using the guidelines of 71111.15. The inspectors concluded there was reasonable assurance the couplings were acceptable.

Pending determination on whether a violation occurred, URI 05000255/2009005-01 will remain open.

.2 (Closed) Licensee Event Report 2008-004-00, Noncompliance with Technical Specification 4.3.1.1.b

This event, which the licensee identified on July 15, 2008, concerned significant degradation of the neutron-absorbing material in Region-I of the spent fuel pool racks. The degradation led to violation of TS 4.3.1.1.b for an extended period of time. Further analysis to quantify the degradation continued throughout 2008 and into 2009. NRC review of the issue resulted in a preliminary white inspection finding which was communicated to the licensee via choice letter dated December 9, 2009. Inspection Report 2009008 discusses the finding. A final White finding was issued January 20, 2010 (Inspection Report 2010007). No additional safety concerns were identified.

Documents reviewed as part of this inspection are listed in the attachment. This LER is closed.

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

4OA5 Other Activities

.1 (Opened) Unresolved Item 05000255/2009005-03, Adequacy of Building Lightning Protection

a. Introduction

During the previous inspection period, the inspectors reviewed lightning protection adequacy of risk significant structures. The inspectors recognized that the auxiliary building does not have lightning rods installed and requested the licensee's basis for determining that the auxiliary building had adequate protection.

b. Description

In report No. 05000255/2009-004, the inspectors reviewed site strategies to counter the effects of lightning strikes. The need to protect structures, systems, and components important to safety from the effects of natural phenomena (to include lightning) is discussed in the UFSAR and in the plant's response to Fire Protection Branch Technical Position APCS 9.5-1. As part of the inspection, the inspectors performed a walkdown of various rooftop areas. Based on this review, the inspectors questioned if air terminals, or "lightning rods," were required on the auxiliary building. The licensee responded that the nearby (and taller) containment structure, which has four air terminals, adequately protected the auxiliary building. Subsequent to the issuance of report No. 05000255/2009-004, ongoing discussions with the licensee revealed that National Fire Protection Association (NFPA) codes did not support the licensee position that containment structure would provide protection to the auxiliary building. Therefore, the inspectors concluded that the basis for the acceptability of the lightning protection of the auxiliary building is not available and additional information is needed to determine the adequacy of the current configuration. The licensee has entered the issue into their corrective action program as CR-PLP-2009-5419, which contains a corrective action to perform an assessment of lightning protection systems on site. Pending the licensee's

evaluation of the condition and a review of the evaluation by the inspectors, this issue will be considered a URI. The assessment is currently scheduled to start during the next inspection period, therefore, the issue will be entered as URI 05000255/2009005-003, Adequacy of Auxiliary Building Lightning Protection.

.2 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

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

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

b. Findings

No findings of significance were identified.

.3 (Closed) NRC Temporary Instruction 2515/175 "Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review"

The inspectors performed Temporary Instruction 2515/175, ensured the completeness of Attachment 1 and then forwarded the data to NRC, Headquarters.

.4 Operational Testing of an Independent Spent Fuel Storage Facility Installation at Operating Plants (60855.1)

a. Inspection Scope

A number of questions were raised during several public meetings pertaining to Sierra Nuclear Ventilated Storage Cask No. 24 (VSC-24) Multi-Assembly Sealed Basket Number 4 (MSB No. 4) which was initially loaded with spent fuel at the Palisades plant in 1994. These questions pertained to the adequacy of MSB No. 4 to safely store fuel due to potentially flawed welds, the licensee's commitment to unload the cask after revisions to the unloading procedures were revised, and cask access on the pad.

Several of the inquiries during the public meetings questioned why MSB No. 4 had not been unloaded since 1994 after there were weld indications identified on the cask and after the licensee reviewed its unloading procedure and determined the procedures to be adequate. Reviews by licensee and vendor inspectors of radiography test inspection films identified indications including two crack-like indications and one slag-like indication (three indications) in longitudinal seam weld of MSB No. 4. The licensee verified that the Certificate of Compliance and the VSC-24 TSs requirements for the vacuum and helium pressures inside the MSB were met and remained constant over a specified period of time providing reasonable assurance that the flaws did not penetrate the wall of the basket. In lieu of repair, the licensee performed an engineering evaluation of the three indications with respect to the operability of MSB No. 4 and determined that despite the

flaws, the pressure and containment functions were maintained in accordance with the design basis and that the cask was structurally sound. In addition, the licensee performed radiation surveys which indicated that there was no change in radiation levels that would indicate fission gas protrusion through the basket wall.

After the inspectors independently reviewed the licensee's commitments to the American Society of Mechanical Engineers codes, they confirmed the licensee's conclusion that post loading reviews of the non-destructive testing records by the licensee revealed weld indications in MSB No. 4. The NRC, Region III, Division of Nuclear Materials Safety staff issued a Technical Assistance Request (TAR) to the Nuclear Materials Safety and Safeguards Division of Spent Fuel Storage and Transportation (SFST) to evaluate the licensee's engineering analysis of the three indications in one of the confinement boundary welds to evaluate the structural integrity for interim and continued operability of MSB No. 4.

The SFST staff evaluated the structural integrity of MSB No. 4 by reviewing the licensee's flaw propagation and stability analysis, which they performed in lieu of repair. The origin and cause of the indications were not certain. The NRC staff determined that the fracture mechanics (flaw tolerance) analysis provided by the licensee demonstrated the ability of MSB No. 4 to perform its intended function for the duration of the cask's 50-year design life. The calculations confirmed that the cask shell material demonstrated a considerable flaw tolerance and calculations indicated that the three indications will remain static during in-service operation and will not propagate as a result of any design basis normal or off-normal event. Thus MSB No. 4 does not pose an increased radiological impact to the public or environment. The NRC staff has reasonable assurance, through verifiable data in the licensee's engineering analyses, that MSB No. 4 is capable to safely operate despite the three indications. After identification of the three indications, the licensee performed daily contamination and dose rate surveys on the VSCs and the increased radiological monitoring of the cask and storage pad did not indicate any unusual dose rates or contamination. Based on this data, the licensee now performs the contamination and dose rate surveys on a quarterly basis. The TAR provides the details of the NRC's evaluation of the operability of MSB No. 4 (ADAMS ML100210186).

In 1994 correspondence with the NRC, the licensee (Consumers Power Company at the time) informed the NRC of the three indications and of their intent to unload the fuel after resolution of technical issues with unloading procedures. In preparation for the unloading of MSB No. 4, the licensee initiated a detailed review of the unloading procedure in 1994 and identified several technical issues associated with the unloading procedures that needed to be resolved prior to unloading of MSB No. 4. A revision of the unloading procedure was subsequently developed (Revision 1 issued in June 1995). The NRC reviewed the procedure and determined that the licensee would be able to safely unload the cask as documented in Inspection Report Number 05000255/1996014. However, in 1997, the licensee informed the NRC of the decision not to unload MSB No. 4 until it could be loaded into a certified storage and transportation cask in preparation for permanent disposal. This strategy would minimize the risk of reloading MSB No. 4 twice, first to a storage only container and then to a storage and transportation cask. Thus the NRC staff acknowledged that the licensee initially planned to unload MSB No. 4 after a thorough technical review of the unloading procedures was performed. However, to minimize the risk of reloading MSB No. 4 twice, the licensee

eventually decided to defer reload of MSB No. 4 until a certified storage and transportation cask was available.

The third concern expressed at the public meetings pertained to cask movement on the pad and the assumption that the storage configuration of the casks on the pad prevents movement of casks in the event of an emergency that requires a cask to be returned to the spent fuel pool for unloading. The licensee maintains procedures and equipment that is needed to unload a cask. In order to unload a cask, the licensee may need to move other casks due to the configuration of the casks and the size of the pad. The licensee has factored this into its planning and has controls in place to allow for the repositioning of a cask. There is also additional space on the pad where casks can be temporarily placed. Therefore, the NRC inspectors concluded that the licensee has procedures in place which would allow access to any cask on the pad in the unlikely situation where a cask would need to be unloaded.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On January 7, 2010, the inspectors presented the inspection results to Chris Schwarz, 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.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The results of the PI&R inspection Failure of Service Water Pump P-7C Coupling were discussed with Plant General Manager Tom Kirwin, on December 16, 2009.
- The results of the Emergency Preparedness program inspection with Mr. C. Schwarz conducted at the site on October 23, 2009.
- The results of the Effluent Treatment and Monitoring program inspection with the Site Vice President, Mr. C. Schwarz, and other members of your staff, on December 18, 2009 and Mr. T. Shewmaker on January 14, 2010.
- The results of the inspection of the adequacy of VSC-24 were discussed with D. Hamilton and other members of your staff on January 7, 2010

The inspectors confirmed that none of the potential report input discussed was considered proprietary. Proprietary material received during the inspection was returned to the licensee.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

C. Schwarz, Site Vice President
P. Anderson, Licensing Manager
V. Beilfuss, Project Manager
A. Blind, Engineering Director
K. Bowers, Radiation Protection
N. Brott, Emergency Preparedness Coordinator
J. Burnett, RETS-REMP Analyst
T. Davis, Regulatory Compliance
B. Dotson, Regulatory Compliance
M. Fields, Senior Emergency preparedness Administrative Assistant
J. Fontaine, Senior Emergency Planning Coordinator
J. Ford, Corrective Action Manager
I. Gallagher, Chemistry Instrument Specialist
M. Ginzel, Radiation Protection
G. Goralski, Design Engineering Supervisor
D. Hamilton, Nuclear Safety Assurance Manager
J. Hill Entergy/MP&C Manager
B. Kemp, Entergy/Design Engineering Manager
T. Kirwin, Plant General Manager
J. Kuemin, Licensing Engineer
D. Malone, Emergency preparedness Manager
K. Marbaugh, Quality Assurance Manager
D. Moody, Radiation Protection
B. Nixon, Assistant Operations Manager
J. Ridley, Emergency Preparedness Specialist
T. Shewmaker, Chemistry Manager
C. Sherman, Radiation Protection Manager
M. Sicard, Operations Manager
G. Sleeper, Assistant Operations Manager

Nuclear Regulatory Commission

M. Chawla, Project Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000255/2009005-01	URI	NOED for repair to service water pump P-7C (Section 4OA3)
05000255/2009005-02	URI	Adequacy of evaluation of interface with state and local governments (1EP5)
05000255/2009005-03	URI	Adequacy of building lightning protection (Section 4OA3)

Closed

05000255/2008-004-00	LER	Noncompliance with TS 4.3.1.1.b (Section 4OA3)
05000255, 2515/175	TI	Emergency Response Organization, Drill/Exercise Performance Indicator, program review (Section 4OA5)

DOCUMENTS REVIEWED

1R01 Adverse Weather Protection

- FSAR Chapter 9, Auxiliary Systems, Revision 27
- SOP-14, Circulating Water and Chlorination Systems, Revision 49
- SOP-15, Service Water System, Revision 49
- SOP-23, Plant Heating System, Revision 32
- SOP-3, Safety Injection and Shutdown Cooling System, Revision 76
- WO 52039268, Perform Cold Weather Checksheets

1R04 Equipment Alignment

- Drawing M-207, Auxiliary Feedwater System, Revision 2
- SOP-12, Feedwater System, Revision 57
- SOP-3, Safety Injection and Shutdown Cooling System, Revision 76
- SOP-4, Containment Spray System, Revision 24

1R05 Fire Protection

- FPSP-SO-2, Inspection and Testing of Palisades Plant Fire Doors, Revision 6
- FSAR Chapter 9, Table 9-10, Fire Detection Instrumentation
- PNP Fire Hazards Analysis, Revision 7
- Pre-Fire Plan No. 6, Charging Pump Room,
- Pre-Fire Plan No. 8, Component Cooling

1R06 Flood Protection Measures

- DBD 7.08, Plant Protection Against Flooding, Revision 6
- EA-C-PAL-95-1526-01, Internal Flooding Evaluation for Areas Outside Containment
- MSM-M-16, Inspection of Watertight Barriers, Revision 15

1R11 Licensed Operator Regualification Program

- PIP-OPS-SPE-98E, Simulator exercise Guide 98E, Revision 0

1R12 Maintenance Effectiveness

- 07-02 OWA, Operator Work-around due to the Safeguards Transfer 1-1 to Startup Transformer 1-2 Fast Transfer Circuit be Disabled
- 2400 Volt AC Power System Health Reports, Fourth Quarter 2008 thru Third Quarter 2009
- ARP-13, 345 kV Switchyard Scheme EK-50 (C-53, C-54), Revision 49
- ARP-3, Electrical Auxiliaries and Diesel Generator Scheme EK-05 (EC-11), Revision 65
- ARP-37, Safeguards Transformer 1-1 EX-07, Revision 5
- CR-PLP-2007-05980, Service Water Pump P-7a Exceeded its Maintenance Rule Unavailability Criteria, November 26, 2007
- CR-PLP-2008-01285, Service Water Pump P-7A relay Found Outside of Acceptance Criteria March 19, 2008
- CR-PLP-2008-01313, Service Water Pump Relay out of Calibration, March 20, 2008
- CR-PLP-2008-01500, The Outside AO Reported Alarm Title EK-5036, April, 3, 2006

- CR-PLP-2008-02643, Shutdown Cooling Temperature Controller HIC-3025B Found Displaying 'Power Error', June 13, 2008
- CR-PLP-2008-04071, FSAR Table 8-3 Lists Incorrect 2400V System Breaker MVA Ratings, September 17, 2007
- CR-PLP-2009-00439, Fast Transfer from Station Power Transformer 1-2 (EX-02) to Startup Transformer 1-2 (EX-04) Is Not in Compliance With FSAR During Worst Case Conditions, January 30, 2007
- CR-PLP-2009-02559, 2400VAC System (SPS-MAC) Exceeded Maintenance Rule Performance Criteria, May 5, 2009
- CR-PLP-2009-04533, Inadequate Method for satisfying Tech Spec Surveillance Requirement, September 29, 2009
- CR-PLP-2009-04699, Two Electricians Went to Work on the Relay Without Signing on to Tagging in ESOMs, October 8, 2009
- CR-PLP-2009-2558, The Shutdown Cooling System has Exceeded its Maintenance Rule Performance Criteria, May 5, 2009
- EGAD-EP-10, Maintenance Rule Scoping Document, Revision 5
- EGAD-EP-10, Palisades Maintenance Rule Scoping Document, Revision 5
- FSAR Chapter 6, Engineered Safeguards Systems, Revision 27
- Proc No 4.12, Operator Work-Around Program, Revision 6
- Selected Operating Logs, October 2007 through October 2009
- Shutdown Cooling System Health Reports, First Quarter 2008 thru Third Quarter 2009
- Various Operations Log Entries, Fourth Quarter 2008 thru Third Quarter 2009

1R13 Maintenance Risk Assessments and Emergent Work Control

- ADMIN-4.02, Control of Equipment, Revision 53
- Control room logs, November 2-5, 2009
- EN-WM-104, On Line Risk Assessment, Revision 0
- Operator's Risk Report, November 2-5, 2009

1R15 Operability Determinations

- C-PAL-94-0392, Evaluation of FI-0404 Instrument Accuracy and Minimum Flow Requirements for HPSI Pumps
- CR-PLP-2009-05082, Pressurizer Heater had lowered Amps, Nov. 4 2009
- CR-PLP-2009-5933, Seven Minutes Elapsed before Minimum Flow Achieved on P-66A, December 29, 2009
- DBD 5.06, Control and Monitoring Systems for Emergency Generator and Auxiliaries, Revision 5
- Drawing VEN-M12, Engine Control DG 1-1, Revision 32
- EA-Elec-Amp-042, Pressurizer Heater Current requirements, rev. 1
- EA-RSW-94-001, Engineering Analysis to Justify FI-0404 Uncertainty

1R19 Post Maintenance Testing

- CR-PLP-2008-00917, The Catalog Identification (CAT-ID) Number Is 2885234 And Is Listed As Quality Level 2, February 25, 2008
- CR-PLP-2008-04451, Found a Third Colored White Lead Spliced and Soldered to The Primary Side of Isolation Transformer, October 29, 2008
- CR-PLP-2009-00325, IE Isolators Were Not Fully Qualified, January 26, 2009

- CR-PLP-2009-04254, WO 00143101-01 Did Not Contain Inspection Hold Points For Torqueing Mounting Bolts, September 19, 2009
- CR-PLP-2009-05002, Declining Trend in RPS Voltage Converter +15VDC Output, October 29, 2009
- CR-PLP-5378, Steam Leak Upstream of PT-0517, November 20, 2009
- Proc NO SHO-1, Operator's Shift Items Modes 1,2,3, And 4, Revision 69
- QO-14, Inservice test Procedure-Service Water Pumps, rev. 30
- WO 183918, EC-150, Perform a One Time Replacement of All Fuses, October 16, 2009
- WO 51623737, Aux hot Shutdown Panel Power Supply, October 16, 2009
- WO-51802176, Replacement of I/I-0011A

1R22 Surveillance Testing

- Basis Document for Surveillance Procedure RI-99, Revision 4
- CR-PLP-2008-00022, Charging Pump P-55C Breaker 52-1105 Local Closed And Open Indication Is Loose, January 3, 2009
- CR-PLP-2008-00403, Component Cooling Water P-52B: Oil Collections Were Different Between Inboard and Outboard Bearings, January 31, 2009
- CR-PLP-2008-01622, Received Alarm Unexpectedly During QO-1 Safety Injection System Testing, January 28, 2008
- CR-PLP-2008-04428, CCW P-52B: Metal Flakes Were Discovered in Oil Sample, June 23, 2008
- CR-PLP-2009-02774, CCW P-52B: The Amount Of Oil Drained From the Inboard Bearing Was Not Within 20% of the Amount of Oil Added, May 20, 2009
- CR-PLP-2009-03581, During the Performance of QO-1 Safety Injection System Testing the Primary Coolant Pump P-50D Seal Pressure Rose, July 17, 2009
- CR-PLP-2009-04312, P-52A (CCW Pump) Automatically Started in STBY During the Performance of QO-15C, September 14, 2009
- CR-PLP-2009-4513, Instrument Uncertainty in the 1C and 1D Voltmeters, September 28, 2009
- CR-PLP-2009-4533, Inadequate Method of Satisfying Technical Specification Requirement, September 29, 2009
- DBD-1.01, Component Cooling Water System Design Basis Document, Revision 7
- DWO-1, Operators Daily/Weekly Items, Modes 1-4, Revision 85
- EC 17790, Install Fluke DVM on 2400V Meters EVI-0001, EVI-0002, EVI-0003, EVI-0008
- Proc No CCS-O-1, Component Cooling Water Pump (P-52A/B/C) Pump/Motor Oil Change And Sampling, Revision 1
- Proc No EM-09-04, Inservice Testing of Selected Safety-Related Pumps, Revision 23
- Proc No QO-15, Inservice Test Procedure – Component Cooling Water Pumps, Revision 28
- QO-1, Safety injection System, Revision 59
- QO-5, Valve Test Procedure, Revision 80
- RI-99, Left Channel Nuclear Instrumentation Calibrations, Revision 8
- WO-52196742, P-52B Pump Bearing Oil Change (OPS553), October 29, 2009

1EP2 Alert and Notification System Evaluation (71114.02)

- CR-PLP-2009-00109, Monthly Public Warning System Siren Test on 1/10/2009
- Emergency Preparedness Public Information Brochure for Van Buren and Parts of Berrien and Allegan Counties, 2009-2010
- Letter to FEMA, Subject: Palisades Public Warning System – Final Design Report Submittal, November 7, 2002

- Memo from Broadcast Engineering, LLC, Reference: Siren System Review, Palisades Plant, Inquiry Regarding Siren Operation during Cold Weather, December 28, 2005
- PAL PWS, Emergency Activation and System Operations, Monthly Siren Test, Job Aid for Operation of the Public Warning System, Attachment 4, Revision 20
- Palisades Nuclear Plant Public Warning System Replacement – 2002 System Functionality Test, November 5, 2002
- Technical Review of the Palisades Nuclear Power Plant Conceptual Design of a Proposed Replacement Alert and Notification System (ANS) for Federal Emergency Management Agency, January 22, 2002
- Technical Review of the Palisades Nuclear Power Plant Replacement Primary Warning System (PWS) Final Design for Federal Emergency Management Agency, December 19, 2002
- Warning System Quarterly Preventative Maintenance Records and Surveillances, September 2007 through September 2009

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

- Emergency Employee Augmentation Listing and Call-Out List, September 16, 2009
- Letters of Agreement with Offsite Agencies, October 2008
- Palisades Nuclear Plant Site Emergency Plan, Revision 17
- PL-BEP-SEP, Site Emergency Plan Training Program, Training Program Description, Revision 7

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

- CR-PLP-2008-01301, During First Quarter Drill the Operations Support Center did not Have Adequate Radiation Protection Resource, March 20, 2008
- CR-PLP-2008-01710, Heavy Corrosion on the Back-plane of the Telephone System; April 17, 2008
- CR-PLP-2008-01968, Independent Review of Emergency Preparedness Program Lapsed, May 1, 2008
- CR-PLP-2008-03514, PRACTEX 2008 Dose Data Exceed PAG Beyond 10 Miles, August 14, 2008
- CR-PLP-2008-03902, Palisades Exercise on September 16, 2008, Notification Form Error on Release Status, September 18, 2008
- CR-PLP-2009-01220, Control Room Received Plant Area Radiation Monitor RIA-2304 in Alarm, March 23, 2009
- CR-PLP-2009-02949, Licensed Operator Requalification Exercise Conducted May 12, 2009, June 2, 2009
- CR-PLP-2009-02984, On-call ERO Members Level of Readiness, June 4, 2009
- CR-PLP-2009-03237, Qualification Lapse of Two Shift Managers, June 22, 2009
- CR-PLP-2009-03315, Semi-annual SELF-CONTAINED BREATHING APPARATUS Qualification did not Meet Expectations, June 25, 2009
- CR-PLP-2009-03930, RIA-2327 High Range Noble Gas Stack Monitor Is Failed, August 15, 2009
- CR-PLP-2009-04524, Plant Page Not Heard in the Security Briefing Room during Emergency Drill, September 29, 2009
- CR-PLP-2009-04527, Shift Manager and Shift Engineer Failed to Make Correct Classification During Drill, September 29, 2009

- LO-PLPLO-2008-00193, Snapshot Assessment on: 2009 NRC Emergency Planning Inspection Readiness, May 4 through 5, 2009
- Palisades Emergency Planning Graded Integrated Exercise Report, September 16, 2008
- Palisades Focused Self-Assessment Report Performed August 11 through August 15, 2008, October 2, 2008
- PLP-LO -2008-00294, PLP Focused Self-Assessment Report, EP INPO Based Focus Self-Assessment Performed January 19 through 23, 2009
- QA-7-2008-PLP-01, Quality Assurance Audit Report, April 14, 2008
- QS-2009-PLP-015, Palisades Quality Assurance Surveillance Report, April 21 through 30, 2009
- QS-PAL-2008-007, Palisades Quality Assurance Surveillance Report, March 24 - 25, 2008
- State and County Annual EAL and PAG Briefing and Related Documentation, July 9 and 16, 2008

2OS1 Access Control to Radiologically Significant Areas (71121.01)

- EN-RP-301, Radiation Protection Instrument Control, Revision 3
- EN-RP-502, Inspection and Maintenance of Respiratory Protection Equipment, Revision 4
- HP 7.5A, Self-Contained Breathing Apparatus Scot Air-Pak 75 Model 4.5, Revision 1
- LO-WTPLP-2009-00129, ERO Member Self-Contained Breathing Apparatus Qualifications, June 25, 2009
- PL-RPR-556-401O, Maintenance and Inspections of Respiratory Equipment, Revision 1
- Scott Air-Pak and Air-Pak 75 Models 2.2/3.0/4.5, P/N 595118-01, Revision B
- Technical Bulletin, Concerning SCOTT EZ Flo + and EZ Flo II + CBRN Regulators, February 19, 2008
- Technical Bulletin, TB 20080805, Addition of Anti-Rotation Clamp, May 8, 2008

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

- EN-RP-301, Radiation Protection Instrument Control, Revision 3
- EN-RP-502, Inspection and Maintenance of Respiratory Protection Equipment, Revision 4
- HP 7.5A, Self-Contained Breathing Apparatus (SCBA) Scot Air-Pak 75 Model 4.5, Revision 1
- LO-WTPLP-2009-00129, ERO Member SCBA Qualifications, June 25, 2009
- PL-RPR-556-401O, Maintenance and Inspections of Respiratory Equipment, Revision 1
- Scott Air-Pak and Air-Pak 75 Models 2.2/3.0/4.5, P/N 595118-01, Revision B
- Technical Bulletin, Concerning SCOTT EZ Flo + and EZ Flo II + CBRN Regulators, February 19, 2008
- Technical Bulletin, TB 20080805, Addition of Anti-Rotation Clamp, May 8, 2008

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (71122.01)

- CH 6.20, Radioactive Effluent Operating Procedure, Revision 0
- CH 6.21, Radioactive Liquid Calculation and Release Authorization, Revision 0
- CH 6.23, Waste Gas Decay Tank Release, Revision 1
- CH 6.25, Gaseous Tritium Effluent, Revision 0
- CH 6.27, Containment Purge, Revision 1
- CH 6.28, Non-Routine Releases, Revision 0
- CH 6.34, Compositors, Revision 0
- CH 6.40, Annual Radioactive Effluent Release Report, Revision 1
- CR-PLP-2007-03227, Quality Assurance Identified Several Weaknesses in the Principally Technical and Mathematical Aspects of the ODCM, August 7, 2008

- CR-PLP-2007-03368, Ineffective Use of Human Performance Tools Have Led to Multiple Procedure Use and Adherence Issues in Support of the RETS and REMP Programs, August 17, 2007
- CR-PLP-2009-03828, Cs-137 in Broadleaf Vegetation, August 6, 2009
- Insufficient Knowledge and Technical Expertise in Support of the RETS and REMP Programs, August 17, 2008
- LO-PLPLO-2009-00044, Reg Guide 1.21 Review, August 25, 2008
- LO-PLPLO-2009-00195, Pre-NRC Inspection Gaseous and Liquid Effluent Treatment, August 20, 2009
- Quality Assurance Audit Report, QA-[2-6]-2009-PLP-1, July 9, 2009
- Release Authorization, 08-026-R, June 2, 2008
- Release Order, LRW-012909, February 2, 2009
- Snapshot Assessment/Benchmark on RETA/REMP, June 29, 2009
- WGDT Release Authorization, WG-0219009-02, February 19, 2009
- WGDT Release Calculation, WG-032008, January 13, 2008
- Work Order Package 00297213, RGEM RIA-2325 Calibration, March 29, 2007
- Work Order Package 51623756, V-940A Obtain A Charcoal Filter Sample For Testing, April 22, 2009
- Work Order Package 51625008, Radiation Noble Gas Effl Mon RIA-2326, October 27, 2009
- Work Order Package 51657031, VF-940B Charcoal Filter Inspection, March 4, 2009
- Work Order Package 51661051, RR-9B – Radwaste Discharge Monitor RIA-1049 Calibration, March 16, 2009
- Work Order Package 51694216, V-64A&B Radwaste Area Exhaust Fans, May 20, 2009
- Work Order Package 52031055, RR-84D – Rad Gaseous Effluent Sample Flow Rate Calibration, October 30, 2009
- Work Order Package 51675826, V-70A V-70B Fuel handling Area Exhaust Fan Annual PM, May 30, 2009

40A1 Performance Indicator Verification

- DWO-1, Operator's Daily/Weekly Items Modes 1, 2, 3, and 4, Revision 53
- LER 2008-005-00, Completion of a Plant Shutdown Required by Technical Specifications, October 2, 2008
- LER 2008-006-00, Emergency Diesel Generator Inoperable in Excess of Technical Specification Requirements, December 3, 2008
- LER 2008-007-01, Potential Loss of a Safety Function due to Non-Conservative Auxiliary Feedwater Trip Setpoints, January 21, 2009
- NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 5
- Palisades 24 month Generation Profile, Nov 2007 thru Oct. 2009
- NRC Performance Indicator Technique/Data Sheet, ERO Drill Participation, Third Quarter 2008 through Third Quarter 2009
- NRC Performance Indicator Technique/Data Sheet, Alert and Notification System Reliability, Third Quarter 2008 through Third Quarter 2009
- NRC Performance Indicator Technique/Data Sheet, Drill/Exercise Performance, Third Quarter 2008 through 3rd Quarter 2009
- NRC Indicator Occupational Exposure Control Effectiveness (OR-01), October 6, 2008
- NRC Indicator Occupational Exposure Control Effectiveness (OR-01), January 12, 2009
- NRC Indicator Occupational Exposure Control Effectiveness (OR-01), April 16, 2009
- NRC Indicator Occupational Exposure Control Effectiveness (OR-01), July 6, 2009
- NRC Indicator Occupational Exposure Control Effectiveness (OR-01), October 14, 2009

40A2 Problem Identification and Resolution

- Admin 4.02, Control of Equipment, Revision 53
- Admin 4.12, Operator Work-Around Program, Revision 6
- Bodycote Certificate No. 92-36465, Certification of Heat Treatment (8 Line Shaft Couplings), April 24, 2008.
- Bodycote Certificate No. 92-41245, Certification of Heat Treatment (8 Shaft Couplings), May 22, 2009.
- Bodycote Certificate No. 92-41261, Certification of Heat Treatment (3 Shaft Couplings Re-Tempered), May 26, 2009.
- Bodycote Certificate No. 92-42427, Certification of Heat Treatment (2 Shaft Couplings), October 1, 2009.
- Bodycote Certificate No. 92-42429, Certification of Heat Treatment (6 Shaft Couplings and Test Piece), October 1, 2009.
- Bodycote Corrective Action Request No. 09-63, Three Parts Rejected, November 17, 2009.
- Chicago Spectro Service Laboratory Inc Report No. B8120, Material Certification Record-ASTM A582, Type 416 Job No. 5604 Shaft Coupling, January 25, 1999.
- Chicago Spectro Service Laboratory Inc Report No. B8122, Material Certification Record-ASTM A582, Type 416 Job No. 5604 Shaft Coupling, January 25, 1999.
- Chicago Spectro Service Laboratory Inc Report No. B8126, Material Certification Record-ASTM A582, Type 416 Job No. 5604 Shaft Coupling, January 25, 1999.
- Chicago Spectro Service Laboratory Inc Report No. F7742, Chemical Composition and Mechanical Properties for Two Samples, May 13, 2009.
- Chicago Spectro Service Laboratory Inc Report No. G4062, Material Certification Record-416PSQ, ASTM A582, Job No. 5832 Shaft Coupling, April 16, 2009.
- Chicago Spectro Service Laboratory Inc Report No. G4427, Chemical Composition and Mechanical Properties of Sample Received May 14, 2009 (Shaft sleeve), May 19, 2009.
- Chicago Spectro Service Laboratory Inc Report No. G45835, Metallurgical Testing of Sample Received October 1, 2009, Ht 92-42429, 3VN8, October 6, 2009.
- Corrective Action Request LO-CAR-2009-0013, PLP PO 10237148, October 5, 2009.
- CRD-E-17, CRDM Motor, Brake, and Gearbox Inspection and Repair, Rev. 15
- CR-PLP-2008-4383, Maintenance Identified Job Preparation as a Focus Area for the Third Quarter 2008, October 23, 2008
- CR-PLP-2009-03730, Condition Report Initiated due to four Findings with the Same Cross-Cutting Aspect, 7/29/July 29, 2009
- CR-PLP-2009-03730, Condition Report Initiated due to four Findings with the Same Cross-Cutting Aspect, July 29, 2009
- CR-PLP-2009-04184, NRC has identified a substantive cross-cutting issue (SCCI) in the area of human performance (HP) with a cross-cutting theme in the aspect of planning (H.3(a)), September 2, 2009
- CR-PLP-2009-04519, Received Alarm EK-1149, SW Standby Pump Running, September 29, 2009.
- CR-PLP-2009-04571, The Station is in Event Response for Loss of SW Pump P-7C, September 30, 2009.
- CR-PLP-2009-04593, During Reassembly of SW Pump P-7C, Steps not Followed, October 1, 2009.
- CR-PLP-2009-04906, Issues with work preparation, protective tagging, work execution, material identification, work package quality, resource identification, and vendor control, October 22, 2009
- DWG M-916, Service and Instrument Air, Revision 56
- EN-PL-155, Change Management Policy, Revision 2

- EN-PL-155, Change Management Policy, Revision 2
- Nuclear Oversight Fleet Quarterly Report, Second and Third Quarter 2009
- Palisades Quarterly Trend Reports, First thru Third Quarter 2009
- Procedure Adequacy Review Checklist, Revision 43
- Site DRN database, various reports, December 2009
- SOP-19, Instrument Air System, Revision 51
- SOP-8, Main Turbine and Generating System, Revision 78

4OA3 Followup of Events and Notices of Enforcement Discretion

- LER 2008-004-00, Noncompliance with Technical Specification 4.3.1.1.b, July 15, 2008
- Palisades NRC Inspection Report 05000255/2009008, Preliminary White Finding

4OA5 Other Activities

- Attachment 1 to EA-FC-864-050 Appendix 3, Radiological Survey Sheets, July 16, 1994
- Attachment 1 to EA-FC-864-050, Postulated Causes for MSB #4 flaws, August 22, 1994
- Attachment 2 to EA-FC-864-050, Analysis of Longitudinal Weld Crack on MSB #4, August 15, 1994
- Attachment to EA-FC-864-050 Appendix 2, Sheet 1/6 Alloy Rods Corporation, Certificate of Analysis, Certified Materials Test Report, April 4, 1991
- Attachment to EA-FC-864-050 Appendix 2, Sheet 2/6 Test Report Sa-20/ASTM A-20, ASME SA-516 Gr 70, Pressure Vessel Steel Acc. to ASME SA-20 1989 Section II, January 10, 1990
- Attachment to EA-FC-864-050 Appendix 2, Sheet 3&4/6 Testing Engineers, Inc. QM-483 Suggested Format for Procedure Qualification Record (PQR), January 20, 1992
- Attachment to EA-FC-864-050 Appendix 2, Sheet 5/6 Testing Engineers, Inc. Charpy V-Notch Impact Test, January 17, 1992
- Attachment to EA-FC-864-050 Appendix 2, Sheet 6/6 Testing Engineers, Inc. Mechanical Tests, January 16, 1992
- Branch Technical Position APCS 9.5-1, List of Changes and Responses to Appendix A, Revision 2
- Calculations for EA-FC-864-50, Palisades Weld Flaw Analysis for Loaded VSC Spent Fuel Cask MSB No 4, Calculation No. 2007-20168, Revision 0
- Consumers Energy Drawing M-649, Piping & Instrument Diagram, Dry Fuel Storage Air Temperature Monitoring System
- Consumers Power Company Palisades Plant Engineering Analysis EA-FC-864-50, MSB #4 Structural Analysis Integrity Assessment, Attachment 10
- EA-FC-864-050 Appendix 1, Minimum Required Wall Thickness for the MSB Shell During Normal Conditions, August 25, 1994
- EA-FC-864-050 Appendix 2, September 1, 1994
- EA-FC-864-050 Appendix 3, MSB #4 Leak Tightness Evaluation, September 1, 1994
- EA-FC-864-050 Appendix 4, MSB Shielding Dose Exposure Evaluation, September 2, 1994
- EA-FC-864-050, MSB #4 Structural Integrity Assessment, September 1, 1994
- FSAR Chapter 5, Design of Structures, Systems, and Components, Revision 27
- NFPA 78, Lightning Protection Code, 1983
- NFPA 780, Standard for the Installation of Lightning Protection Systems, 2008 Edition
- Palisades Plant Systematic Evaluation Program, Topic II-2.A, Severe Weather Phenomena, October 1982
- Regional Technical Assistance Request, Weld Flaw Analysis of Multi-Assembly Sealed Basket No. 4, Model No. VSC-24, January 20, 2010 (ML100210186)

LIST OF ACRONYMS USED

CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Report
EP	Emergency Preparedness
EPZ	Emergency Planning Zone
ERO	Emergency Response Organization
HPSI	High Pressure Safety Injection
IMC	Inspection Manual Chapter
IP	Inspection Procedure
LER	Licensee Event Report
MSB No. 4	Multi-Assembly Sealed Basket Number 4
MSPI	Mitigating System Performance Indicator
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NFPA	National Fire Protection Association
NRC	U.S. Nuclear Regulatory Commission
NOED	Notice of Enforcement Discretion
OWA	Operator Work Around
PI	Performance Indicator
PM	Post-Maintenance
RCS	Reactor Coolant System
RP	Radiation Protection
SFST	Spent Fuel Storage and Transportation
SW	Service Water
TAR	Technical Assistance Request
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VSC-24	Ventilated Storage Cask No. 24
WO	Work Order

Mr. Christopher J. Schwarz
Site Vice President
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT INTEGRATED
INSPECTION REPORT 05000255/2009005

Dear Mr. Schwarz:

On December 31, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Palisades Nuclear Plant. The enclosed inspection report documents the inspection results, which were discussed on January 7, 2010, with you and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings of significance were identified.

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

Sincerely,
/RA/

John B. Giessner, Chief
Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 05000255/2009005
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Letter to C. Schwarz from J. Giessner dated February 1, 2010.

SUBJECT: PALISADES NUCLEAR PLANT INTEGRATED
INSPECTION REPORT 05000255/2009005

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