



Consumers
Power

**POWERING
MICHIGAN'S PROGRESS**

Palisades Nuclear Plant: 27780 Blue Star Memorial Highway, Covert, MI 49043

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Nuclear Regulatory Commission
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**DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT - TECHNICAL SPECIFICATIONS
CHANGE REQUEST - INSTRUMENTATION AND CONTROLS - REVISED PAGES.**

Enclosed are six revised Instrumentation and Control Technical Specification change request pages. The changes, necessary due to intervening amendments, contain the following differences from those pages submitted in the March 11, 1994 and February 22, 1994 letters on this subject are:

- 1) The Table of Contents has been updated for Amendment 161.
- 2) A typographical error in item 3.10.5c on proposed page 3-52 was corrected. "in excess to 40%" was corrected to "in excess of 40%." The initial issue of the Palisades Technical Specifications and Amendment 31, which re-issued the affected text, contain "in excess of 40%."
- 3) Surveillance requirement 4.1, on proposed page 4-6, was updated for changes made by Amendment 160.
- 4) Surveillance table 4.2.2, on proposed page 4-13, was updated for changes made by Amendment 161.
- 5) The word "sensors" in the second line of item 6 on proposed basis page B 3.16-2 was corrected to "sensor".

As mentioned in our November 15, 1991 letter, we request that the associated license amendment become effective no sooner than 60 days after approval to allow completion of the associated training and procedure changes.

The changes proposed in this letter do not alter the conclusions of the No Significant Hazards Analysis contained in our November 15, 1991 and April 7, 1994 letters on this subject. A copy of this letter has been sent to the State of Michigan.

David W. Rogers
Plant Safety and Licensing Director

CC Administrator, Region III, USNRC
Resident Inspector, Palisades

Attachment

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PDR ADDCK 05000255
P PDR

A CMS ENERGY COMPANY

ADD 1

ATTACHMENT

Consumers Power Company
Palisades Plant
Docket 50-255

INSTRUMENTATION AND CONTROL TECHNICAL SPECIFICATIONS CHANGE REQUEST

Revised Proposed Pages

August 23, 1994

6 Pages

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PALISADES PLANT TECHNICAL SPECIFICATIONS
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3.10 CONTROL ROD AND POWER DISTRIBUTION LIMITS (Contd)

3.10.4 Misaligned or Inoperable CONTROL ROD or Part-Length Rod

- a. A CONTROL ROD or a part-length rod is considered misaligned if it is out of position from the remainder of the bank by more than 8 inches.
- b. A CONTROL ROD is considered inoperable if it cannot be moved by its operator or if it cannot be tripped. A part-length rod is considered inoperable if it is not fully withdrawn from the core and cannot be moved by its operator. If more than one CONTROL ROD or part-length rod becomes misaligned or inoperable, the reactor shall be placed in the hot shutdown condition within 12 hours.
- c. If a CONTROL ROD or a part-length rod is misaligned, hot channel factors must promptly be shown to be within design limits or reactor power shall be reduced to 75% or less of RATED POWER within two hours. In addition, shutdown margin and individual rod worth limits must be met. Individual rod worth calculations will consider the effects of xenon redistribution and reduced fuel burnup in the region of the misaligned CONTROL ROD or part-length rod.

3.10.5 Regulating Group Insertion Limits

- a. To implement the limits on shutdown margin, individual rod worth and hot channel factors, the limits on CONTROL ROD regulating group insertion shall be established as shown on Figure 3-6. The 4-pump operation limits of Figure 3-6 do not apply for decreasing power level rapidly when such a decrease is needed to avoid or minimize a situation harmful to the plant personnel or equipment. Once such a power decrease is achieved, the limits of Figure 3-6 will be returned to by borating the CONTROL RODS above the insertion limit within two hours. Limits more restrictive than Figure 3-6 may be implemented during fuel cycle life based on physics calculations and physics data obtained during plant start-up and subsequent operation. New limits shall be submitted to the NRC within 45 days.
- b. The sequence of withdrawal of the regulating groups shall be 1, 2, 3, 4.
- c. An overlap of control banks in excess of 40% shall not be permitted.
- d. If the reactor is subcritical, the rod position at which criticality could be achieved if the CONTROL RODS were withdrawn in normal sequence shall not be lower than the insertion limit for zero power shown on Figure 3-6.

Amendment No. 31,

Basis: Table 3.16 (continued)

large leak could cause the area dose rate to quickly exceed the 20 R/h setting and initiate CHR.

4. Steam Generator Low Pressure - A separate Steam Generator Low Pressure (SGLP) signal is provided from each generator. The individual channel signals from each generator are combined in 2 out of 4 logic to initiate a SGLP signal for that generator. Each SGLP signal actuates closure of both Main Steam Isolation Valves (MSIVs) and closure of the feed water regulating valve and its bypass for the associated generator.

The setpoint was chosen to be low enough to avoid actuation during plant operation, but be close enough to full power operating pressure to be actuated quickly in the event of a MSLB. The setting of includes a -22 psi uncertainty allowance and was the setting used in the FSAR Section 14 analysis.⁽²⁾

5. Steam Generator Low Level - The Auxiliary Feedwater Actuation Signal (AFAS) is initiated by 2 out of 4 low level signals occurring for either steam generator. The setpoint is the same as that for Reactor Trip. The setpoint was chosen to assure that Auxiliary Feedwater Flow would be initiated while the steam generator could still act as a heat sink and steam source, and to assure that a reactor trip would not occur on low level without the actuation of Auxiliary Feedwater.

6. SIRW Tank Low Level - Four SIRWT level sensors are arranged to provide two independent Recirculation Actuation Signals. Each low level sensor is powered from a separate Preferred AC bus; thus two are ultimately powered from each station battery. Each Recirculation Actuation Signal (RAS) circuit is wired with the contacts from the pair of level sensors powered from the same battery in parallel. These two parallel circuits are wired in series, producing a "1 out of 2 taken twice" logic. RAS for each train is actuated by either switch from the left battery sensing low level concurrently with either switch from the right battery. This circuit is illustrated in reference 3.

The RAS signal is actuated by separate sensors from those which provide tank level indication. The allowable range of 21" to 27" above the tank floor corresponds to 1.1% to 3.3% indicated level. Typically the actual setting is near the midpoint of the allowable range.

Each RAS actuates the valves in the injection and spray pump suction lines for the associated train switching the water supply from the SIRW tank to the containment sump for a recirculation mode of operation. The time required to reach the RAS setpoint depends on the initiating event. Following a DBA, RAS would occur after a period of approximately 20 minutes. The setpoint was chosen to provide adequate water in the containment sump for HPSI pump net positive suction head following an accident, but prevent the pumps from running dry during the 60 second switchover.

4.1 OVER PRESSURE PROTECTION SYSTEM TESTS

Surveillance Requirements

In addition to the requirements of Specification 4.0.5, each PORV flow path shall be demonstrated OPERABLE by:

1. Testing the PORVs in accordance with the inservice inspection requirements for ASME Boiler and Pressure Vessel Code, Section XI, Section IWB, Category B valves.
2. Performance of a CHANNEL CALIBRATION on the PORV actuation channel at least once per 18 months.
3. When the PORV flow path is required to be OPERABLE by Specification 3.1.8.1:
 - (a) Performing a complete cycle of the PORV with the plant above COLD SHUTDOWN at least once per 18 months.
 - (b) Performing a complete cycle of the block valve prior to heatup from COLD SHUTDOWN, if not cycled within 92 days.
4. When the PORV flow path is required to be OPERABLE by Specification 3.1.8.2:
 - (a) Performance of a CHANNEL FUNCTIONAL TEST on the PORV actuation channel, but excluding valve operation, at least once per 31 days.
 - (b) Verifying the associated block valve is open at least once per 72 hours.
5. Both High Pressure Safety Injection pumps shall be verified inoperable at least once per 12 hours, unless the reactor head is removed, when either PCS cold leg temperature is $< 260^{\circ}\text{F}$, or when both shutdown cooling suction valves, MO-3015 and MO-3016, are open.

Basis

With the reactor vessel head installed when the PCS cold leg temperature is less than 260°F , or if the shutdown cooling system isolation valves MO-3015 and MO-3016 are open, the start of one HPSI pump could cause the Appendix G or the shutdown cooling system pressure limits to be exceeded; therefore, both pumps are rendered inoperable.

Amendment No. ~~130, 149, 160,~~

Table 4.2.2 (continued)Minimum Frequencies for Equipment Tests

12. Iodine Removal System

The Iodine Removal System shall be demonstrated operable:

- a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.
- b. At least once per 6 months by:
 1. Verifying the volume of sodium hydroxide in tank T-103.
 2. Verifying the concentration of sodium hydroxide in T-103.

13. Containment Purge and Ventilation Isolation Valves

The Containment Purge and Ventilation Isolation Valves shall be determined closed:

- a. At least once per 24 hours by checking the valve position indicator in the control room
- b. At least once every 6 months by performing a leak rate test between the valves.

14. Shutdown Cooling

To meet the shutdown cooling requirements of Section 3.1.9:

- a. The required reactor coolant pump(s), if not in operation should be determined to be OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.
- b. The required steam generator(s) shall be determined OPERABLE by verifying the secondary water level to be $\geq 84\%$ at least once per 12 hours.
- c. At least one coolant loop or train shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

15. Main Feedwater Isolation

- a. Verify that the Main Feedwater Regulating valve and the associated bypass valve close on an actual or simulated Containment High Pressure (CHP) signal once each 18 months.
- b. Verify that the Main Feedwater Regulating valve and the associated bypass valve close on an actual or simulated Steam Generator Low Pressure (SGLP) signal once each 18 months.

Amendment No. 81, 90, 158, 160, 161,