

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/84-19(DRP)

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: September 9 through October 13, 1984

Inspector: B. L. Jorgensen

Approved By: *for* *John F. Swannick*
G. Wright, Chief *acting act. chf.*
Reactor Projects Section 2A

November 1, 1984
Date

Inspection Summary

Inspection During September 9 through October 13, 1984 (Report No. 50-255/84-19(DRP))

Areas Inspected: Routine, unannounced inspection by resident inspector of operational safety; maintenance; surveillance; and independent inspection areas. The inspection involved a total of 146 inspector-hours onsite by one NRC inspector including 41 inspector-hours onsite during off-shifts.

Results: No items of noncompliance or deviations were identified in any of the areas inspected.

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DETAILS

1. Persons Contacted

Consumers Power Company (CPCo)

*R. W. Montross, General Manager
W. P. Mullins, Chemistry/Health Physics Superintendent
*C. S. Kozup, Operations Superintendent
*D. W. Rogers, Technical Engineer
L. D. Seamans, Senior Engineer
D. L. Beach, Senior Plant Technical Analyst
*K. E. Osborne, Maintenance Superintendent
*D. G. Malone, Senior Engineer
*D. W. Volkers, Administrative Superintendent
*R. E. McCaleb, Quality Assurance Superintendent
E. Polk, Mechanical Maintenance Supervisor

*Denotes those present at the Management Interview.

Numerous other members of the plant Operations/Maintenance, Technical, and Chemistry/Health Physics staffs, and several members of the contract security force, were also contacted briefly.

2. Operational Safety

The inspector observed control room activities, discussed these activities with plant operators, and reviewed various logs and other operations records throughout the inspection. Control room indicators and alarms, logsheets, turnover sheets, and equipment status boards were routinely checked against operating requirements. Pump and valve controls were verified proper for applicable plant conditions. On a few occasions, the inspector observed shift turnover activities and shift briefing meetings.

Portions of a plant cooldown on September 9, 1984 were observed. The inspector specifically noted proper shutdown boron concentration was established and maintained for this evolution. Thereafter, the plant operated only from September 14 through 16, until primary coolant pump P-50C indicated controlled bleedoff seal failure. Licensee investigation subsequently identified severe internal damage to the pump impeller, shaft and hydrostatic shaft bearing, in addition to seal damage. The licensee's investigation into cause and appropriate corrective action remain incomplete. This matter is discussed further in subsequent sections of this report.

Tours were conducted in the turbine and auxiliary buildings to observe various work activities and testing (discussed elsewhere in this report) and to observe plant equipment condition, cleanliness, fire safety, and adherence to procedural and regulatory requirements. Routine Operations Department checks of fire extinguishers and hose stations throughout the toured facilities were verified current.

No items of noncompliance or deviations were identified.

3. Maintenance

The inspector reviewed and/or observed selected work activities and verified appropriate procedures were in effect controlling removal from and return to service, hold points, verification testing, fire prevention/protection, and cleanliness.

The following were observed/reviewed:

- a. Overhaul of auxiliary feedwater pump P-8B turbine governor
- b. Replacement of selected control rod drive assembly autoclave gaskets
- c. Primary coolant pump P-50C disassembly activities

In addition, specific reviews were performed on documentation relating to installation of the P-50C primary coolant pump rotating assembly in January 1984, in an attempt to identify whether the installation job may have contained errors which contributed to pump damage discovered during this inspection period. No such problems were identified.

No items of noncompliance or deviations were identified.

4. Surveillance

The inspector reviewed surveillance activities to ascertain compliance to scheduling requirements and to verify compliance to requirements relating to procedures, removal from and return to service, personnel qualifications, and documentation. The following test activities were inspected:

- a. Primary coolant pump seal test
- b. Auxiliary feedwater pump P-8B start testing to troubleshoot repeated turbine-driver overspeed trips
- c. Emergency diesel generator monthly surveillance test MO-7A2. The unit synchronization and loading were observed from the control room, then local performance indicator readings were examined in a tour of the diesel room with the unit running and loaded. Individual cylinder exhaust temperatures were identified by the licensee to be outside specified acceptable limits, and the diesel generator was declared "inoperable" and corrective maintenance performed as required.

No items of noncompliance or deviations were identified.

5. Independent Inspection Activities

- a. The inspector made observations concerning radiological safety practices in the radiation-controlled areas, including: verification of proper posting; accuracy and currentness of area status sheets;

verification of selected Radiation Work Permit (RWP) compliance; and implementation of proper personnel survey (frisking) and contamination control (step-off-pad) practices.

Health Physics logs and dose records were routinely reviewed.

- b. The inspector observed physical security activities at various access control points, including proper personnel identification and search, and toured security barriers to verify maintenance of integrity. Access control activities for vehicles and packages were occasionally observed.

The inspector also attended and observed a requalification training session involving weapons qualification for three contract security force members, and physical qualification testing for one force member.

- c. An ongoing review of all licensee corrective action program items at the Event Report level was performed.
- d. (Closed) Systematic Evaluation Program Item 255/S4-24-01: upgrade procedures for loss of AC power to assure nonessential DC loads are removed as appropriate to extend station battery life. The inspector verified completion of appropriate procedures as identified in the licensee's letter of September 26, 1984 on this subject.
- e. (Closed) IE Bulletin 84-01: "Cracks in BWR Mark I Containment Vent Headers." This Bulletin is applicable to selected boiling water reactors only. Palisades is a pressurized water reactor design.
- f. The inspector conducted continuing discussions with licensee personnel concerning safety-related bus IC failure to fast-transfer to startup power following a reactor trip on August 4, 1984. The Licensee Event Report (LER 84-15) suggests this was caused by a blown fuse subsequently discovered in the control circuitry. Further evaluation indicates this is not the case. This was discussed at the Management Interview.
- g. The inspector participated in a presentation to the Plant Operations Subcommittee of the Advisory Committee on Reactor Safeguards on October 9, 1984. This presentation covered the damage to primary coolant pump P-50C discovered by the licensee during this inspection period. The prior plant conditions, sequence of operating events, and effects on plant parameters were discussed, as were pump design and details of damage identified. Potential causes and information on licensee activities in progress or planned for identification of cause and corrective action were also reviewed. NRC Region III specialists are also involved in review of this matter, and their evaluations and findings will be covered in a separate inspection report. A Licensee Event Report is in preparation which is expected to serve as the focus for further NRC review and documentation thereof.

6. Management Interview

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

- a. The inspector described the scope and findings of the inspection as documented in these Details.
- b. The Systematic Evaluation Program open item (Paragraph 5.d) and the IE Bulletin (Paragraph 5.c) to be closed on the basis of this inspection were specifically identified.
- c. The need for additional review and possible supplementation of LER 84-15 concerning bus IC fast-transfer failure August 4, 1984 was discussed. The licensee indicated this matter would be re-examined and a correction issued if the information currently contained in the LER is found to be erroneous (Paragraph 5.f).