January 5, 2001

Mr. Thomas J. Palmisano
Site Vice President and General Manager
Palisades Nuclear Generating Plant
Consumers Energy Company
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR GENERATING PLANT - NRC INSPECTION REPORT 50-255/00-17(DRP)

Dear Mr. Palmisano:

On December 31, 2000, the NRC completed an inspection at your Palisades Nuclear Generating Plant. The enclosed report presents the results of that inspection which were discussed on December 28, 2000, with you and members of your staff.

The inspection was an examination of activities conducted under your license as they relate to reactor safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel.

No findings of significance were identified.

In accordance with 10 CFR 2.790 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)*. *ADAMS is accessible from* the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Anton Vegel, Chief
Reactor Projects Branch 6

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

Enclosure: Inspection Report 50-255/00-17(DRP)

See Attached Distribution

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-255
License No:	DPR-20
Report No:	50-255/00-17(DRP)
Licensee:	Consumers Energy Company
Facility:	Palisades Nuclear Generating Plant
Location:	27780 Blue Star Memorial Highway Covert, MI 49043-9530
Dates:	November 13 through December 31, 2000
Inspectors:	J. Lennartz, Senior Resident Inspector R. Krsek, Resident Inspector R. Walton, Reactor Engineer
Approved by:	Anton Vegel, Chief Reactor Projects Branch 6 Division of Reactor Projects

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
! Initiating Events	! Occupational	! Physical Protection
! Mitigating Systems	! Public	
! Barrier Integrity		
! Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.

SUMMARY OF FINDINGS

IR 05000255-00-17 on 11/13 - 12/31/2000, Consumers Energy Company, Palisades Nuclear Generating Plant. Resident Inspectors Report.

The baseline inspection was conducted by resident and region based inspectors. No findings of significance were identified.

Report Details

Summary of Plant Status

The plant operated at full power for the entire inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors reviewed the implementation of the licensee's program for the onset of cold weather conditions. The inspectors walked down portions of the service water, auxiliary feedwater and emergency core cooling systems which were susceptible to the effects of cold weather conditions, and verified that the appropriate protection features were in place and operable for these systems. The inspectors also verified that the implementation of the licensee's cold weather protection procedures ensured that components were initially protected from cold weather effects and periodically monitored during the entire cold weather season.

The inspection incorporated discussions with the system engineers and operations personnel, and reviews of the applicable portions of Final Safety Analysis Report and the following licensee documents:

- System Operating Procedure - 23, Checklist CL-CWCL-1, "Cold Weather Checklist," Revision 15, completed 11/21/2000;
- System Operating Procedure - 23, Checklist CL-CWCL-2, "Cold Weather Checklist - Electrical," Revision 15, completed 11/18/2000;
- System Operating Procedure - 23, Attachment 14, "Actions When Outside Temperatures are Less Than 20 Degrees Fahrenheit," Revision 15;
- Work Order 24012176, "Perform Operability Check of Heat Trace Important to Nuclear Safety for the Listed Level Transmitters and Piping"; and
- Piping and Instrument Diagrams M-204, M-207, and M-220.

In addition, the inspectors reviewed the following condition reports to verify that identified problems regarding cold weather preparation activities were entered into the corrective action program with the appropriate characterization and significance:

- CPAL0003355, "Plant Documentation Deficiencies Prevent Accurate Assessment of Heat Trace Status";
- CPAL0003356, "Potential Inadequacies in Plant Cold Weather Preparation Activities";
- CPAL0003507, "Nuisance Alarm EK-1116, Radwaste Area Fuel Handling Freeze Protection"; and

- CPAL0003411, “System Operating Procedure -24 Inadequate to Shutdown VC-2 and Drain VHX-51 and VHX-52 for Cold Weather Lay up.”

Further, the inspectors reviewed the following condition report to verify the adequacy of corrective actions for identified problems associated with the adverse weather protection:

- CPAL9900277, “Inconsistency in Performance and Documentation of the Cold Weather Checklist.”

b. Issues and Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed a routine partial walkdown of the instrument air system to verify proper system lineup. The inspection verified that power was available to the system, that accessible equipment associated with the system was appropriately aligned, and that no discrepancies existed which would impact the function of the system.

The inspection incorporated discussions with operations and engineering personnel, and reviews of the following documents:

- System Operating Procedure - 19, “Instrument Air System,” Revision 17;
- Design Basis Document 1.05, “Compressed Air Systems,” Revision 0;
- Final Safety Analysis Report Section 6.7, “Containment Isolation System”;
- Final Safety Analysis Report Section 9.5, “Compressed Air Systems”; and
- Piping and Instrument Diagrams M-212, “Service and Instrument Air Systems.”

The inspectors also reviewed the following condition report to verify the adequacy of corrective actions for identified problems associated with the instrument air system:

- CPAL9701343, “Configuration Control Discrepancies for Containment Isolation Penetration 65.”

b. Issues and Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Fire Area Walkdown

a. Inspection Scope

The inspectors performed fire tours of the following areas:

- Auxiliary Building Corridor 590' Elevation (Fire Area 13);

- Turbine Lube Oil Room (Fire Area 22);
- Central Mechanical Equipment Room (Fire Area 29); and
- Technical Support Center (Fire Area 33).

In the areas listed above, the inspectors observed the control of transient combustibles and ignition sources, and assessed the material condition of the passive fire protection features. The inspectors also verified the availability of the sprinkler fire suppression system, smoke detection system, and manual fire fighting equipment for these areas.

The inspectors also reviewed the applicable portions of the following documents during this inspection:

- Documented data for Fire Protection Surveillance Procedure SI-1, "Data Sheet For Alarm Bells and Ionization Smoke Detectors," Revision 2, completed on July 19 and 27, 2000, for Fire Areas 33 and 29, respectively;
- Fire Protection Surveillance Procedure SI-1, Attachment 14, "Zones 1 and 2, Control Room and Adjacent Offices Detector Locations," Revision 2;
- Palisades Nuclear Plant Fire Hazards Analysis, Revision 4, Fire Area 33, "Technical Support Center";
- Fire Protection Implementing Procedure - 4, "Fire Protection Systems and Fire Protection Equipment," Revision 15;
- Off Normal Procedure - 25.1, "Fire which Threatens Safety-Related Equipment," Revision 10, applicable attachments for fire areas 13, 22, 29 and 33;
- Final Safety Analysis Report, Section 9.6, "Fire Protection," Revision 22, and Table 9-10, "Fire Detection System Instrumentation," Revision 21;
- Fire Protection Implementing Procedure - 4, Attachment 2, "Sprinkler Systems/Deluge Systems Information," Revision 15 and Attachment 5, "Fire Detection Systems," Revision 15;
- Engineering Analysis EA-APR-98-002, "Unsealed Openings Between Fire Areas 13 and 27";
- Engineering Analysis EA-APR-98-011, "Technical Justification for the Use of 2-Hour Rated Fire Barriers Around the Turbine Lube Oil Room";
- Engineering Analysis EA-FPP-95-011, "Analysis of Combustible Loading for Fire Area 22, Turbine Lube Oil Room";
- Engineering Analysis EA-FPP-95-038, "Analysis of Combustible Loading for Fire Area 29, Central Mechanical Equipment Room"; and
- Engineering Analysis EA-FPP-95-054, "Evaluation of the Effects of a Fire on the West Wall of the Turbine Lube Oil Room."

In addition, the inspectors reviewed the following condition reports to verify that identified problems regarding fire protection activities were entered into the corrective action program with the appropriate characterization and significance:

- CPAL0003434, "Incorrect Information in Engineering Evaluation EA-FPP-95-054 and Resulting U.S. NRC Safety Evaluation Report regarding the Turbine Lube Oil Room Fire Barriers Exemption"; and
- CPAL0003492, "Combustible Loading Calculation Does Not Reflect the As-Found Combustible Loading in Turbine Lube Oil Room."

b. Issues and Findings

No findings of significance were identified.

.2 Fire Drill

a. Inspection Scope

The inspectors observed fire brigade response to an unannounced drill for a postulated fire in the Emergency Diesel Generator 1-2 room on November 28, 2000. The inspectors verified the following aspects during the drill to evaluate licensee personnel's readiness and ability to fight fires:

- minimum manning requirements for fire brigade members;
- proper use of protective clothing, self-contained breathing apparatus equipment and turnout gear;
- ability of the fire hose to reach the fire hazard, and proper lay-down of the fire hose to ensure no flow restrictions existed;
- controlled entry by fire brigade personnel into the fire area;
- thorough and effective directions by the fire brigade leader;
- effective communications between the fire brigade members and plant operators;
- effective control of vital area doors by security personnel;
- proper use of fire fighting pre-plan strategies;
- simulated effective smoke removal techniques; and
- timely search for fire victims and checks for fire propagation into other fire areas.

The inspectors reviewed the following Fire Protection Implementing Procedures:

- FPIP-2, "Fire Emergency Responsibility," Revision 6;
- FPIP-3, "Plant Fire Brigade," Revision 8; and
- FPIP-6, "Fire Suppression Training," Revision 9.

The inspectors also observed the post-drill critique to verify that the pre-planned drill scenario was followed and that the drill objectives were met. The inspectors reviewed the following documents:

- Palisades Nuclear Plant Fire Drill Review and Cover Sheet for Shift 1 unannounced fire drill on November 28, 2000, and associated comments from critique; and
- Fire Protection Check Sheet FP-PE-8, "Inventory of Fire Protective Equipment," Revision 1, that was completed on November 28, 2000.

In addition, the inspectors verified that the fire brigade members who responded to the fire during the drill on November 28, 2000, met the qualification requirements specified in Fire Implementing Procedure-6. The inspectors also verified that an unannounced drill was critiqued by personnel from outside the licensee's organization within the last three years as required by Fire Protection Implementing Procedure-6. The following documents were reviewed:

- Training and fire drill participation records for the seven fire brigade members who participated in the drill on November 28, 2000; and
- Palisades Fire Protection - Biennial Audit A-00-12 conducted from August 7 through September 22, 2000.

Further, the inspectors reviewed the following condition report to verify that identified problems associated with fire protection activities were appropriately characterized and entered into the licensee's corrective action program:

- CPAL0003486, "Fire Drill Critique."

b. Issues and Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope

The inspectors observed an evaluated simulator scenario for an operating crew on December 21, 2000, to assess the licensed operator's ability to mitigate a steam generator tube rupture event. The following attributes of operator performance were assessed:

- crew communications and event diagnosis;
- ability to take timely and appropriate mitigation actions;
- correct use of emergency operating procedures;
- ability to operate the controls in a timely and appropriate manner;
- effective command and control by the senior reactor operator; and
- emergency plan implementation by the shift supervisor.

Also, the inspectors observed the post-scenario critique to assess the licensee's evaluators ability to identify operator performance deficiencies. The inspectors reviewed the following documents:

- Simulator Exercise Guide TBAF-SG.00E, Evaluation Mode Scenario;
- Palisades Nuclear Training Procedure - 7, Attachment 5, "Simulator Performance Evaluations," Revision 5;
- Emergency Operating Procedure 5.0, "Steam Generator Tube Rupture Recovery," Revision 12; and
- Emergency Operation Procedure 1.0, "Standard Post Trip Actions," Revision 10.

The inspectors also reviewed the following condition report to verify that identified problems associated with the evaluated scenario were appropriately characterized and entered into the licensee's corrective action program:

- CPAL0100013, "Non-Response to a Simulated Emergency Action Level."

b. Issues and Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors evaluated the effectiveness of the licensee's implementation of the Maintenance Rule, 10 CFR 50.65, for components in systems ranked in the high safety significant category. The inspectors reviewed recent maintenance rule evaluations to verify the appropriate maintenance rule categorization of specific issues for the following:

- Pressurizer Power Operated Relief Valves;
- Instrument Air System;
- Concentrated Boric Acid System; and
- Containment Emergency Core Cooling System Sump.

The inspectors also reviewed and evaluated the applicable performance criteria, risk rankings and scoping criteria for appropriateness. In addition, the inspectors interviewed the licensee's maintenance rule coordinator and evaluated the licensee's monitoring and trending of performance data with the responsible system engineer when applicable. The inspectors reviewed the following documentation:

- Engineering Procedure EM-25, "Maintenance Rule Program," Revision 3;
- Engineering Procedure EGAD-EP-10, "Maintenance Rule Scoping Document," Attachment 2, for "Pressurizer Pressure and Level Control," and "Instrument and Service Air," Revision 2;
- NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Revision 2;
- Maintenance Rule Evaluations for the Instrument Air System and the Pressurizer Pressure and Level Control System for the time period from November 15, 1999, through November 30, 2000;
- Maintenance Rule Performance Indicators for the Instrument Air System and the Pressurizer Pressure and Level Control System; and
- Updated Final Safety Analysis Report Section 9.10, "Chemistry Volume and Control System."

In addition, the inspectors reviewed the following condition reports to verify that identified problems were appropriately characterized and evaluated with respect to the maintenance rule:

- CPAL0000937, "Link Block Screw Would Not Tighten During Restoration From Surveillance Procedure";
- CPAL9902872, "Thermography Indicates Possible Pressurizer Heater Failures";
- CPAL9902866, "Concentrated Boric Acid Pump P-56B Convection Seal Tank Requires Maintaining by Operations";
- CPAL9902593, "Work Not Performed as Scheduled Resulted in Operation Work Around";

- CPAL0003158, “Boric Acid Pipe Heater System Temperature Controller TICA-0453B Received Current Failure Alarm at Boric Acid Heat Trace Controller Cabinet”;
- CPAL9902707, “Use of Plastic Type Wraps in Containment”; and
- CPAL0000597, “Sensing Lines to Level Transmitter LT-0359 Partially Blocked Resulting in Incorrect Indication for Containment Sump Level.”

Further, the inspectors reviewed the following condition reports and operating experience information to verify the adequacy of corrective actions for identified problems associated with the Pressurizer Pressure and Level Control System, and the Instrument Air System:

- CPAL9900668, “PORV Operability”;
- CPAL9902104, “No PCS Protection Channel A, Unexpected Alarm”;
- CPAL9901908, “Unexpected Drop In Primary Coolant System Pressure During Technical Specification Surveillance Test”;
- CPAL0002417, “OE11263 - Calvert Cliffs Pressurizer Safety Valve 2RV200 Seat Leakage Causes Shutdown of Unit 2";
- CPAL990994, “Maintenance Rule Category (a)(1) - Instrument Air Compressors’ C-2A/C-2C Service Water Solenoid Valves SV-0801/0803 Performance Improvement”;
- CPAL0003023, “Plant Air Compressors (C-2A/C-2C) Loading Problem After Preventative Maintenance on C-2C”; and
- CPAL9701815, “C-2A Unloader Valve Stuck.”

b. Issues and Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed risk assessments that were conducted during the time period that a modification was being installed on the right train high pressure air system to verify that the licensee entered the appropriate risk category established by plant procedures. Also, the inspectors discussed the risk assessments and plant configuration control with operations and work control center personnel to verify that effective controls were implemented during the activities.

In addition, the inspectors walked down accessible portions of the left train high pressure air system and the valve lineup to cross-tie turbine building high pressure air to the right train high pressure air system to verify that the system’s critical safety function was maintained. The following documents were reviewed:

- Administrative Procedure - 4.02, “Control of Equipment,” Revision 17;
- Operator’s Risk Reports and Shift Supervisor log entries for December 5 - 8, 2000; and

- Standard Operation Procedure - 20, “High Pressure Control Air System,” Revision 16, Section 7.2.1, “To Tie T-9C (Turbine Building High Pressure Air) to T-9A (East Safeguards Room).”

b. Issues and Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the operability assessments as documented in the associated condition reports for the following risk significant components:

- Service Water Pump P-7A;
- Component Cooling Water Pump P-52C; and
- Motor Driven Auxiliary Feedwater Pump P-8A.

The inspectors also reviewed the applicable sections of the Technical Specification Requirements, Final Safety Analysis Report and Design Basis Documents associated with the components. The following condition reports and associated operability evaluations were reviewed:

- CPAL0003371, “Service Water Pump P-7A Shaft Vibrations During Packing Adjustments”;
- CPAL0003319,”Standby Button for Component Cooling Water Pump P-52C Stuck in the Depressed (On) Position During Technical Specification Surveillance Test QO-1“; and
- CPAL0003489, “Auxiliary Feedwater Pump P-8A In the Alert Range During QO-21."

In addition, the inspectors interviewed the system engineer and in-service test engineer and reviewed the following supporting documents:

- OMa-1988, Part 6, “In-Service Test of Pumps in Light Water Reactors”;
- Off Normal Procedure - 6.1, “Loss of Service Water,” Revision 10;
- Updated Final Safety Analysis Report Section 9.1, “Service Water System,” Revision 22;
- Logic Diagrams E-259 and E-130, in relation to the standby relays for Component Cooling Water Pump P-52C; and
- Technical Specification Surveillance Procedure QO-21, “Inservice Test Procedure - Auxiliary Feedwater Pumps,” Revision 19.

Further, the inspectors reviewed the following condition report to verify that identified problems associated with operability evaluations were appropriately characterized and entered into the licensee’s corrective action program:

- CPAL0003422, “Incomplete and Insufficient Operability Recommendation for Service Water Pump P-7A as a part of CPAL0003371.”

b. Issues and Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

.1 Technical Specification Surveillance Test for Safety Injection Actuation System

a. Inspection Scope

The inspectors reviewed the licensees quarterly safety injection system test including a recently made procedure change to ensure that the procedure implemented the Technical Specification surveillance appropriately. The inspectors reviewed the following documents:

- Technical Specification Surveillance Test, QO-1, “Safety Injection System,” Revisions 44 and 43 and associated 50.59 evaluation;
- Logic Diagram, “Safety Injection Actuation,” Sheet E-17, Revision 15; and
- Technical Specification 3.3.4, “Engineered Safety Features Logic and Manual Initiation” and Basis Document.

b. Issues and Findings

No findings of significance were identified.

.2 High Pressure Air Compressor M-9A Air Dryer Replacement

a. Inspection Scope

The inspectors reviewed the engineering analyses, modification documents and design change information associated with the replacement of the refrigerant-type air dryers for the high pressure air system with a new style desiccant-type air dryer. The inspectors reviewed the design adequacy of the modification and focused the inspection activities on the following parameters associated with the design package: materials and replacement components, control signals, equipment protection, operations, pressure boundary, structural, licensing basis, and failure modes.

Activities associated with the implementation of the modification were also inspected. This included reviews of component preparations, initial component staging, and actual initial implementation to verify that abnormal operating procedure actions and operator responses to the loss of key safety functions were not impaired by the modification process.

Further, the inspectors verified that during post modification testing the plant was maintained in a safe configuration. The post modification tests were reviewed to ensure component operability was established by verifying that unintended system interactions

did not occur, ensuring performance characteristics of the components met the design bases of the system, and demonstrating test acceptance criteria were met.

The inspectors discussed the modifications with the responsible engineers and reviewed the following documents associated with the modification during the inspection:

- Engineering Assistance Request EAR-2000-0394, “Replace High Pressure Air Dryers M-9A and M-9B”;
- Modification Package associated with Engineering Assistance Request EAR-2000-0394, including the 10 CFR 50.59 Safety Evaluation, Final Safety Analysis Report Change Requests, Operations Review Considerations Checklists, Fire Protection/Safe Shutdown Review Guidelines, Environmental Qualification of Electrical Equipment Checklists, Seismic Design Consideration Checklists,
  Q-List Interpretation Checklists and the Air Dryer Specifications;
- Engineering Analysis EA-EAR-2000-0394-01, “Structural and Seismic Design for M-9A and M-9B Air Dryer Installation”;
- Work Order 24011830, “Replace Air Dryer M-9A with a New Style Desiccant Tower”;
- Installation Plan for EAR-2000-0394, “Replace High Pressure Air Dryers M-9A and M-9B”;
- System Operating Procedure - 20, “High Pressure Control Air System,” Revision 16;
- System Performance Verification Procedure T-205-A, “East Engineering Safeguards High Pressure Air,” Revision 1;
- Design Basis Document 1.05, “Compressed Air Systems,” Revision 1; and
- Piping and Instrumentation Diagrams 8-M-225, 8-M-212, 8-SK-EAR-00-0394, 8X-M-225, 8-E-166, 8-Ex-166, 8-JG-1011, and M-225.

In addition, the inspectors reviewed the following condition reports concerning the high pressure air dryer system to verify that identified problems were appropriately characterized and evaluated:

- CPAL0003545, “Apparent Labeling and Piping and Instrumentation Diagram Errors Associated with the New High Pressure Air Dryer M-9A”;
- CPAL0003547, “Piping and Instrumentation Diagram and System Labeling are Not Correct for Installed High Pressure Air Dryer M-9C”;
- CPAL0003548, “Piping and Instrumentation Diagram M-225 Sheet 1A Incorrect When Compared to 8-M-225 Construction Drawing for High Pressure Air Dryer M-9A”;
- CPAL0003472, “Improper Engagement of Swagelok Fitting From Vendor”;
- CPAL0003483, “Grout Installation for M-9A”; and
- CPAL0003524, “Two Valves in East Safeguards have Exactly the Same Designator.”

b. Issues and Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

d. Inspection Scope

The inspectors observed portions of post maintenance testing and reviewed documented testing activities following scheduled maintenance to determine whether the tests were performed as written and whether applicable testing prerequisites were met prior to the start of the test. Post maintenance test activities were reviewed for the following components:

- High Pressure Safety Injection To Reactor Coolant Loop 2B Motor Operated Valve MO-3062;
- Auxiliary Feedwater Pump P-8A; and
- Low Pressure Safety Injection Pump P-67A.

The inspectors reviewed post maintenance testing criteria specified in the following Work Orders regarding MO-3062:

- 24913391 MO-3062 packing leak, adjust packing;
- 24012255 Perform VOTES static diagnostic system test;
- 24013521 VOP-3062 condition check; and
- 24012242 Inspection and cleaning of terminal blocks in J551.

The inspectors reviewed post maintenance testing criteria specified in the following corrective Work Order regarding Auxiliary Feedwater Pump P-8A:

- 24014443 Motor Driven Auxiliary Feedwater Pump.

The inspectors reviewed post maintenance testing criteria specified in the following preventative and corrective Work Orders regarding Low Pressure Safety Injection Pump P-67A:

- 24014564 Inspection and Cleaning for P-67A Motor;
- 24011536 Stroke and Lube P-67A Inlet Valve MO-3198;
- 24011469 Clean and Inspect Breaker, Motor Starter and Current Test;
- 24010932 Perform Gear Change Out On MO-3198; and
- 24013087 Perform Thermalscan On P-67A Motor and Breaker.

In addition, the inspectors reviewed the completed test procedures to verify the tests were adequate for the scope of work performed and to verify that acceptance criteria were clear. Documented test data was reviewed to verify that the data was complete and that the equipment met the procedure acceptance criteria to verify that the equipment was able to perform the intended safety functions. The following documents regarding test acceptance criteria and documented test data were reviewed:

- Technical Specification Surveillance Procedure QO-5, “Valve Test Procedure,” and associated Attachment 1, “Valve Exercising Stroke Time Data Sheet,” Revision 56;

- Inservice testing program trending data for valve MO-3062 from June 8, 1995 through August 29, 2000;
- Technical Specification Surveillance Procedure QO-21, “In-Service Test Procedure - Auxiliary Feedwater Pumps,” Revision 19 and associated basis document;
- OMa-1988, Part 6, “In-Service Test of Pumps in Light Water Reactors”;
- Technical Specification Surveillance Test QO-5, Attachment 17, “Valve Stroke Testing Data Sheet,” Revision 57; and
- Permanent Maintenance Procedure MSE-E-21, Votes Diagnostic System Operating Procedure,” Attachment 1, “Calibrated Measuring and Test Equipment,” and Attachment 2, “Testing Data Sheet,” Revision 19.

Further, the inspectors reviewed the following condition reports to verify that identified problems regarding post maintenance testing activities were appropriately characterized and entered into the licensee’s corrective action program:

- CPAL0003489, “Auxiliary Feedwater Pump P-8A Vibration in Alert Range During QO-21A”; and
- CPAL0003478, “Motor Driven Auxiliary Feedwater Pump P-8A Coupling Found Locked During Coupling Inspections”

b. Issues and Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed portions of surveillance testing activities and reviewed completed surveillance test data for the following risk-significant plant equipment:

- Reactor Protection System Thermal Margin/Low Pressure Trips;
- Power Range Nuclear Instrumentation; and
- Low Pressure Safety Injection Pump P-67B.

In addition, the inspectors reviewed test procedures, the applicable Technical Specification Requirements and Final Safety Analysis Report, and the Design Basis Documents to verify that the surveillance tests demonstrated that the system components could perform the designated safety functions. The inspection included a review of the following procedures:

- Technical Specification Surveillance Test QI-2A, “Thermal Margin Low Pressure Trip Units,” Revision 0, and associated basis document;
- Updated Final Safety Analysis Report Chapter 7, “Instrument and Controls,” Section 7.2.3.5, “Thermal Margin/Low Pressure,” Revision 22;
- Technical Specification Table 3.3.1-2, “Thermal Margin/Low Pressure Trip Function Allowable Value,” Amendment 189;

- Technical Specification Surveillance Test QO-20, “In-service Test Procedure - Low Pressure Safety Injection Pumps,” Revision 12, and associated basis document;
- Updated Final Safety Analysis Report Chapter 6, “Engineered Safeguards Systems,” Section 6.1, “Safety Injection System,” Revision 22;
- Technical Specification Surveillance Procedure MI-1, “Nuclear Instrumentation Power Range, Rod Drop Alarm and Flux-Delta-T Tests, “ Revision 35, and associated basis document;
- Updated Final Safety Analysis Report Chapter 7, “Instrument and Controls,” Section 7.2, “Reactor Protective System,” Revision 22; and
- Temporary Procedure Change Number T-00-007, “MI-1 Test Change to Eliminate Insertion and Removal of a Channel A Trip Bypass Key,” dated November 17, 2000.

Further, the inspectors reviewed the following condition reports to verify that identified problems regarding surveillance testing activities were being entered into the corrective action program with the appropriate characterization and significance:

- CPAL0003525, “Evidence of Leakage at Safeguards Pump Minimum Flow Check Valve CK-ES3332”;
- CPAL0003421, “Procedure Step in MI-1 not Performed Completely as Written (PY-0102C)”; and
- CPAL0003562, “Missed Opportunity to Increase Low Pressure Safety Injection System Availability after Motor Operated Valve MO-3189 Planned Maintenance - Work Week 2049.”

b. Issues and Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following two temporary modifications:

- 2000-032, “Substitute TE-0111H for TE-0112HA for C-150A Auxiliary Shutdown Panel Hot Leg Temperature Indication”; and
- 2000-035, “Use of Skid Mounted Filtration Equipment to Reduce the Particulate Concentrations in Emergency Diesel Generator Fuel Oil Storage Tank T-10A.”

The inspectors questioned licensed operators about the temporary modification that substituted hot leg temperature elements and reviewed the following documents to ensure that the equipment monitored by the detector was properly reviewed for operability:

- Temporary Modification 2000-032, “Substitute TE-0111H for TE-0112HA for C-150A Auxiliary Shutdown Panel Hot Leg Temperature Indication” and associated 50.59 evaluation;

- Condition Report CPAL0003194, “PCS Loop 1 Hot Leg Temperature Element (TE-0112HA) Failed Low”;
- Condition Report CPAL0002976, “PCS Loop 1 Hot Leg Temperature Element (TE-0112HA) Intermittent Failure”;
- Work Request 271713, Installation of Temporary Modification 2000-32;
- Technical Specifications 3.3.7, “Post Accident Monitoring Instrumentation”;
- Piping and Instrumentation Diagram M-201, “Primary Coolant System,” Revision 67;
- Design Basis Document 2.04, “Primary Coolant System”;
- Design Basis Document 3.3.8, “Instrumentation and Control”; and
- Final Safety Analysis Report, Appendix 7C, Regulatory Guide 1.97, Parameter Summary Table.”

Regarding the temporary modification that allowed the use of skid mounted filtration equipment to reduce the particulate concentrations in Emergency Diesel Generator Fuel Oil Storage Tank T-10A, the inspectors walked down the modification with the responsible engineer to verify installation was as designed. In addition, the inspectors reviewed the associated safety reviews and the Final Safety Analysis Report, Section 8.4, “Emergency Power Sources,” Revision 22, to verify that the temporary modification did not affect the safety function of Tank T-10A.

Further, the inspectors reviewed the following condition reports to verify identified problems regarding temporary modifications were appropriately characterized and entered into the licensee’s corrective action program:

- CPAL0003464, “Unique Coupling Design Results In Work Delay”;
- CPAL0003467, “Tank T-10A Fill Pipe Found To Be Loose In Top Of Tank”; and
- CPAL0003491, “Fuel Oil Filtration Causes Temporary Rise In Particulate Concentration.”

e. Issues and Findings

No findings of significance were identified.

Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspector reviewed revisions 25, 3, 24, 11, 5, 0, and 1 to the Palisades Nuclear Plant Site Emergency Plan, dated July 22, 1999, May 7, 1999, May 7, 1999, May 7, 1999, November 4, 1999, January 28, 2000, and March 21, 2000, to verify that the changes did not decrease the effectiveness of the plan. The emergency plan revisions were submitted in accordance with 10 CFR 50.54(q).

b. Observation and Findings

There were no findings identified during this inspection. Our initial review of these changes will be subject to onsite inspection by an Emergency Preparedness Specialist.

1EP6 Emergency Preparedness Drill Evaluation

a. Inspection Scope

The inspectors observed an evaluated simulator scenario for an operating crew on December 21, 2000, to assess the licensed operator's ability to perform actions in accordance with emergency plan implementing procedures. The inspectors assessed the shift supervisors ability to appropriately classify a steam generator tube rupture event and to provide timely and accurate notifications to state, local and NRC personnel regarding the event. The inspectors reviewed the following:

- Emergency Implementing Procedure - 3, Attachment 1, "Emergency Notification Form," that the Shift Supervisor completed during the simulated scenario for the steam generator tube rupture event; and
- Emergency Implement Procedure - 1, "Emergency Classification Actions," Revision 34.

The inspectors also reviewed the following condition report to verify that identified problems associated with the emergency preparedness drill were appropriately characterized and entered into the licensee's corrective action program:

- CPAL0100013, "Non-Response to a Simulated Emergency Action Level."

b. Issues and Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification

.1 Residual Heat Removal System Unavailability Performance Indicator

a. Inspection Scope

The inspectors interviewed the residual heat removal system engineer and reviewed unavailability logs from April 2000 through September 2000. The inspectors compared this data to the licensee-submitted residual heat removal unavailability data for the second and third quarters of 2000. The inspectors reviewed Frequently Asked Question 170 contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," to ensure that the licensee was properly tabulating system train unavailability. The inspectors reviewed the following supporting information:

- Piping and Instrumentation Diagrams M-203 and M-204, “Safety Injection, Containment Spray and Shutdown Cooling System.”

b. Issues and Findings

No findings of significance were identified.

.2 Unplanned Power Changes Per 7000 Critical Hours

a. Inspection Scope

The inspectors reviewed the licensee reports of monthly operating data and selected Shift Supervisor Logs for the period from April 1, 1999, to May 31, 2000, to verify the accuracy of the performance indicators regarding unplanned power changes per 7000 critical hours. In addition, the inspectors interviewed the licensee personnel responsible for the compilation and review of performance indicator data.

In addition, the inspectors reviewed the following condition report to verify that identified problems regarding performance indicator data was appropriately characterized and entered into the licensee’s corrective action program:

- CPAL0001779, “Power Reduction of February 4, 2000, Being Questioned as Planned versus Unplanned Event as Defined by Nuclear Energy Institute 99-02 for Performance Indicator IE-3."

b. Issues and Findings

No findings of significance were identified.

4OA3 Event Followup

(Closed) Licensee Event Report (LER) 50-255/2000-05: “Failure to Perform Channel Check Surveillance on Core Exit Thermocouples.” Licensee personnel identified that required testing of core exit thermocouples had not been completed prior to entry into Mode 3 following plant outages on five separate occasions. Failure to perform testing of these thermocouples was a violation of Technical Specification Table 4.17.4. No adverse consequences resulted from the event and the core exit thermocouples always tested satisfactorily after the plant was returned to power operations. Therefore, this event constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section IV of the Enforcement Policy. This issue was corrected and entered into the licensees corrective action program as CPAL0002589. The inspectors reviewed the corrective actions as stated in the Licensee Event Report. This Licensee Event Report is closed.

4OA5 Other

A Non-Cited Violation (NCV) was documented in NRC Inspection Report 50-255/00-14(DRP), Section 1R22, “Surveillance Testing,” regarding the failure to follow procedures during fire protection system surveillance testing. However, a tracking identification number was not

assigned to the non-cited violation in the inspection report. Therefore, the previously documented Non-Cited Violation will be tracked as NCV 50-255-00-14-01.

4OA6 Exit Meeting

The inspectors presented the inspection results to Mr. Palmisano and other members of licensee management on December 28, 2000. The licensee acknowledged the findings presented.

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

PARTIAL LIST OF PERSONS CONTACTED

Licensee

G. R. Boss, Acting System Engineering Manager
D. E. Cooper, Plant General Manager
N. L. Haskell, Director, Licensing and Performance Assessment
C. L. Holman, Fire Protection
T. R. Loudenslager, Emergency Planning
D. G. Malone, Licensing
D. J. Malone, Engineering Director
G. C. Packard, Operations Superintendent
T. J. Palmisano, Site Vice President
K. Smith, Operations Manager

NRC

D. Hood, Project Manager, NRR

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-255-00-14-01	NCV	Failure to follow procedures during fire protection system surveillance testing.

Closed

50-255-00-14-01	NCV	Failure to follow procedures during fire protection system surveillance testing.
50-255/2000-05	LER	Failure to Perform Channel Check Surveillance on Core Exit Thermocouples.

Discussed

None

LIST OF INSPECTIONS PERFORMED

The following inspection-area procedures were used to perform inspections during the report period. Documented findings are contained in the body of the report.

Inspection Procedure		Report
Number	Title	Section
71111.01	Adverse Weather Protection	1R01
71111.04	Equipment Alignment	1R04
71111.05	Fire Protection	1R05
71111.11	Licensed Operator Requalification Program	1R11
71111.12	Maintenance Rule Implementation	1R12
71111.13	Maintenance Risk Assessments and Emergent Work Evaluation	1R13
71111.15	Operability Evaluations	1R15
71111.17	Permanent Plant Modifications	1R17
71111.19	Post Maintenance Testing	1R19
71111.22	Surveillance Testing	1R22
71111.23	Temporary Plant Modifications	1R23
71114.04	Emergency Action Level and Emergency Plan Changes	1EP4
71114.06	Emergency Preparedness Drill Evaluation	1EP6
71151	Performance Indicator Verification	4OA1
71153	Event Follow-up	40A3