September 15, 1989

Docket No. 50-255
Serial No. PAL-89-104

Mr. Kenneth W. Berry
Director, Nuclear Licensing
Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

Dear Mr. Berry:

DISTRIBUTION:
Docket File (50-255)
NRC/Local PDRs
PD31 Reading
MVirgilio
RIngram
ADeAgazio
JThoma
OGC (FYI)
DHagan
EJordan
TMeek (4)
WJones
JCalvo
ACRS (10)
GPA/PA
OC/LFMB
Gray File

SUBJECT: AMENDMENT NO.129 TO PROVISIONAL OPERATING LICENSE NO. DPR-20: CORE COOLING INSTRUMENTATION (TAC NO. 69224)

The Commission has issued the enclosed Amendment No. 129 to Provisional Operating License No. DPR-20 for the Palisades Plant, in response to your application dated August 4, 1988.

This amendment adds Technical Specification (TS) requirements related to the operability and surveillance of the reactor vessel level monitoring system (RVLMS) which was installed during the 1988 refueling outage. In addition, operability requirements for the subcooling margin monitor are extended from 515°F and greater to 325°F and greater. This letter also acknowledges receipt and review of your January 9, 1989 RVLMS implementation report.

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by

Albert De Agazio, Project Manager
Project Directorate III-1
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 129 to DPR-20
2. Safety Evaluation

cc w/enclosures:
See next page

[69224 AMD]
*See previous concurrence

*LA:PD31:DRSP	*PM:PD31:DRSP	PM/PD31:DRSP	*(A)D:PD31:DRSP	*OGC
RIngram	JLyash:sam	ADeAgazio	JThoma	
8/31/89	9/5/89	9/15/89	9/5/89	9/11/89

DF01

1/1

8909280001 890915
PDR ADOCK 05000255
P PNU

Docket No. 50-255
Serial No. PAL-89-027

Mr. Kenneth W. Berry
Director, Nuclear Licensing
Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

Dear Mr. Berry:

DISTRIBUTION:
Docket File (50-255)
NRC/Local PDRs
PD31 Reading
MVirgilio
RIngram
JLyash
JThoma
OGC (FYI)
DHagan
EJordan
TMeek (4)
WJones
JCalvo
ACRS (10)
GPA/PA
OC/LFMB
Gray File

SUBJECT: AMENDMENT NO. TO PROVISIONAL OPERATING LICENSE NO. DPR-20: CORE COOLING INSTRUMENTATION (TAC NO. 69224)

The Commission has issued the enclosed Amendment No. to Provisional Operating License No. DPR-20 for the Palisades Plant, in response to your application dated August 4, 1988.

This amendment adds Technical Specification (TS) requirements related to the operability and surveillance of the reactor vessel level monitoring system (RVLMS) which was installed during the 1988 refueling outage. In addition, operability requirements for the subcooling margin monitor are extended from 515°F and greater to 325°F and greater. This letter also acknowledges receipt and review of your January 9, 1989 RVLMS implementation report.

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Jeffrey J. Lyash, Project Manager
Project Directorate III-1
Division of Reactor Projects - III, IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. to DPR-20
2. Safety Evaluation

cc w/enclosures:
See next page

[69224 AMD]

LA:PD31	PM:PD31	(A)D:PD31	OGC
RIngram	JLyash:sam	JThoma	R Bachmann
8/31/89	9/8/5/89	9/5/89	9/11/89

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

September 15, 1989

Docket No. 50-255
Serial No. PAL-89-104

Mr. Kenneth W. Berry
Director, Nuclear Licensing
Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

Dear Mr. Berry:

SUBJECT: AMENDMENT NO. 129 TO PROVISIONAL OPERATING LICENSE NO. DPR-20: CORE COOLING INSTRUMENTATION (TAC NO. 69224)

The Commission has issued the enclosed Amendment No. 129 to Provisional Operating License No. DPR-20 for the Palisades Plant, in response to your application dated August 4, 1988.

This amendment adds Technical Specification (TS) requirements related to the operability and surveillance of the reactor vessel level monitoring system (RVLMS) which was installed during the 1988 refueling outage. In addition, operability requirements for the subcooling margin monitor are extended from 515°F and greater to 325°F and greater. This letter also acknowledges receipt and review of your January 9, 1989 RVLMS implementation report.

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Albert De Agazio, Project Manager
Project Directorate III-1
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 129 to DPR-20
2. Safety Evaluation

cc w/enclosures:
See next page

cc:

M. I. Miller, Esquire
Sidley & Austin
54th Floor
One First National Plaza
Chicago, Illinois 60603

Mr. Thomas A. McNish, Secretary
Consumers Power Company
212 West Michigan Avenue
Jackson, Michigan 49201

Judd L. Bacon, Esquire
Consumers Power Company
212 West Michigan Avenue
Jackson, Michigan 49201

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Jerry Sarno
Township Supervisor
Covert Township
36197 M-140 Highway
Covert, Michigan 49043

Office of the Governor
Room 1 - Capitol Building
Lansing, Michigan 48913

Mr. Gerald B. Slade
Plant General Manager
Palisades Plant
27780 Blue Star Memorial Hwy.
Covert, Michigan 49043

Resident Inspector
c/o U.S. Nuclear Regulatory Commission
Palisades Plant
27782 Blue Star Memorial Hwy.
Covert, Michigan 49043

Nuclear Facilities and
Environmental Monitoring
Section Office
Division of Radiological
Health
P.O. Box 30035
Lansing, Michigan 48909

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CONSUMERS POWER COMPANY

DOCKET NO. 50-255

PALISADES PLANT

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 129
License No. DPR-20

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Consumers Power Company (the licensee) dated August 4, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Provisional Operating License No. DPR-20 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 129 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented not later than October 30, 1989.

FOR THE NUCLEAR REGULATORY COMMISSION

John O. Thoma, Acting Director
Project Directorate III-1
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 15, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 129

PROVISIONAL OPERATING LICENSE NO. DPR-20

DOCKET NO. 50-255

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT
3-81a	3-81a
3-81b	3-81b
3-82	3-82
4-11a	4-11a

Table 3.17.4 (Cont'd)

No	Functional Unit	Minimum Operable Channels	Minimum Degree of Redundancy	Permissible Bypass Conditions	
8.	Pressurizer Wide Range Water Level Indication	2 (m, p, q)	None	Not required in Cold or Refueling Shutdown	/
9.	Pressurizer Code Safety Relief Valves Position Indication (Acoustic Monitor or Temperature Indication)	1 per Valve	None	Not Required below 325°F	
10.	Power Operated Relief Valves (Acoustic Monitor or Temperature Indication)	1 per Valve	None	Not required when PORV isolation valve is closed and its indication system is operable	
11.	PORV Isolation Valves Position Indication	1 per Valve	None	Not required when reactor is depressurized and vented through a vent ≧1.3 sq.in.	
12.	Subcooling Margin Monitor	1	None	Not required below 325°F	/
13.	Auxiliary Feed Flow Rate Indication	1 per flow Control Valve (h)	None	Not required below 325°F	
14.	Auxiliary Feedwater Actuation System Sensor Channels	2 per steam generator (e)	1	Not required below 325°F	
15.	Auxiliary Feedwater Actuation System Actuation Channels	2 (f)	1	Not required below 325°F	
16.	Excore Detector Deviation Alarms	1 (g)	None	Not Required Below 25% of Rated Power	
17.	Axial Shape Index Alarm	2 (i)	1	Not Required Below 25% of Rated Power	
18.	Reactor Vessel Water Level	2 (j,k,l,m)	None	Not Required Below 325°F	/ /

Amendment No. 67, 68, 96, 113, 118, 129

(e) Auxiliary Feedwater System Actuation System Sensor Channels contain pump auto initiation circuitry. If two sensor channels for one steam generator are inoperable, one of the steam generator low level bistable modules in one of the inoperable channels must be in the tripped condition.

(f) With one Auxiliary Feedwater Actuation System Actuation Channel inoperable, in lieu of the requirement of 3.17.2, provide a second licensed operator in the control room within 2 hours. With both inoperable, in lieu of following the requirements of 3.17.2, start and maintain in operation the turbine driven auxiliary feed pump.

(g) Calculate the Quadrant Power Tilt using the excore readings at least once per 8 hours when the excore detectors deviation alarms are inoperable, or at least once per 8 hours using symmetric incore detectors when the difference between the excore and the incore measured Quadrant Power Tilt exceeds 2%.

(h) With two flow rate indicators inoperable for a given control valve, the control valve shall be considered inoperable and the requirements of 3.5.2(e) apply.

(i) AO operability requirements are given in Specification 3.11.2.

(j) 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. /

(k) 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. /

(l) 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.

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

(n, o) Blank

(p) With one OPERABLE Pressurizer Wide Range Water Level Channel in lieu of the requirement of 3.17.2, restore the inoperable channel to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

(q) With no OPERABLE Pressurizer Wide Range Water Level Channels in lieu of the requirements of 3.17.2, either restore at least one of the inoperable channels to OPERABLE status within 48 hours, or be in at least HOT SHUTDOWN within the next 12 hours.

3.18 (Deleted)

TABLE 4.1.3 (Contd)

	Channel Description	Surveillance Function	Frequency	Surveillance Method
15.	Auxiliary Feed Pump Flow Indication	a. Calibrate	R	a. Known Differential Pressure Applied to Sensors
16.	Auxiliary Feed Pump Start	a. Test b. Calibrate	M (3)(5) R	a. Switch b. Known Differential Pressure Applied to Sensors
17.	Power Operated Relief Valves and Pressurizer Code Safety Relief Valves Position Indication			
	a. Temperature	a. Calibrate b. Check	R S	a. Known Resistance Substitute for RTD b. Comparison of Channels
	b. Acoustic Monitor	a. Calibrate	R	a. Inject Calibrated Test Signal
18.	Subcooling Margin Monitor	a. Check b. Calibrate	S R	a. Comparison of Channels b. Known Resistance Substituted for RTD Coincident With Known Pressure Input (4)
19.	Reactor Vessel Water Level	a. Check b. Calibrate	M R	a. Comparison of readings from redundant channels b. Substitute known voltage for thermocouples, and increase heater current to heated junction thermocouples and observe proper response.

(3) Test method to be alternated to include starting auxiliary feedwater pump from the control room hand switch, from the breaker (or alternate steam supply) and from the pump test-key switch in a three month period.
(4) In conjunction with item 4(b), Table 4.1.1.
(5) It is not necessary to perform the specified testing during the cold shutdown condition.

Amendment No. 87, 90, 129

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 129

TO PROVISIONAL OPERATING LICENSE NO. DPR-20

CONSUMERS POWER COMPANY

PALISADES PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

By letter dated August 4, 1988, Consumers Power Company (the licensee) proposed to change the Technical Specifications (TSs) for the Palisades Plant. The changes would expand the required operable range of the subcooling margin monitor (SMM), and add for the first time specifications addressing operability and surveillance of the reactor vessel level monitoring system (RVLMS). The proposed changes are to TS Tables 3.17.4 and 4.1.3 and affect only the SMM and RVLMS.

2.0 EVALUATION

DISCUSSION

In response to Generic Letter 82-28 and NUREG-0737, Item II.F.2, Consumers Power Company installed a system for detecting and monitoring inadequate core cooling (ICC) conditions at the Palisades Plant. The system includes an upgraded SMM and a newly installed reactor RVLMS. The SMM consists of two Class 1E monitors that continuously calculate and display the degrees F of primary coolant subcooling. The previous SMM configuration had an input span of 515°-615°F, while the temperature span of the upgraded system is 50°-700°F. The RVLMS consists of two independent, physically separated and redundant channels. Each channel includes eight sensors which consist of differentially connected thermocouple pairs. Indication for the RVLMS is provided for each channel in the main control room. The RVLMS was installed and tested during the 1988 refueling outage.

The licensee submitted information describing the SMM and RVLMS designs in letters dated June 11, July 25, and September 25, 1986. The NRC staff reviewed the licensee's proposed design and concluded that the ICC system for Palisades is acceptable since it meets the requirements of Item II.F.2 of NUREG-0737. This conclusion is documented in a letter dated

January 12, 1987. The licensee subsequently submitted a report describing the successful implementation of the RVLMS modification in a letter dated January 9, 1989.

The Combustion Engineering Owners Group developed and submitted proposed generic technical specifications for the RVLMS on February 19, 1985. The NRC staff completed their review of the proposed specifications and documented their acceptance in a Safety Evaluation transmitted to the Owners Group on October 28, 1986. The staff review specifically addressed the applicability of the specifications to RVLMS designs employing the heated junction thermocouple system.

PROPOSED CHANGES TO TECHNICAL SPECIFICATION TABLE 3.17.4

The licensee proposes to change TS Table 3.17.4 in two respects:

a. The permissible bypass condition associated with Item 12, Subcooling Margin Monitor, of the Table would be changed to read "Not required below 325°F."

b. A new item would be added to the Table addressing operability requirements for the RVLMS. The minimum number of channels required operable and permissible bypass conditions would be listed. In addition, Table Notes defining an operable channel and the actions required in the event that one or both channels become inoperable are included.

The licensee has modified the SMM to provide for the extended range required by NUREG-0737, Item II.F.2. The existing TSs require SMM operability when temperature is above 515°F. The proposed change would expand the required operability range of the SMM, consistent with the upgraded system capability. The permissible bypass temperature of 325°F was chosen because the decay heat removal system is placed in operation at this point. Action requirements and the level of surveillance testing for the SMM are unchanged.

The addition of the RVLMS to Table 3.17.4 would establish minimum operability requirements for the newly installed system. The specifications and associated action requirements are modeled after, and are consistent with the previously approved Combustion Engineering Owners Group Proposed Generic Technical Specifications. The definition of an operable RVLMS channel has been included in Table Note (i) and is in agreement with the staff's recommendation for heated junction thermocouple systems.

The changes involve passive monitoring systems and their use does not create the possibility of a new accident, or increase the likelihood or consequences of a previously analyzed accident. Expansion of the required operable range for the SMM and addition of minimum operability requirements for the RVLMS will assure that plant operators are provided with this enhanced information regarding the adequacy of core cooling.

PROPOSED CHANGES TO TECHNICAL SPECIFICATION TABLE 4.1.3

The licensee proposes to add surveillance requirements for the RVLMS to TS Table 4.1.3. These requirements include a monthly channel check and a once per 18 month instrument calibration. The type and frequency of the proposed surveillance requirements are consistent with the previously approved generic specifications for the RVLMS and should provide adequate assurance of continued operability.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves changes to requirements with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or a change to a surveillance requirement. The staff has determined that the amendment involves no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration, and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: J. Lyash

Dated: September 15, 1989