July 24, 2000

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 INSPECTION REPORT 50-255/2000010(DRP)

Dear Mr. Palmisano:

On June 30, 2000, the NRC completed an inspection at your Palisades Nuclear Generating Plant. The enclosed report presents the results of that inspection. The results of this inspection were discussed on June 30, 2000, with you and other members of your staff.

The inspection was an examination of activities conducted under your license as they relate to reactor safety and to 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 were identified in any of the cornerstones of safety during our inspection.

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).

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

Original signed by
Michael J. Jordan, Chief

Michael J. Jordan, Chief
Reactor Projects Branch 3

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

Enclosure: Inspection Report 50-255/2000010(DRP)

See Attached Distribution

cc w/encl: R. Fenech, Senior Vice President, Nuclear
Fossil and Hydro Operations
N. Haskell, Director, Licensing and Performance Assessment
R. Whale, Michigan Public Service Commission
Michigan Department of Environmental Quality
Department of Attorney General (MI)
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Sincerely,

Michael J. Jordan, Chief
Reactor Projects Branch 3

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

Enclosure: Inspection Report 50-255/2000010(DRP)

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-255
License No:	DPR-20
Report No:	50-255/2000010(DRP)
Licensee:	Consumers Energy Company 212 West Michigan Avenue Jackson, MI 49201
Facility:	Palisades Nuclear Generating Plant
Location:	27780 Blue Star Memorial Highway Covert, MI 49043-9530
Dates:	May 14 through June 30, 2000
Inspectors:	J. Lennartz, Senior Resident Inspector R. Krsek, Resident Inspector T. Tongue, Project Engineer T. Madeda, Physical Protection Specialist
Approved by:	Michael J. Jordan, Chief Reactor Projects Branch 3 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

Palisades Nuclear Generating Plant
NRC Inspection Report 50-255/2000010(DRP)

The report covers a 7-week period of resident inspection. No findings were identified in any of the cornerstones of safety.

Report Details

Summary of Plant Status: The plant was at 100 percent power at the start of the inspection period. On June 17, 2000, plant power was reduced to approximately 60 percent, in accordance with plant procedures, after a main feedwater pump seal degraded. Main feedwater pump seal repairs were completed and the plant returned to full power on June 24, 2000, where it remained for the duration of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed routine partial system walkdowns of accessible components in the B train for Low Pressure Safety Injection and the A train for High Pressure Safety Injection system. The inspection consisted of verifying that the low pressure and high pressure safety injection trains were available for operation and that the equipment was in proper alignment for the applicable safety functions. The following procedures were reviewed during these inspections:

- System Operating Procedure - 3, Checklist - 3.1, “Engineered Safeguards System Checklist (Shutdown Cooling in Service),” Revision 43
- System Operating Procedure - 3, Checklist - 3.2, “Engineered Safeguards System Checklist (To Secure Shutdown Cooling),” Revision 43
- System Operating Procedure - 3, Checklist - 3.9, “Engineered Safeguards Administrative Control Verification,” Revision 43
- Monthly Operating Procedure - 29, “Engineered Safety System Alignment,” Revision 28
- Piping and Instrument Diagram M204, Sheets 1, 1A, and 1B Revisions 70, 25, and 30 respectively

In addition, the inspection also incorporated reviews of the applicable portions of the Technical Specification (TS) Requirements and the Final Safety Analysis Report for the safety injection systems.

b. Issues and Findings

There were no findings identified during this inspection.

1R05 Fire Protection

a. Inspection Scope

The inspectors toured the north and south battery rooms, the service water pumps room, the Emergency Diesel Generator 1-2 room and inspected smoke detectors in safety

related areas in the Auxiliary Building. The inspectors observed the control of transient combustibles and ignition sources and where applicable verified the availability of the sprinkler fire suppression system, smoke detector system and manual fire fighting equipment in these areas.

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

- 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;
- Final Safety Analysis Report, Section 9.6, "Fire Protection," Revision 22; and
- Condition Report 001643, "Direct Current Voltage Found on the Screen Area of Smoke Detectors."

b. Issues and Findings

There were no findings identified during this inspection.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors evaluated the licensee's implementation of the Maintenance Rule, 10 CFR Part 50.65, for the following high safety significant systems: Emergency Diesel Generator 1-2, High Pressure Air Compressors C-6B and C-6C, Containment Air Coolers VHX-1, VHX-2 and VHX-3, and Control Rod Drives. The inspectors reviewed recent maintenance rule evaluations for the systems listed above to verify the appropriate maintenance rule categorization of specific issues and to evaluate the appropriateness of the performance criteria and when applicable the goal setting established for each system. The inspectors also interviewed the licensee's maintenance rule coordinator and evaluated the licensee's monitoring and trending of performance data with the responsible system engineer.

The inspectors reviewed the following Condition Reports and associated maintenance rule documentation related to this inspection:

- CPAL9900955, "Emergency Diesel Generator 1-2 Lube Oil Relief Valve Cycling (K-6B, P-212B)"
- CPAL9901699, "Shorted Diode Caused 72-302 Breaker Trip and Emergency Diesel Generator 1-1 Failed to Start Properly (K-6AG)"
- CPAL990000934, "Misaligned Injection Pump at Cylinder 9L on Emergency Diesel Generator 1-2 (K-6B)"
- CPAL9901249, "High Pressure Air Compressor-6B Found Tripped on Thermals (52-811)"

- CPAL9902816, “High Pressure Air Compressor-6C Found Tripped on Thermal Overload”
- CPAL9903003, “High Pressure Air Compressor-6C Found Not Operating Properly”
- CPAL0001554, “Compressor 6B Oil Sample Contains Metal”
- CPAL9902268, “Failure of Containment Air Cooler Service Water Check Valves CK-SW407, CK-SW408, and CK-SW409"
- CPAL991817, “Control Rod Failure To Trip“
- CPAL9902561, “Control Rod Drive Mechanism Cooling Ductwork Louvers Found 90 percent Closed”
- CPAL9902295, “Control Rod Drive Mechanism Housing Crack and Indication”
- CPAL9700133, “Control Rod Drive System Maintenance Rule Performance Criterion Exceeded”
- CPAL9601353, “Failure of Control Rod Drive 33 To Operate When Attempting To Run Rack Up”

b. Issues and Findings

There were no findings identified during this inspection.

1R13 Maintenance Risk Assessment and Emergent Work Prioritization

a. Inspection Scope

The inspectors reviewed the scheduling and Operator’s Risk Report for May 18, 2000, pertaining to scheduled maintenance for Backup Nitrogen Station No. 5 Pressure Control Valve PCV-2279 under Work Order 24011925. The inspectors also reviewed the Operator’s Risk Reports for June 21 through June 23, 2000, and the scheduled activities while emergent testing activities were being conducted on High Pressure Safety Injection Pump P-66A which rendered the pump inoperable.

In addition, the inspectors reviewed the Operators Risk Report and the control of scheduled activities during performance of routine Monthly Instrument Surveillance 27E, “Functional Check of Primary Coolant System Low Temperature Overpressure Protection System,” Revision 2, on June 20, 2000.

During the inspection, the inspectors also discussed the risk evaluations and plant configuration control for the maintenance activities with operations and work control center personnel.

b. Issues and Findings

There were no findings identified during this inspection.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the operability assessments for condition reports written concerning the Emergency Diesel Generators and High Pressure Safety Injection Pump P-66A. The following documents were reviewed:

- Condition Report CPAL0001352, "Updated Motor Acceleration Times Not Included in Design Basis Accident Sequencer Timing Study"
- Condition Report CPAL0001390, "Wilmar Timer (Measuring and Test Equipment No. 001602) Range and Accuracy Discrepancy with Monthly Operating Procedure - 7A Emergency Diesel Generator 1-1 Surveillance Requirements"
- Condition Report CPAL0001561, "Wilmar Timer (Measuring and Test Equipment No. 001602) has Questionable Response"
- Applicable sections of Final Safety Analysis Report, Chapter 8, "Electrical Systems," Revision 21
- System Operating Procedure - 22, "Emergency Diesel Generators," Revision 28
- Technical Specification 4.7, "Electrical Power System Tests," Amendment 180 and the associated bases.
- Condition Report CPAL00019222, "High Pressure Safety Injection Pump P-66A Could Not Meet Required Flow Rate During Performance of Quarterly Operating Surveillance 19, "Inservice Test Procedure and Engineered Safeguards System Check Valve Operability Test"
- Condition Report CPAL0001968, "Radiography Testing Shows Check Valve ES3340 Part Open With No Flow"
- Palisades Cycle 15 Principle Plant Parameters Table 2.9, "Engineered Safeguards Feature - High Pressure Safety Injection Pumps"
- Quarterly Operating Surveillance Procedure 19, "Inservice Test Procedure - High Pressure Safety Injection Pumps and Engineered Safeguards System Check Valve Operability Test," Revision 20
- Final Safety Analysis Report, Chapter 6, Table 6-3, "High Pressure Safety Injection Pump Data Summary," Revision 21
- Technical Specification 3.3, "Emergency Core Cooling System," Amendment 172, and the associated bases
- Technical Specification 4.6, "Safety Injection and Containment Spray System Tests," Amendment 174, and associated bases

b. Issues and Findings

There were no findings identified during this inspection.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors observed post maintenance testing for scheduled maintenance work performed on Low Pressure Safety Injection Pump P-67A and Auxiliary Feedwater

Pump P-8B. In addition, the inspectors reviewed the documentation regarding post maintenance testing associated with emergent work on Auxiliary Feedwater Pump P-8B.

The inspectors reviewed final test data and verified that the post maintenance tests demonstrated the overall systems and individual components were capable of performing the intended safety function. In addition, the inspectors reviewed the applicable sections of the TS Requirements and Final Safety Analysis Report, and the following plant procedures and documents:

- Basis Document for Quarterly Operating - 20A, "Inservice Test Procedure - Low Pressure Safety Injection Pumps," Revision 12
- Quarterly Operating Procedure - 20A, "Inservice Test Procedure - Low Pressure Safety Injection Pumps," Revision 12
- Monthly Operating Procedure - 38, "Inservice Test Procedure - Auxiliary Feedwater Pumps" Revision 14
- System Operating Procedure - 3, "Safety Injection and Shutdown Cooling System," Revision 44
- System Operating Procedure - 12, "Feedwater System," Revision 38
- Work Order 24012959, "Auxiliary Feedwater Pump P-8B Inboard Stuffing Box Cooling Water, Manual Valve FW144"
- Work Order 24012968, "Auxiliary Feedwater Pump Turbine Driver K-8 Outboard Bearing Cooling Water Inlet, Manual Valve FW147"
- Condition Report CPAL0001845, "Periodic and Predetermined Activity Control X-OPS477 Not Performed in Accordance with Administrative Procedures 5.14 and 5.01."

b. Issues and Findings

There were no findings identified during this inspection.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed and reviewed surveillance tests for the following risk-significant plant components or systems: Emergency Diesel Generator 1-2; Low Pressure Safety Injection Pump P-67B; and, Containment Spray Pump P-54C. The inspection included reviews of the applicable TS Requirements and Final Safety Analysis Report, in addition to the Design Basis Documents and vendor manuals. The following surveillance test procedures and plant documents were reviewed during these inspections:

- Technical Specification Surveillance Procedure RE-132, "Diesel Generator 1-2 Load Reject," Revision 1
- Basis Document for TS Surveillance Procedure RE-132, "Diesel Generator 1-2 Load Reject," Revision 0
- Quarterly Operating Procedure - 20B, "Inservice Test Procedure - Low Pressure Safety Injection Pumps," Revision 12
- Basis Document for Quarterly Operating Procedure - 20B, "Inservice Test Procedure - Low Pressure Safety Injection Pumps," Revision 14

- Quarterly Operating Procedure - 16C, “Inservice Test Procedure - Containment Spray Pumps,” Revision 16
- Basis Document for Quarterly Operating Procedure - 16, Revision 11

b. Issues and Findings

There were no findings identified during this inspection.

3. Safeguards

Cornerstone: Physical Protection

3PP4 Security Plan Changes

a. Inspection Scope

The inspectors reviewed Revision 43 to the Palisades Nuclear Plant Security Plan. The revision was submitted under the provisions of 10 CFR 50.54(p)(2) by licensee letter dated May 5, 2000. The inspectors verified during the review that the changes made to the Security Plan did not reduce the overall effectiveness of the plan.

b. Issues and Findings

There were no findings identified during this inspection.

4OA6 Meetings, including Exit

The inspectors presented the inspection results to Mr. Palmisano, Site Vice President and General Manager, and other members of licensee management at the conclusion of the inspection on June 30, 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, Operations Manager
S. C. Cote, Property Protection Supervisor
D. E. Cooper, General Manager, Plant Operations
P. D. Fitton, System Engineering Manager
D. G. Malone, Licensing
D. J. Malone, Engineering Director
G. C. Packard, Operations Superintendent
T. J. Palmisano, Site Vice President

NRC

D. Hood, Project Manager, NRR
A. Dunlop, Reactor Engineer, RIII
J. Colaccino, Mechanical Civil Engineering Branch, NRR

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF INSPECTIONS PERFORMED

The following inspectable-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
71111-04	Equipment Alignments	1R04
71111-05	Fire Protection	1R05
71111-12	Maintenance Rule Implementation	1R12
71111-13	Maintenance Risk Assessment and Emergent Work Evaluation	1R13
71111-15	Operability Evaluations	1R15
71111-19	Post Maintenance Testing	1R19
71111-22	Surveillance Testing	1R22
71130-04	Security Plan Changes	3PP4