



**Consumers
Power**

**POWERING
MICHIGAN'S PROGRESS**

Kenneth W Berry
Director
Nuclear Licensing

General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-1636

August 4, 1988

Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

DOCKET 50-~~45~~¹²⁵⁵ - LICENSE DPR-20 - PALISADES PLANT -
TECHNICAL SPECIFICATIONS CHANGE REQUEST - CORE COOLING INSTRUMENTATION

Enclosed is a proposal to change the Palisades Technical Specifications. The change modifies the permissible bypass condition for the Subcooling Margin Monitor (SMM) and adds operation and surveillance requirements for the Reactor Vessel Level Monitoring System (RVLMS). Modifications to the plant during the upcoming refueling outage will modify the SMM and install the RVLMS. These modifications are consistent with the information provided to the NRC in letters dated September 25, 1986, July 25, 1986, and June 11, 1986.

Consumers Power Company will be submitting another change request consistent with Generic Letter 87-09 (Sections 3.0 & 4.0 of STS). That change will revise specification 3.0.4 and eliminate the need for footnote (1) as proposed in this Technical Specification Change Request. Should the review of this change follow the changes to Sections 3.0 and 4.0 we request footnote (1) be deleted.

In the NRC letter dated January 12, 1987, the NRC suggested this Technical Specifications Change Request be made as part of implementation letter report following completion of the core cooling instrumentation installation. We are providing this change request in advance to allow adequate time for review prior to submittal of the implementation letter report. We request the amendment become effective 30 days following issuance of your approval. A check for \$150.00 is attached as required by 10CFR170.12.

Kenneth W Berry

Kenneth W Berry
Director, Nuclear Licensing

CC Administrator, Region III, NRC
NRC Resident Inspector - Palisades

Attachment

OC0788-0075-NL02

8808160352 880804
PDR ADOCK 05000255
P PDC

*A001
w/check \$150
210684*

CONSUMERS POWER COMPANY
Docket 50-255
Request for Change to the Technical Specifications
License DPR-20

For the reasons hereinafter set forth, it is requested that the Technical Specifications contained in the Provisional Operating License DPR-20, Docket 50-255, issued to Consumers Power Company on October 16, 1972, for the Palisades Plant be changed as described in Section I below:

I. Change(s)

- A. Change the permissible Bypass Conditions of Table 3.17.4 Item 12 to read:

"Not required below 325°F."

- B. Add a new item to Table 3.17.4 as follows:

<u>No</u>	<u>Functional Unit</u>	<u>Minimum Channels Operable</u>	<u>Minimum Degree of Redundancy</u>	<u>Permissible Bypass Conditions</u>
()	Reactor Vessel Water Level	2 (i,j,k,l)	None	Not Required Below 325°F

Table Notes

- (i) A level channel consists of eight sensors in a probe. A channel is OPERABLE if four or more sensors, two or more of the upper four and two or more of the lower four, are OPERABLE. There are two channels.
- (j) With the number of OPERABLE Channels one less than the minimum channels operable requirement, in lieu of the requirement of 3.17.2, either restore the system to OPERABLE status within 7 days, if repairs are feasible without shutting down, or prepare and submit a Special Report to the Commission within 30 days, following the event, outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the systems to OPERABLE status.
- (k) With both channels inoperable, in lieu of the requirement of 3.17.2, either restore the inoperable channel(s) to OPERABLE status within 48 hours if repairs are feasible without shutting down or:
1. Initiate an alternate method of monitoring the reactor vessel inventory; and

2. Prepare and submit a Special Report to the Commission within 30 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status; and
3. Restore the system to OPERABLE status at the next scheduled refueling.

(1) The provisions of Specification 3.0.4 are not applicable.

C. Add a new item to Table 4.1.3 as follows:

	<u>Channel Description</u>	<u>Surveillance</u>		<u>Surveillance Method</u>
		<u>Function</u>	<u>Frequency</u>	
()	Reactor Vessel Water Level	a) Check	M	a) Comparison of readings from redundant channels
		b) Calibrate	R	b) Substitute known voltage for thermocouples, and increase heater current to heated junction thermocouples and observe proper response

II. Discussion

These Technical Specification changes are requested to be made as a result of the installation of the Core Cooling Instrumentation Facility Change (FC-567) to be completed during the 1988 refueling outage. These proposed changes modify the existing specification for the Subcooled Margin Monitors and add new specifications for the Reactor Vessel Level Monitoring System. A discussion of each of the proposed changes is provided below.

Subcooled Margin Monitor

Currently the Subcooled Margin Monitors (SMM) are provided with temperature inputs which cover the range of 515 - 615°F. Below 515°F the SMM's indicate off scale low. The current Technical Specifications reflect the inability of the SMM's to operate below 515°F by allowing them to be inoperable below this temperature. During the 1988 RFO, the temperature inputs to the SMM will be modified to cover the range from 50-700°F. Based on the increased temperature range, the SMM Technical Specification in Table 3.17.4 is being changed to reflect that the

SMM's are required to remain operable whenever primary temperature is above 325°F. This is more restrictive than the existing requirement. The 325°F operability limit is based on "Standard Technical Specifications for Instrumentation for Inadequate Core Cooling" provided by the NRC in Generic Letter 83-37. 325°F was chosen as the lower operating limit as this is the temperature at which the decay heat removal system is placed in operation. This is consistent with Generic Letter 83-37 which requires that the SMM be operable in Mode 3 (Hot Standby) and above.

Reactor Vessel Level Monitoring System

A Reactor Vessel Level Monitoring System (RVLMS) will be incorporated into the Palisades design during the 1988 refueling outage. The proposed change incorporates the RVLMS into the Technical Specifications as required by Generic Letter 83-37. The details of the specification are based on Combustion Engineering Owners Group proposed Standard Accident Monitoring Instrumentation Technical Specifications for the CE designed Reactor Vessel Level Monitoring System using a Heated Junction Thermocouple concept (Reference 1). This proposed Technical Specification was found acceptable by the NRC in a Safety Evaluation forwarded to the CE Owners Group (Reference 2).

The proposed TS defines a channel (eight sensors in a probe) to be operable if at least four of its eight sensors are operable. There are two level sensing channels. The TS further stipulates that two or more of the upper four sensors (upper head region) be operable, and that two or more of the lower four sensors (plenum region) be operable. These stipulations are consistent with the geometry of the plant and the probe design and sensor spacing.

The action statements permit seven days to repair a failed channel if repairs can be effected without shutting down. If repairs are not feasible during operation, then a special report must be filed with NRC within 30 days. If both channels are inoperable, then 48 hours are permitted to restore operability or else alternate methods of monitoring reactor vessel inventory must be instituted, a special report filed with NRC within 30 days and operability restored at the next refueling shutdown.

The RVLMS being installed at Palisades is provided by Technology for Energy Corporation (TEC) and is not a CE provided system. The Palisades system does, however, work on the same principle of heated junction thermocouples as does the CE system. The basic difference between the design being utilized at Palisades and the CE design is the location of the sensor probes. In the CE designed system, the probes are installed through spare control rod drive flanges on the reactor head whereas the Palisades design installs the probes in existing incore instrument tubes through the instrumentation flange mounted on the reactor head. The Palisades design is similar to the CE design for their System 80 plants in that four heated junction

thermocouples are provided to monitor level in the upper head region and four heated junction thermocouples are provided to monitor level in the plenum region. The TEC provided level monitoring system at Palisades has been reviewed by the NRC (Reference 3) and found acceptable for use as an RVLMS. Based on the similarity of design between the CE system and the TEC system being provided at Palisades, it has been concluded that the requirements applicable to the CE designed RVLMS are directly applicable to the TEC designed RVLMS.

Analysis of No Significant Hazards Consideration

Technical Specifications relating to instrumentation and controls administratively specify the minimum equipment required to be operable for continued plant operation. Incorporating instrumentation in Technical Specifications provides additional assurance that the equipment will be available for use in the unlikely event of an accident. Incorporating minimum equipment requirements in Technical Specifications cannot increase the probability of an accident or malfunction of equipment. Incorporating equipment in Technical Specifications may reduce the consequences of an accident as it assures that required equipment is operable when required.

The basis for the operability of instrumentation and control systems is given in Section 3.17 of the Palisades Technical Specification. This section states that in the event the number of channels of a particular system in service falls below the limits given in the columns entitled "Minimum Channels Operable" or "Minimum Degree of Redundancy", except as conditioned by the column entitled "Permissible Bypass Conditions", the reactor shall be placed in a hot shutdown condition within 12 hours. The new Technical Specification for the Reactor Vessel Level Monitoring System is written in a manner which will allow continued operation with less than the "Minimum Channels Operable" specified. This exception to the existing Technical Specification basis is considered acceptable as it does not reduce the margin of safety of any existing instrumentation system. Further the basis for the removal of RVLMS channels from service during operation has previously been found acceptable by the NRC. (Reference 2)

References

1. CE Owners Group Letter from RWWells (CEOG) to HLThompson (NRC), RWN-85-12, dated February 19, 1985. "Technical Specification for the Reactor Vessel Level Monitoring Systems."
2. DMCrutchfield (NRC) letter to RWWells (CEOG) dated October 28, 1986, "Safety Evaluation of Generic Technical Specification Proposed by Combustion Engineering Owners Group for the Reactor Vessel Level Monitoring System."

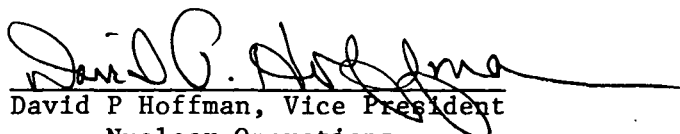
3. ACThadani (NRC) letter to KWBerry (CPCo) dated January 19, 1987, "Palisades - NUREG-0737, Item II.F.2 Inadequate Core Cooling Instrumentation."

III. Conclusion

The Palisades Plant Review Committee has reviewed this Technical Specification Change Request and has determined that this change does not involve an unreviewed safety question and therefore involves no significant hazards consideration. This change has also been reviewed under the cognizance of the Nuclear Safety Board. A copy of this Technical Specification Change Request has been sent to the State of Michigan official designated to receive such Amendments to the Operating License.

CONSUMERS POWER COMPANY

By


David P Hoffman, Vice President
Nuclear Operations

Sworn and subscribed to before me this 4th day of August, 1988.



Elaine E Buehrer, Notary Public
Jackson County, Michigan

My commission expires October 31, 1989