February 27, 2001

Mr. John Paul Cowan
Site Vice President
Palisades Nuclear Generating Plant
Consumers Energy Company
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR GENERATING PLANT - NRC INSPECTION REPORT 50-255/01-05(DRS)

Dear Mr. Cowan:

On February 9, 2001, the NRC completed a routine inspection at your Palisades Nuclear Generating Plant. The enclosed report presents the results of that inspection. The results were discussed on February 9, 2001, with Mr. D. Cooper and other members of your staff.

The inspection was an examination of activities conducted under your license as they relate to radiation 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, tours of your facility, and interviews with personnel. Specifically, this inspection focused on aspects of Public Radiation Safety.

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).

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

Sincerely,

***/RA by John House Acting For/***

Gary L. Shear, Chief
Plant Support Branch
Division of Reactor Safety

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

Enclosure: Inspection Report 50-255/01-05(DRS)

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)
Emergency Management Division, MI Department
of State Police

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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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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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|---|---|
| Docket No: | 50-255 |
| License No: | DPR-20 |
| Report No: | 50-255/01-05(DRS) |
| Licensee: | Consumers Energy Company<br>212 West Michigan Avenue<br>Jackson, MI 49201 |
| Facility: | Palisades Nuclear Generating Plant |
| Location: | 27780 Blue Star Memorial Highway<br>Covert, MI 49043-9530 |
| Dates: | February 5-9, 2001 |
| Inspector: | D. Nelson, Radiation Specialist |
| Approved by: | Gary L. Shear, Chief<br>Plant Support Branch<br>Division of Reactor Safety |

# 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 05000255-01-05(DRS), on 02/05-02/09/01, Consumers Energy Company, Palisades Nuclear Generating Plant. Radiation Specialist report.

The inspection was conducted by a regional radiation specialist.

Cornerstones: Occupational and Public Radiation Safety

No findings of significance were identified.

Report Details

Summary of Plant Status: The Unit was at full power during the inspection period.

## 2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas

.1 Plant Walkdowns and Radiological Boundary Verifications

a. Inspection Scope

The inspector conducted walkdowns of the radiologically controlled area to verify the adequacy of radiological boundaries and postings. Specifically, the inspector walked down several radiologically significant work area boundaries (high and locked high radiation areas) in the Auxiliary Building, the East Radioactive Waste Building, and the spent fuel pool. In addition, confirmatory radiation measurements were performed to verify that access to these areas and to selected radiation areas were properly posted and controlled in accordance with 10 CFR Part 20, licensee procedures, and the Technical Specifications.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety

2PS2 Radioactive Material Processing and Transportation

.1 Walkdown of Radioactive Waste Systems

a. Inspection Scope

The inspector reviewed the liquid and solid radioactive waste system description in the Final Safety Analysis Report (FSAR) and the most recent radiological effluent release report (1999) for information on the types and amounts of radioactive waste disposal. The inspector performed walkdowns of the liquid and solid radwaste processing systems located in the Auxiliary Building, the Auxiliary Building Radwaste Addition, and the East Radwaste Building to verify that the systems agreed with the descriptions in the FSAR and the process control program (PCP), and to assess the material condition and operability of the systems. The inspector reviewed the current processes for transferring waste resin and evaporator bottoms into shipping containers to determine if appropriate waste stream mixing and/or sampling procedures, and the methodologies for waste concentration averaging provide representative samples of the waste product for the purposes of waste classification in 10 CFR Part 61.55 for waste disposal. During this inspection, the licensee was not conducting waste processing.

b. Findings

No findings of significance were identified.

.2 Waste Characterization and Classification

a. Inspection Scope

The inspector reviewed the licensee's radio-chemical sample analysis results for each of the licensee's waste streams including dry active waste (DAW), resins, evaporator bottoms, and filters. The inspector also reviewed the licensee's use of scaling factors to quantify difficult-to-measure radionuclides (e.g., pure alpha or beta emitting radionuclides). The reviews were conducted to verify that the licensee's program assures compliance with 10 CFR Part 61.55 and 10 CFR Part 61.56 as required by Appendix G of 10 CFR Part 20. The inspector also reviewed the licensees' waste characterization and classification program to ensure that the waste stream composition data accounts for changing operational parameters and thus remains valid between the annual sample analysis updates.

b. Findings

No findings of significance were identified.

.3 Shipment Preparation

a. Inspection Scope

Since there were no radioactive materials shipments during the inspection, the inspector reviewed the technical transportation instructions presented to workers during routine training. The review was conducted to verify that the licensee's training program provided timely training to personnel responsible for the conduct of radioactive waste processing and radioactive shipment preparation activities.

b. Findings

No findings of significance were identified.

.4 Shipping Records

a. Inspection Scope

The inspector reviewed five non-excepted package shipments completed in years 2000 and 2001 to verify compliance with NRC and Department of Transportation (DOT) requirements (i.e., 10 CFR Parts 20 and 71 and 49 CFR Parts 172 and 173).

b. Findings

No findings of significance were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspector reviewed a Chemistry & Radiological Services (C&RS) self-assessment, a Nuclear Performance Assessment Department (NPAD) audit, and an outside contractor's assessment of the Radioactive Waste Management Program to evaluate the effectiveness of the self-assessment process to identify, characterize, and prioritize problems. The inspector also verified that previous radioactive waste and radioactive materials shipping related issues were adequately addressed. The inspector also reviewed selected years 1999, 2000, and 2001 Condition Reports (C-Pal) that addressed radioactive waste and radioactive materials shipping program deficiencies. The review was conducted to verify that the licensee had effectively implemented the corrective action program.

b. Findings

No findings of significance were identified.

## 4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspector verified the licensee's assessment of its performance indicators (PI) for Public Radiation Safety. Since no reportable elements were identified by the licensee for the 1st, 2nd, 3rd, and 4th quarters of 2000, the inspector compared the licensee's data with 1st, 2nd, 3rd, and 4th quarter dose assessments to verify that there were no occurrences concerning the Public Radiation Safety Cornerstone.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

Exit Meeting Summary

The inspector presented the inspection results to Mr. D. Cooper, Plant General Manager, and other members of licensee management at the conclusion of the inspection on February 9, 2001. No proprietary information was identified by the licensee.

## PARTIAL LIST OF PERSONS CONTACTED

Licensee

T. Brown, Chemical & Radiological Services (C&RS), Manager
D. Cooper, Plant General Manager
N. Haskell, Licensing Director
D. Malone, Engineering Director
M. Shymanski, ALARA Coordinator
G. Szczotka, NPAD, Manager

NRC

J. Lennartz, Senior Resident Inspector

## ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

## LIST OF ACRONYMS USED

| | |
|---|---|
| ALARA | As-Low-As-Is-Reasonably-Achievable |
| C&RS | Chemistry and Radiological Services |
| CFR | Code of Federal Regulations |
| C-Pal | Condition Report |
| DOT | Department of Transportation |
| DAW | Dry Active Waste |
| FSAR | Final Safety Analysis Report |
| PCP | Process Control Program |
| NPAD | Nuclear Performance Assessment Department |

PARTIAL LIST OF DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspector to accomplish the objectives and scope of the inspection and to support any findings.

Station Procedures

| | |
|---|---|
| Proc No SOP 18D (Revision 8) | Operating the Vectra RVR-200 Unit |
| Proc No 3.07 (Revision 8) | 10 CFR Part 50.59 Safety Review |
| HP 6.35 (Revision 0) | Low Level Radioactive Waste Scaling Factor Methodology |

Nuclear Performance Assessment Department Audit and C&RS Self-Assessments

NPAD Palisades Radwaste Audit, A-00-06, June 12-16, 2000
Palisades Radioactive Waste Management Program Assessment, September 18-22, 2000
C&RS Focused Self-Assessment Report, Radioactive Shipping Program, September 14, 2000

Condition Reports

C-PALs # 99-0638, 99-0763, 00-0669, 00-1888, 00-2258, 00-2783, 00-2885, 00-2919

10CFR 50.59 Safety Reviews

PS&L Log No 95-00733, Radioactive Material Handling and Storage
PS&L Log No 98-00349, Removal of M-24 Auxiliary Boiler, M-25 Isolated Cooling Water System, P-111 Asphalt Recirculation Pump, T-111 Asphalt Storage Tank
PS&L Log No 99-00431, Installation of Vectra RVR-200 Radwaste Solidification Skid

Shipping Documents

| | |
|---|---|
| Shipment No 00-15 | Type A |
| Shipment No 00-20 | Type B |
| Shipment No 00-26 | Type A |
| Shipment No 00-50 | LSA II |
| Shipment No 01-04 | LSA II |

Other Documents

C&RS Department's Organization Chart
C&RS Department's Training Matrix
C&RS Decon Group HM126F Training Records
Course No. 166100, HM-126F General Awareness/Familiarization (Hazmat Training)
Palisades 2000 Effluent Releases (Preliminary Results), Liquid and Gaseous Release Dose Results
Process Control Program (PCP), Revision 8, September 1999