U.S. NUCLEAR REGULATORY COMMISSION

REGION III

RePort No. 50-255/82-20(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: August 1982

Inspectors: B. L. Jorgensen 9-29-82

J. K. Heller 9-29-82

Approved By: L. A. Reyes, Chief 9-29-82
Reactor Projects, Section 2B

Inspection Summary

Inspection during August 1982 (Report No. 50-255/82-20(DPRP))
Areas Inspected: Routine resident inspection program activities including: Inspection During Long-Term Shutdown; Maintenance; Surveillance; Reportable Events and Fire Protection. The inspection involved a total of 143 inspector-hours onsite by two NRC inspectors including 24 inspector-hours onsite during off-shifts.
Results: Of the five areas inspected, no items of noncompliance or deviations were identified in four areas. One item of noncompliance (Severity Level V - violation of safety related test procedures) was identified in the remaining area.

DETAILS

1. Persons Contacted

*R. W. Montross, General Manager
*J. S. Rang, Operations/Maintenance Superintendent
C. H. Gilmor, Maintenance Superintendent
W. S. Skibitsky, Operations Superintendent
G. H. R. Petitjean, Technical Engineer
*D. W. Rogers, Licensing Analyst
K. M. Farr, Nuclear Plant Public Affairs Director
P. J. Stoner, General Health Physicist
K. E. Osborne, Supervisory Engineer
B. L. Schaner, Operations Supervisor
E. I. Thompson, Shift Supervisor
W. M. Hodge, Plant Property Protection Supervisor
D. P. Spry, Property Protection Advisor
P. L. Wick, Document Control Supervisor
D. M. King, Planning and Scheduling Administrator
R. A. Fenech, Senior Engineer
*J. A. Greenwood, Quality Assurance Administrator
*R. M. Krich, Technical Engineer

*Denotes those present at Management Interview on September 2, 1982.

Numerous other members of the plant staff were contacted briefly.

2. Inspection During Long Term Shutdown

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the month of August 1982. The inspector reviewed tagout records, and verified applicability of containment integrity. Tours of containment, auxiliary, and turbine building accessible areas were made to make independent assessments of equipment conditions, plant conditions, radiological controls, safety, and adherence to regulatory requirements and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector observed plant housekeeping/cleanliness conditions, including potential fire hazards, and verified implementation of radiation protection controls. The inspector by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

During a tour of the containment building, the following were noted:

a. light fixtures apparently stored on the polar crane

b. refueling deck - unsecured cabinets, electrical covers; loose power cord, bucket of bolts; loose paper and steel tape on refueling machine

c. general - six pairs toe rubbers, numerous pens, five rolls of tape, six flashlights, numerous pieces of paper

The above items were referred to the appropriate licensee personnel for action. The inspector expressed concern that the cleanup activities did not appear to be organized.

A tour of the cable-spreading room overhead, including cable trays, identified miscellaneous clutter (rags, cardboard, wood, a blanket and pillow) on the battery room roof or in the trays - apparently left after completion of cable-pulling and penetration sealing in the area. Four new motor control centers were noted to have one or more unsealed penetrations. These were corrected prior to startup.

The inspector verified proper lineup of selected safety systems by use of the following checklists:

a. CL 3.2 Engineered Safeguards System
b. CL 6.2 Remote Shutdown Panel
c. CL 22.1 Emergency Diesel Generators
d. CL 22.2 Fuel Oil System

The inspector observed licensee preparations for plant startup. This included observations and review of two special tests to accomodate findings during various reviews that potential design problems existed for essential service water flow distribution and control, and for the engineered safety features sequencer logic with loss of offsite power.

The licensee conducted Special Test SWSO-2, "Adjustment of SWS Valves to Obtain Proper System Response During a DBA," in order to determine the proper placement of CCW heat exchanger outlet valve mechanical stops. The mechanical stops are to prevent excessive opening of the valves if control air is lost during or after a DBA. The test was completed successfully.

Special Test T-157 "DBA Sequencer Test" was conducted to demonstrate the adequacy of procedural revisions for operator response if a safeguards actuation occurs after the normal shutdown sequencer times out on a loss of offsite power. Pending circuit modifications to correct a logic fault "blocking" the DBA sequencer under these conditions, the operators will manually cycle the DBA sequencers by use of the shutdown sequencer "Test" switches. This test was also completed successfully, though several problems first had to be corrected.

On the first test run, the normal shutdown sequencer failed to cycle. This was ultimately traced to dirty contacts, which were cleaned. On the second run, the CCW valves to containment isolated, causing the licensee to abort the test so CCW cooling could be restored to the running primary coolant pump seals. The SIS signal isolates CCW by design, but the licensee had installed jumpers to prevent this undesirable action for purposes of the test. While investigating this

problem, licensee personnel entered the CCW room and isolated control air to one of the isolation valves (CV-0910), thus rendering the valve incapable of closing. This action was performed without the knowledge or consent of the operating crew and was outside the scope of the shift supervisor authorization to perform the test procedure. The operating crew discovered the improper action of the test personnel momentarily after the air was isolated and had the system restored to its proper condition. Further review showed the jumper was improperly installed. After this was corrected, the test was completed successfully. Technical Specification 6.8.1 requires shift supervisor oversight and authorization for testing of safety-related equipment. The disabling of valve CV-0910 was beyond the scope authorized for the test procedure in use for this safety-related test and,as such, represents an item of noncompliance with the referenced Technical Specification. This is a Severity Level V violation.

One noncompliance and no deviations were identified.

3. Monthly Surveillance Observation

The inspector observed Technical Specifications required surveillance testing as listed below and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restorations of the affected components were accomplished, that test results conformed with Technical Specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

a. RI-37 "Auto Stop Trip Switch Calibration"

b. DWD-13 "Local Leak Rate Tests for Inner and Outer Personnel Air Lock Door Seals"

c. MI-2 "Reactor Protective Trip Units"

d. RO-22 "Control Rod Drop Times"

e. RO-21 "Control Rod Drive Systems Interlocks"

f. MC-11 "Safeguard Boron Sampling" (Safety Injection tanks only)

No items of noncompliance or deviations were identified.

4. Monthly Maintenance Observation

Station maintenance activities of safety-related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with Technical Specification.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and, fire prevention controls were implemented.

Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety related equipment maintenance which may affect system performance.

The following maintenance activities were observed/reviewed.

a. Installation of control rod drive packages for mechanisms 10 and 36.

b. Wide range nuclear instrumentation NI-003 and NI-004 repairs.

c. Calibration of two Safety Injection Tank level transmitters.

d. Hydrostatic checkout of MV-3420 ESS.

e. Test of a replacement drive package for control rod drive mechanism 37.

f. Cleaning of sequencer contacts.

g. Replacement of "O"-rings for the inner personnel air lock door.

No items of noncompliance or deviations were identified.

5. 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-80-36 "Gaseous Release." During normal plant operation an unplanned gas release occurred through leaks in a vacuum degasifier pump to a monitored release path. The licensee identified and repaired numerous leaks. The licensee calculations were verified in a previous inspection report.[1] The inspector requested the Technical Engineer to revise this LER by rewriting the cause description and corrective action taken.

[1] IE Inspection Report No. 50-255/81-27.

b. (Closed) LER-81-25 "Failure of Shutdown Sequencers." During a test of the shutdown sequencers, the left and right channel failed. Additionally, the components on the left channel could not be started. The right channel failure was caused by a sticking clutch; the clutch was cleaned and lubricated. The left channel failure was caused by dirty contacts; the contacts were cleaned. A preventive maintenance program was established to perform the above on a regular basis. Failure of the left channel sequencers loads to start was attributed to the Measuring and Testing Equipment used; this problem was resolved by revising the test method.

c. (Closed) LER-81-30 "Shutdown Cooling System Isolation." During cold shutdown with shutdown cooling in service, a control valve failed closed and isolated shutdown cooling. Primary system temperature increased 74°F from desired temperature, but did not exceed temperature requiring containment integrity. Failure of the control valve is attributed to water in the instrument air line. The licensee installed a filter and drain in the line and is planning to install an alarm to alert operators in the event shutdown cooling is lost.

d. (Closed) LER-82-12 "Steam Generator Tube Defects." The licensee placed the plant in cold shutdown when a determination was made that primary to secondary leakage exceeded the Technical Specification limit. Eddy current tests identified two leaking tubes and several tubes with defects; the tubes were plugged prior to restoring the plant to service. The licensee has agreed to an NRC request to implement a more restrictive primary-to-secondary leakage limit during the current operating cycle.

e. (Closed) LER-82-13 "Failure of Safety Injection and Refueling Water (SIRW) Tank Outlet Valve to Close." During valve stroking, the SIRW Tank outlet valve (CV-3057) failed to close. Inability of valve to close affects operability of associated HPSI pumps following the recirculation actuation signal. Inspection of a solenoid valve in the opening air for CV-3057 revealed a small piece of teflon tape located in the valve. The tape prevents proper operation of the solenoid valve, thereby preventing CV-3057 from closing. The solenoid valve was cleaned; proper taping techniques were reviewed with maintenace personnel. The plant was in cold shutdown at the time of discovery; CV-3057 was made operable prior to returning the plant to service.

f. (Closed) LER-82-14 "Excessive Leakage Through Escape Lock Inner Door." During an investigation of leakage through the escape lock inner door the licensee determined that there was unacceptable leakage through the inner door seal. Since the outer door was open during the investigation, containment integrity requirements were not met for a brief period. Examination of the door gasket revealed a permanent set which hampered obtaining a seal. The gasket was replaced, tested and declared operable in the time limits of the Technical Specifications.

No items of noncompliance or deviations were identified.

6. Fire Protection/Prevention Annual Inspection

The inspector examined the licensee installed fire detection and suppression systems, manual fire fighting equipment, fire brigade training and administrative controls over combustible materials and ignition sources. These aspects of the fire proection program were reviewed using the requirements in the facility Technical Specifications and the fire Protection/prevention Program implementing procedures.

a. Procedures Reviewed

(1) Fire Protection Implementing Procedure (Section 1 - Section 6)

(2) Fire equipment checks lists (CL 21.0-21.12, 21.14 and 21.16). These checklists are performed monthly, semiannually or yearly and confirm operability of the plants fire fighting equipment. The inspector reviewed the checklist performed from January, 1982 to July, 1982; no problems were noted.

(3) MO-7B "Fire Pumps P-9A, P-9B and P-41"

(4) MO-26 "Fire Suppression Water System Valve Alignment and Fire Hose System"

b. Plant Tours

The inspector examined combustible material and ignition source controls during tours of the areas identified in Paragraph 2.

c. Findings

No items of noncompliance or deviation were identified.

7. Management Interview

A management interview (attended as indicated in Paragraph 1) was held following completion of the inspection on September 2, 1982. The following items were discussed:

a. The inspectors summarized the scope and findings of the inspection.

b. The single item of noncompliance was specifically identified and discussed (Paragraph 2).

c. Housekeeping items identified in various tours were identified. The inspector concerns relating to proper cleanup prior to clearing from containment were restated.