

November 14, 1988

Docket No. 50-255

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

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Dear Mr. Berry:

SUBJECT: AMENDMENT NO. 115 TO PROVISIONAL OPERATING LICENSE NO. DPR-20:  
PRESSURIZER WATER LEVEL INSTRUMENTS AND AREA MONITOR SURVEILLANCE  
METHOD (TACS NOS. 69223 AND 69226)

The Commission has issued the enclosed Amendment No. 115 to Provisional Operating License No. DPR-20 for the Palisades Plant. This amendment consists of changes to the Technical Specifications in response to your applications dated August 19, 1988, and August 24, 1988.

In response to the August 19 application, this amendment revises the Technical Specifications to reflect the changes in the pressurizer level instrumentation to provide two environmentally qualified, wide range channels to meet the criteria of Regulatory Guide 1.97, "Instrumentation to Follow the Course of an Accident." The surveillance requirement is also revised to specify comparison of channels of similar range of pressurizer level for the once per shift check.

In response to the August 24 application, this amendment changes the Technical Specifications related to the monthly surveillance test to be performed on Area Radiation Monitors. It allows alternate methods, both acceptable, for performing the surveillance depending on the design of the Area Radiation Monitor.

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

Sincerely,

original signed by  
Thomas V. Wambach, Project Manager  
Division of Reactor Projects - III, IV, V  
& Special Projects

Enclosures:

1. Amendment No. 115 to License No. DPR-20
2. Safety Evaluation

cc w/enclosures:  
See next page

LA/PD31:DRSP  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

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Consumers Power Company  
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Thomas V. Wambach, Project Manager  
Division of Reactor Projects - III, IV, V  
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2. Safety Evaluation

cc w/enclosures:  
See next page

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

CONSUMERS POWER COMPANY

PALISADES PLANT

DOCKET NO. 50-255

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 115  
License No. DPR-20

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendment by Consumers Power Company (the licensee) dated August 19 and August 24, 1988, comply 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 applications, 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.

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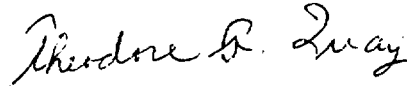
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 3.B. of Provisional Operating License No. DPR-20 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 115, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



Theodore Quay, Acting Director  
Project Directorate III-1  
Division of Reactor Projects - III, IV, V  
& Special Projects

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: November 14, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 115

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 area of change.

REMOVE

INSERT

3-81a

3-81a

3-81b

3-81b

4-2a

4-2a

4-10

4-10

Table 3.17.4 (Cont'd)

<u>No</u>	<u>Functional Unit</u>	<u>Minimum Operable Channels</u>	<u>Minimum Degree of Redundancy</u>	<u>Permissible Bypass Conditions</u>	
8.	Pressurizer Wide Range Water Level Indication	2 (l, 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 515°F	
13.	Auxiliary Feed Flow Rate Indication	1 per flow <sup>(h)</sup> Control Valve	None	Not required below 325°F	
14.	Auxiliary Feedwater Actuation System Sensor Channels	2 per steam generator <sup>(e)</sup>	1	Not required below 325°F	
15.	Auxiliary Feedwater Actuation System Actuation Channels	2 <sup>(f)</sup>	1	Not required below 325°F	
16.	Excore Detector	1 <sup>(g)</sup>	None	None	

(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.

Table 3.17.4 (Cont'd)

- (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 12 hours when the excore detectors deviation alarms are inoperable.
- (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.
- (l) The provisions of Specification 3.0.4 are not applicable. /
- (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." /  
/  
/



4.1 Basis (continued) /

For the specified one-month test interval, the average unprotected time is 360 hours in case of a failure occurring between test intervals, thus the probability of failure of one channel between test intervals is  $360 \times 1.14 \times 10^{-5}$  or  $4.1 \times 10^{-3}$ . Since two channels must fail in order to negate the safety function, the probability of simultaneous failure of two-out-of-four channels is  $(4.1 \times 10^{-3})^2 = 6.9 \times 10^{-8}$ . This represents the fraction of time in which each four-channel system would have one operable and three inoperable channels and equals  $6.9 \times 10^{-8} \times 8760$  hours per year, or 2.16 seconds/year.

These estimates are conservative and may be considered upper limits. Testing intervals will be adjusted as appropriate based on the accumulation of specific operating history.

The testing frequency of the process instrumentation is considered adequate (based on experience at other conventional and nuclear plants on Consumers Power Company's system) to maintain the status of the instruments so as to assure safe operation. As the reactor protection system is not required when the plant is in a refueling shutdown condition, routine testing is not required.

Those instruments which are similar to the reactor protective system instruments are tested at a similar frequency and on the same basis.

Since the wide and narrow range indicators are calibrated at different temperatures it is not appropriate to compare the wide range instruments with the narrow range. The shift comparison surveillance requirement, Table 4.1.3, item No. 7a., is intended to compare the two wide range indicators with each other and the two narrow range indicators with each other. /  
/  
/  
/  
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TABLE 4.1.3

Minimum Frequencies for Checks, Calibrations and Testing of Miscellaneous Instrumentation and Controls

<u>Channel Description</u>	<u>Surveillance Function</u>	<u>Frequency</u>	<u>Surveillance Method</u>
1. Start-Up Range Neutron Monitors	a. Check	S	a. Comparison of both channel count rate indications when in service.
	b. Test	P	b. Internal test signals.
2. Primary Rod Position Indication System	a. Check	S	a. Comparison of output data with secondary RPIS.
	b. Check	M	b. Check of power dependent insertion limits monitoring system.
	c. Calibrate <sup>(1)</sup>	R	c. Physically measured rod drive position used to verify system accuracy. Check rod position interlocks.
3. Secondary Rod Position Indication System	a. Check	S	a. Comparison of output data with primary RPIS.
	b. Check	M	b. Same as 2(b) above.
	c. Calibrate <sup>(1)</sup>	R	c. Same as 2(c) above, including out-of-sequence alarm function.
4. Area Monitors Note: Process Monitor Surveillance Requirements are located in Tables 4.24-1 and 4.24-2	a. Check	D	a. Normal readings observed and internal test signals used to verify instrument operation.
	b. Calibrate	R	b. Exposure to known external radiation source.
	c. Test	M	c. Detector exposed to remote operated radiation check source or integral electronic check source.
5. Emergency Plan Radiation Instruments	a. Calibrate	A	a. Exposure to known radiation source.
	b. Test	M	b. Battery check.
6. Environmental Monitors	a. Check	M	a. Operational check.
	b. Calibrate	A	b. Verify airflow indicator.
7. Pressurizer Level Instruments	a. Check	S	a. Comparison of two wide and two narrow range independent level readings.
	b. Calibrate	R	b. Known differential pressure applied to sensor.
	c. Test	M	c. Signal to meter relay adjusted with test device.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 115 TO PROVISIONAL OPERATING LICENSE NO. DPR-20  
CONSUMERS POWER COMPANY  
PALISADES PLANT  
DOCKET NO. 50-255

INTRODUCTION

Consumers Power Company (the licensee) made application for a license amendment on August 19, 1988, to revise the Technical Specifications for the Palisades Plant to reflect changes in the pressurizer level instrumentation. The changes involve adding a second environmentally qualified, wide range channel for post-accident monitoring capability. Three non-qualified narrow range channels are being eliminated. Therefore, the limiting condition for operation (LCO) for wide range channels is increased from one to two. The three unqualified, narrow range channels had no associated LCO. Also, the once-per-shift instrument check in the surveillance specification is revised to require comparison of channels of the same range.

In addition, on August 24, 1988, the licensee made application for a license amendment to revise the Technical Specifications related to the monthly surveillance test to be performed on Area Radiation Monitors. It allows alternate methods for performing the monthly surveillance on Area Radiation Monitors depending on the design.

The two applications are being processed as one amendment because they affect a common page of the Technical Specifications.

EVALUATION

Regulatory Guide 1.97 criteria call for redundant, wide range water level monitoring channels that are environmentally qualified. Palisades Plant had only one such channel, but the licensee committed to install a second channel. This addition has been completed during the present refueling outage. Thus, the post-accident monitoring capability has been upgraded and the additional requirement for two operable, wide range channels will ensure that this monitoring capability will be available, when required. The NRC staff finds this acceptable.

The surveillance requirement for these channels is modified to reflect that the once-per-shift-check of these channels is to be a comparison of like-range channels. Three unqualified channels that were not of the proper range are removed and deleted from the surveillance requirement. The NRC staff finds this acceptable.

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The final change relates to the type of monthly surveillance test to verify operability of the Area Radiation Monitors. The original requirement was that the detector be exposed to a remote operated radiation check source. During the present refueling outage, the Evaporator Control Panel area monitor is being replaced because of reliability problems. The old monitor employed an integral, remotely operated check source. The new monitor employs more sophisticated, state-of-the-art methods by electronically varying the detector high voltage. In addition, malfunctions of the new monitor are displayed on a readout and the system performs continuous self diagnostic testing and displays error codes, if problems exist. The new monitor has the same range and accuracy as the old system, but greatly reduced instrument drift. As other old area monitors are replaced, the new digital monitor system is planned for the replacement. The NRC staff finds this acceptable.

#### ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and a change in a surveillance requirement. We have 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 or environmental assessment need be prepared in connection with the issuance of this amendment.

#### CONCLUSION

We have 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: November 14, 1988

Principal Contributors: T. Wambach