U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/82-13(DPRP)

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

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Facility Name: Palisades Nuclear Generating Plant

Inspection At: Palisades Site, Covert, MI

Inspection Conducted: May, 1982

Inspectors: B. L. Jorgensen DC Boyd for 6-24-82

J. K. Heller DC Boyd for 6-24-82

Approved By: D. C. Boyd, Chief DC Boyd 6-24-82
Reactor Projects,
Section 1A

Inspection Summary

Inspection during May, 1982 (Report No. 50-255/82-13(DPRP)
Areas Inspected: Routine Resident Inspection Program activities including review of plant trip; activities during plant shutdown; maintenance; surveillance; and reportable events. The inspection involved a total of 168 inspector-hours onsite by 2 NRC inspectors including 37 inspector-hours onsite during off-shifts.
Results: Of the 5 areas inspected, no items of noncompliance or deviations were identified in 4 areas. Two items of noncompliance (Violation of H.P. Procedure; violations of Administrative Procedures) were identified in the remaining area.

DETAILS

1. Persons Contacted

*R. W. Montross, General Manager
J. S. Rang, Operations/Maintenance Superintendent
H. J. Palmer, Technical Superintendent
G. H. R. Petitjean, Technical Engineer
W. S. Skibitsky, Operations Superintendent
B. L. Schaner, Operations Supervisor
C. H. Gilmor, Maintenance Superintendent
D. P. Spry, Property Protection Advisor
*W. P. Mullins, Chemistry/Health Physics Superintendent
*R. E. McCaleb, Quality Assurance Superintendent
S. Ghidotti, Shift Supervisor
A. S. Kanicki, Shift Supervisor
D. W. Kaupa, Shift Supervisor
E. I. Thompson, Shift Supervisor
D. W. Langschwager, Shift Supervisor
H. H. Dearth, Instrument and Control Supervisor
P. F. Bruce, Instrument and Control Engineer
J. Greenwood, Quality Assurance Administrator
*R. Kich, Daily Corporate Auditor
*W. L. Burmeister, Shift Technical Advisor
R. J. Frigo, Shift Technical Advisor
K. M. Farr, Nuclear Plant Public Affairs Director
B. J. Embrey, Associate Chemist
K. J. Speicher, Engineer Analyst

*Denotes those present at Management Interview on May 27, 1982.

Numerous other members of plant Operations/Maintenance, Technical, Training, and Chemistry/Health Physics staffs were also contacted.

2. General

The plant was taken critical on May 10, 1982, completing a steam generator inspection outage which started on April 24, 1982. The plant tripped from full power on May 12, 1982 when the exciter bearing (#9 bearing) failed. The plant was taken critical on May 26, 1982.

3. Plant Trip

On May 12, 1982, at 0021 hours the reactor automatically tripped on loss of load when the exciter bearing (#9) failed, resulting in exciter permanent magnet-generator (PMG) damage and consequent loss of excitation current for the main generator. The inspector ascertained the status of the reactor and safety systems by observation of control room indicators

and discussion with license personnel concerning plant parameters, emergency systems status and reactor coolant chemistry. The inspector verified the establishment of proper communication and reviewed the corrective actions taken by the licensee. All safety systems responded as expected, and the plant was taken critical on May 26, 1981 at 1511 hours after completion of repairs and associated testing.

No items of noncompliance or deviations were identified.

4. Activities During Shutdown

The inspector made frequent control room observations, reviewed applicable logs and conducted discussions with control room operators. The inspector verified the operability of selected emergency systems, reviewed tagout records, and verified proper return to service of affected components.

During review of Shift Supervisor log books 100 and 101 for the months of February, March, and April 1982, the inspector noted the "A" containment spray pump was declared inoperable on March 7, 1982, due to low flow. The shift supervisor performed the required action of the Technical Specification by verifying operability of the associated redundant components (containment fan coolers). The next day, Q-05, Valve Test Procedure (includes Containment Isolation Valves), was performed. This test strokes the service water inlet and outlet valves to the containment, which momentarily makes the containment air coolers inoperable. This item was discussed with the Operations Superintendent and at the management exit interview.

The inspector also noted that the licensee was not keeping a running total of Diesel Generator inoperability. This was discussed with the Operations Supervisor.

During a review of the Caution Tag Log, the inspector identified several apparent out-of-date entries. The licensee conducted an audit of the log entries against actual tag placement. For 20 of 58 "open" entries in one portion of the Log, the licensee found the entries should have been closed. Further review by the inspector established the licensee had not been auditing the Log monthly, as required by Palisades Administrative Procedure 4.0, Paragraph 5.13.5, prior to May, 1982, when the requirement was changed to provide for quarterly auditing. This matter was reviewed with the Operations Superintendent.

The inspector identified two erroneous Caution Tag Log entries not identified in the licensee's audit. One involved a valve inside containment which the licensee did not inspect due to plant conditions. Other information existed, however, to establish the valve was not tagged and positioned as indicated in the Log. The other erroneous entry involved a setpoint change on the heat tracing system circuits 401 and 402. The setpoints were restored to original in a preventive maintenance activity

for swaping primary and backup legs, but the tag and the log entry were not closed out. Further review of this matter indicated the setpoint change identified on the tag (and logged) was not processed in accordance with requirements, in that no Setpoint Change Sheet could be identified as reviewed and approved for this apparent temporary setpoint change as required by Administrative Procedure 9.6, Paragraph 5.3. Further, in trying to determine the proper setpoints for the heat trace circuits in question, the inspector reviewed procedures associated with the system. This review showed certain procedures (D.1.4 and SOP 2.A) relating to heat tracing had not been appropriately revised when the system was modified in 1980, and were therefore erroneous or incomplete. Prior revision (before system operation) of procedures for modified systems is a requirement of Administrative Procedure 9.0, Paragraph 5.4.8.

Adherence to Administrative Procedures is a requirement of Technical Specification 6.8.1.a by reference to Regulatory Guide 1.33 Appendix A. As such, the violations of Administrative Procedures stated above constitute an item of noncompliance with the referenced Technical Specification.

Additional tours and observations were made in the following areas:

a. turbine building

b. auxiliary building

c. protected area access control*

d. security fence*

e. feedwater purity building

f. overflow parking lot*

*including independent radiological surveys

The inspector verified implementation of radiation protection controls, station security plan, and housekeeping/cleanliness controls; observed plant equipment conditions, including potential fire hazards or fluids leaks; and verified that maintenance orders had been initiated for equipment in need of repairs.

During a tour of the turbine building the inspector observed 5 contractor employees exit the auxiliary building through doors 168 and 169 without checking for personnel contamination by using the detectors located at door 169. Two of the contractors, who were pushing wheelbarrows, stopped at door 169 to allow a health physics technician stationed at door 169 to frisk the wheelbarrows prior to exiting. The inspector asked the technician if the contractors were required to pass through the portal monitor prior to exiting the auxiliary building. The technician replied that use of the portal monitor was not required when

exiting the auxiliary building but was required when exiting from another work site in the area. This situation was brought to the attention of a health physics supervisor, and discussed with the Chemistry and Health Physics Superintendent. Palisades Plant Health Physics Procedure Section 1 (HP1) at paragraph 1.1.5.2.3, requires personnel leaving a restricted area to check for contamination by passing through a portal monitor or by a personnel survey with a frisker instrument. Paragraph 1.1.2.15 of HP1 defines the auxiliary building as a restricted area. Adherence to the Health Physics Procedures is a requirement of Technical Specification 6.8.1.a through Regulatory Guide 1.33. Failure to adhere to HP1 as described above is a noncompliance with the referenced Technical Specification.

The inspector performed a walkdown/review of selected safety-related systems using licensee checklists CL 6.1, East and West Shutdown Panel; and the charging pumps portion of CL 2.1, Chemical and Volume Control. The inspector verified the correct positioning of flow path valves, operability of essential instrumentation, and that no conditions degraded the system. The inspector found MV-2220 ("B" charging pump well vent) and MV-2221 ("C"charging pump well vent) closed. The checklist required these to be open. The inspector discussed this with the Shift Supervisor, who had the valves repositioned. System Operating Procedure 2A, Chemical and Volume Control and Letdown; Concentrated Boric Acid, also required these valves to be opened prior to starting the pumps. The inspector could not identify when or why the valves were closed, or whether the pumps were run with the valves closed, but noted that the pumps were in the automatic mode such that pressurizer low level would have started the pumps. The inspector determined that CL 2.1 had not been performed for about six months.

Discussion with plant personnel indicated that the position of these valves does not affect operability of the pumps. This item was discussed with the Operations Superintendent, who committed to prepare, evaluate, complete and document corrective action on the matter.

The inspector independently surveyed two radwaste trucks on May 13 and 19, 1982.

The inspector observed plant fire brigade training on May 19, 1982.

These reviews and observations were conducted to verify that facility operations were in compliance with the requirements established under Technical Specification 10 CFR and licensee procedures.

Two items of noncompliance and no deviations were identified.

5. Maintenance

The inspector observed/reviewed maintenance or construction activities on the systems or components listed below to ascertain they were conducted in conformance to applicable requirements.

a. Troubleshooting wide-range nuclear instrument NI-003

b. Replacement of exciter permanent magnet generator (PMG)

c. Installation/test activities - containment hydrogen monitor; containment and main steam radiation monitors

d. Construction on auxiliary building addition

The following were considered as appropriate during the review: approvals obtained prior to start of work; compliance to limiting conditions for operation; use of approved procedures where applicable; use of qualified personnel; maintenance of required records; functional or calibration testing for return-toservice; and implementation of radiological or fire protection controls, as appropriate.

Following completion of maintenance on the wide range nuclear instruments, the inspector verified the system was returned to service properly.

No items of noncompliance or deviations were identified.

6. Surveillance

The inspector observed testing as listed below and verified. utilization of adequate procedures; use of calibrated instrumentation; compliance to operability requirements; and independent review of test results.

a. Procedure MO-23: Low Pressure Safety Injection Pumps Test

b. Procedure SOP8, Attachment 2: Turbine Trip Testing

The inspector also reviewed a number of completed surveillance test packages to evaluate compliance to requirements. Some questions relating to technical content of procedures were derived in this review. Procedure MC-11, which provides for monthly chemical sampling of assorted systems, was noted to require operation of manual containment isolation valves to sample the safety injection accumulators as required by Technical Specifications. When this was discussed with licensee personnel, they evidenced familiarity with this apparent "Catch-22" and stated procedures MC-11 and QO-11 had both been identified for discussion/evaluation with the NRC office of Nuclear Reactor Regulation. Procedure QO-11 leak-tests several containment penetrations with check valves for which the physical test setup required might constitute a degraded containment isolation via reduced redundancy. The licensee's actions relating to evaluation of these matters were considered appropriate.

The inspector also noted that procedure MC-11 identifies itself as not required during shutdown periods, when in fact the spent fuel pool must be sampled irrespective of plant conditions. A review established the licensee did not omit required fuel pool sampling during the last shut-

down, but the matter was discussed with appropriate staff who indicated a revision or clarification would be considered.

As noted above (Paragraph 4), Procedure QO-5 involves valve stroke testing such that service water to the containment fan coolers is briefly interrupted. The plant Technical Specifications are oriented to containment cooling component operability as a function of emergency power supply source, rather than component type. No direct provisions exist for concurrent inoperability of all four fan coolers, since they are not all associated with the same emergency power train. The licensee's position for conditions beyond Technical Specifications' provisions would be to proceed to immediate controlled plant shutdown. This is considered appropriate by the inspector. Just when such conditions may be entered briefly and intentionally for testing purposes is less clear. The licensee had not previously recognized the existence of this question for QO-5.

Each of the above matters was discussed at the Management Interview.

7. Licensee Event Reports Followup

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with Technical Specifications.

a. (Closed) LER-81-10 "Datalogger Failure." During normal plant operation, the primary indicating position datalogger became inoperable. The licensee performed the actions required by the Technical Specification for an inoperable datalogger. A relay caused the datalogger failure; the relay was replaced.

b. (Closed) LER-81-22 "Inoperable Snubber." One snubber, without visual oil level, was separately identified during routine tours. The snubber was replaced with an operable unit from storage within the time requirements of the Technical Specifications.

c. (Closed) LER-81-32 "Gaseous Release." While sluicing resins to a demineralizer, a relief valve for the waste-gas system opened, resulting in an unplanned release through the stack. The licensee determined that the release was caused by an inadequate procedure and questionable system pressure controller. The licensee has changed the procedure and is evaluating the need for modifications.

d. (Closed) LER-81-34 "Isolated Backup Nitrogen Supply to Valve T-Rings." During performance of monthly surveillance to determine compliance with Technical Specification Limiting Conditions for Operation, valves in the backup nitrogen supply to the T-rings for CV 1813 and 1814 were found closed, making the backup supply inoperable. Primary supply to the T-rings was in service. CV 1813 and 1814 were operable while the nitrogen supply was inoperable.

The valves were opened immediately. Licensee review could not identify when/why the valves were closed.

e. (Closed) LER-81-36 and 38 "Excessive Local Leak Rate." Local leak rate tests performed during cold shutdown, revealed several penetrations with leakage in excess of allowable limits. The leakage was repaired and the penetrations were tested satisfactory prior to returning the unit to service.

f. (Closed) LER-81-40 "Lift Setting of Pressurizer Code Safety Out-of-Specification." Licensee testing of a pressurizer code safety, to verify relief setpoint determined that the setpoint was 60 pounds above the maximum lift setting allowed by Technical Specification. The safety was reset and tested; however, a leak developed requiring disassembly of the valve. Disassembly revealed the leakage appeared due to normal wear but did not identify a cause for the setpoint drift. The valve was reassembled and tested satisfactory. The remaining two valves were also tested satisfactory.

g. (Closed) LER-81-43 "Inoperable Refueling Area Monitor." During monthly surveillance of radiation monitors, it was determined that one of two radiation monitors, providing containment isolation during refueling, was inoperable. The monitor operability had been verified prior to fuel movement and was found inoperable after fuel transfer was completed. The detector was replaced, subsequent checks revealed no problems with the replacment detector. Intermittent cable connection problems were suspected. A review of other area monitors using the same type of cable connectors was performed with no problems identified.

h. (Closed) LER 81-47 "Inadequate Support for Diesel Fuel Oil Day Tank." During seismic reanalysis of the diesel fuel oil day tank, the licensee determined that the tanks could not withstand a "Safe Shutdown Earthquake" (SSE). The plant was in cold shutdown at the time of discovery and made modifications prior to returning the plant to service. The error is attributed to an original design review.

i. (Closed) LER-81=48 "Open Fire Barrier" The licensee found an unattended open fire barrier in the west engineered safeguards room. The fire barrier was opened the previous day to facilitate construction activities. The licensee determined that no formal mechanism existed to transfer fire watch responsibilities from contractor to site personnel; a mechanism was developed.

No items of noncompliance or deviations were identified.

8. Management Interview

A management interview (attended as indicated in Paragraph 1) was conducted at the conclusion of the inspection on May 27, 1982. The following items were discussed:

a. The inspectors described the scope and findings of the inspection, specifically identifying the apparent items of noncompliance (Paragraph 4).

b. The identification of mispositioned manual valves on the B and C charging pumps was discussed, the licensee indicating corrective action review and implementation would be done (Paragraph 4).

c. The technical questions derived in review of surveillance test procedures were identified. The licensee agreed to evaluate the matters which he had not previously identified himself (Paragraph 6).