April 10, 1984

Docket No. 50-255
LS05-04-84-04-011

Mr. David J. VandeWalle
Nuclear Licensing Administrator
Consumers Power Company
1945 W. Parnall Road
Jackson, Michigan 49201

Dear Mr. VandeWalle:

SUBJECT: TECHNICAL SPECIFICATION CHANGES RELATED TO CONTAINMENT HIGH PRESSURE SETPOINT - NUREG-0737, ITEM II.E.4.2(5)

Re: Palisades Plant

The Commission has issued the enclosed Amendment No. 80 to Provisional Operating License No. DPR-20 for the Palisades Plant. This amendment is in response to your application dated March 1, 1982.

This amendment reduces the containment high pressure setpoints in Tables 2.3.1 and 3.16.1 of the Palisades Technical Specifications.

A Notice of Consideration of Issuance of Amendment to License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing related to the requested action was published in the Federal Register on August 23, 1983 (48 FR 38398). No request for hearing was received and no comments were received.

A copy of our related Safety Evaluation is also enclosed. This action will appear in the Commission's Monthly Notice Publication in the Federal Register. This completes our review of TMI Action Plan Item II.E.4.2, Position 5.

Sincerely,

Original signed by
Walter A. Paulson, Project Manager
Operating Reactors Branch #5
Division of Licensing

Enclosures:
1. Amendment No. 80 to License No. DPR
2. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION

Docket	ELJordan
NRC PDR	OELD
Local PDR	WPaulson
ORB #5 Reading	LA
NSIC	DCrutchfield
JNGrace	ACRS (10)
SEPB	RDiggs
LSchneider	TBarnhart (4)
E. REEVES	

DL:ORB #5	DL:ORB #5	DL:ORB #1	CSB	OELD	DL:ORB #5	DL:ADL/SA
MShuttleworth	WPaulson:jc	EReeves	WButler		DCrutchfield	FMiraglia
3/26/84	3/26/84	3/26/84	3/28/84	3/30/84	4/9/84	4/10/84

8404130273 840410
PDR ADOCK 05000255
P PDR

SE01
1/1 Ex(04)

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

April 10, 1984

Docket No. 50-255
LS05-84-04-011

Mr. David J. VandeWalle
Nuclear Licensing Administrator
Consumers Power Company
1945 W. Parnall Road
Jackson, Michigan 49201

Dear Mr. VandeWalle:

SUBJECT: TECHNICAL SPECIFICATION CHANGES RELATED TO CONTAINMENT HIGH PRESSURE SETPOINT - NUREG-0737, ITEM II.E.4.2(5)

Re: Palisades Plant

The Commission has issued the enclosed Amendment No. 80 to Provisional Operating License No. DPR-20 for the Palisades Plant. This amendment is in response to your application dated March 1, 1982.

This amendment reduces the containment high pressure setpoints in Tables 2.3.1 and 3.16.1 of the Palisades Technical Specifications.

A Notice of Consideration of Issuance of Amendment to License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing related to the requested action was published in the Federal Register on August 23, 1983 (48 FR 38398). No request for hearing was received and no comments were received.

A copy of our related Safety Evaluation is also enclosed. This action will appear in the Commission's Monthly Notice Publication in the Federal Register. This completes our review of TMI Action Plan Item II.E.4.2, Position 5.

Sincerely,

Walter A. Paulson

Walter A. Paulson, Project Manager
Operating Reactors Branch #5
Division of Licensing

Enclosures:
1. Amendment No. 80 to License No. DPR
2. Safety Evaluation

cc w/enclosures:
See next page

cc
M. I. Miller, Esquire
Isham, Lincoln & Beale
Suite 4200
One First National Plaza
Chicago, Illinois 60670

Mr. Paul A. Perry, 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

James G. Keppler, Regional Administrator
Nuclear Regulatory Commission, Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Township Supervisor
Covert Township
Route 1, Box 10
Van Buren County, Michigan 49043

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

Palisades Plant
ATTN: Mr. Robert Montross
Plant Manager
Covert, Michigan 49043

U.S. Environmental Protection Agency
Federal Activities Branch
Region V Office
ATTN: Regional Radiation Representative
230 South Dearborn Street
Chicago, Illinois 60604

Resident Inspector
c/o U.S. NRC
Palisades Plant
Route 2, P. O. Box 155
Covert, Michigan 49043

Lee E. Jager, P.E., Chief
Environmental and Occupational
Health Services Administration
Michigan Department of Public Health
3500 N. Logan Street
Post Office 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. 80
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 March 1, 1982, 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:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, (Evironmental Protection Plan) as revised through Amendment No. 80, 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

for Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 10, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 80

PROVISIONAL OPERATING LICENSE NO. DPR-20

DOCKET NO. 50-255

Revise Technical Specifications by removing the following pages and by inserting the enclosed pages. The revised pages contain the captioned amendment number and marginal lines indicating the area of change.

Remove Pages	Insert Pages
2-5	2-5
3-71	3-71
3-75	3-75

TABLE 2.3.1

Reactor Protective System Trip Setting Limits

	Four Primary Coolant Pumps Operating	Three Primary Coolant Pumps Operating	Two Primary Coolant Pumps Operating
1. High Power Level[1]	≤ 106.5% of Rated Power	≤ 39% of Rated Power[4] (Continuous Operation Not Permitted)	≤ 21% of Rated Power[4] (Continuous Operation Not Permitted)
2. Low Primary Coolant Flow[2]	≥ 95% of Primary Coolant Flow With Four Pumps Operating	≥ 71% of Primary Coolant Flow With Four Pumps Operating	≥ 46% of Primary Coolant Flow With Four Pumps Operating
3. High Pressurizer Pressure	≤ 2255 Psia	≤ 2255 Psia	≤ 2255 Psia
4. Thermal Margin/Low Pressure[2, 3]	$P_T \geq$ Applicable Limits To Satisfy Figure 2-3	Replaced by High Power Level Trip and 1750 Psia Minimum Low-Pressure Setting	Replaced by High Power Level Trip and 1750 Psia Minimum Low-Pressure Setting
5. Low Steam Generator Water Level	Not Lower Than the Center Line of Feed-Water Ring Which Is Located 6'-0" Below Normal Water Level	Not Lower Than the Center Line of Feed-Water Ring Which Is Located 6'-0" Below Normal Water Level	Not Lower Than the Center Line of Feed-Water Ring Which Is Located 6'-0" Below Normal Water Level
6. Low Steam Generator Pressure[2]	≥ 500 Psia	≥ 500 Psia	≥ 500 Psia
7. Containment High Pressure	≤ 3.70 Psig	≤ 3.70 Psig	≤ 3.70 Psig

(1) Below 5% rated power, the trip setting may be manually reduced by a factor of 10.

(2) May be bypassed below 10^{-4}% of rated power provided auto bypass removal circuitry is operable. For low power physics tests, thermal margin/low pressure and low steam generator pressure trips may be bypassed until their react points are reached (approximately 1750 psia and 500 psia, respectively), provided automatic bypass removal circuitry at 10^{-1}% rated power is operable.

(3) T_h and T_c in °F. Minimum trip setting shall be 1750 psia for two- and three-pump combinations. For four-pump operation, the minimum trip setting shall be 1650 psia for nominal operating pressures less than 1900 psia; and 1750 psia for nominal operating pressures 1900 psia and greater.

(4) Operation with two or three pumps is permitted to provide a limited time for repair/pump restart, to provide for an orderly shutdown or to provide for the conduct of reactor internals noise monitoring test measurements

3.16 ENGINEERED SAFETY FEATURES SYSTEM INITIATION INSTRUMENTATION SETTINGS

Applicability

This specification applies to the engineered safety features system initiation instrumentation settings.

Objective

To provide for automatic initiation of the engineered safety features in the event that principal process variable limits are exceeded.

Specifications

The engineered safety features system initiation instrumentation setting limits and permissible bypasses shall be as stated in Table 3.16.1.

Basis

a. High Containment Pressure - The basis for the 4 psig $(^{+0.40}_{-0.30})$ set point for the high-pressure signal is to establish a setting which would be reached immediately in the event of a DBA, cover a spectrum of break sizes and yet be far enough above normal operation maximum internal pressure to prevent spurious initiation.(1, 2)

b. Pressurizer Low Pressure - The pressurizer low-pressure safety injection signal is a diverse signal to the high containment pressure safety injection signal. The settings include an uncertainty of -22 psia and are the settings used in the Loss of Coolant Accident analysis.(3)

c. Containment High Radiation - Four area monitors in the containment initiate an isolation signal under high radiation condition. The setting is based on the following analysis:

A 10 gpm primary coolant leak to the containment atmosphere is used based upon Specification 3.1.5. Primary coolant radioactivity concentration was assumed to be the maximum allowable by Specification 3.1.4.

Note: Added to this is the contribution from N^{16} whose equilibrium radioactivity in the primary coolant is estimated to be 121 μCi/cc. Semi-infinite cloud geometry and uniform mixing of radioactivity in the containment atmosphere was assumed. N^{16} equilibrium exists in containment atmosphere due to its short half-life, but all other radioactivity was assumed

TABLE 3.16.1

Engineered Safety Features System Initiation Instrument Setting Limits

Functional Unit	Channel	Setting Limit
1. High Containment Pressure	a. Safety Injection b. Containment Spray c. Containment Isolation d. Containment Air Cooler DBA Mode	3.70-4.40 Psig
2. Pressurizer Low Pressure	Safety Injection	$\geq$ 1550 Psia(1) for Nominal Operating Pressures < 1900 Psia $\geq$ 1593 Psia(2) for Nominal Operating Pressures $\geq$ 1900 Psia
3. Containment High Radiation	Containment Isolation	$\leq$ 20 R/h
4. Low Steam Generator Pressure	Steam Line Isolation	$\geq$ 500 Psia(3)
5. SIRW Low-Level Switches	Recirculation Actuation	$\leq$ 27-Inch $\begin{pmatrix}+0\\-6\end{pmatrix}$ Above Tank Bottom
6. Engineered Safeguards Pump Room Vent - Radiation Monitors	Engineered Safeguards Pump Room Isolation	$\leq 2.2 \times 10^5$ CPM

(1) May be bypassed below 1600 psia and is automatically reinstated above 1600 psia.

(2) May be bypassed below 1700 psia and is automatically reinstated above 1700 psia.

(3) May be bypassed below 550 psia and is automatically reinstated above 550 psia.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 80 TO PROVISIONAL OPERATING LICENSE NO. DPR-20

CONSUMERS POWER COMPANY

DOCKET NO. 50-255

PALISADES PLANT

1.0 INTRODUCTION

By letter dated March 1, 1982, Consumers Power Company (the licensee) proposed changes to the Technical Specifications for the Palisades plant. These changes would reduce the setpoint for Containment High Pressure that actuates the engineered safety features of safety injection, containment spray, containment isolation, and containment air coolers-accident mode, from 5.0 psig (+0.75/-0.25) to 4.0 psig (+0.40/-0.30). In addition, these changes would reduce the setpoint for Containment High Pressure that actuates the reactor protective system from $\leq$ 5 psig to $\leq$ 3.7 psig.

A Notice of Consideration of Issuance of Amendment to license and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing related to the requested action was published in the Federal Register on August 23, 1983 (48 FR 38398). A request for hearing and public comments were not received.

2.0 BACKGROUND

As a consequence of the accident at TMI-2, implementation of a number of new requirements has been recommended for operating reactors. - These new requirements are described in NUREG-0660, "NRC Action Plan Developed as a Result of the TMI-2 Accident," May 1980, and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980. The NRC staff has also requested licensees to submit information sufficient to permit an independent evaluation of their response to these new requirements. This report provides an evaluation of the response to Action Plan Item II.E.4.2, Position 5, by Consumers Power Company for the Palisades Plant.

Position 5 requires that the containment pressure setpoint that initiates containment isolation for non-essential system containment vessel penetrations be at, or reduced to, "...the minimum compatible with normal operating conditions".

The evaluation of the licensee's response is based upon the values provided for the following parameters:

(1) The maximum observed or expected containment pressure during normal operation.

(2) The loop error and observed drift in the pressure sensing instrumentation providing the isolation signal (see note).

(3) The containment isolation pressure setpoint.

NOTE: The clarification document (NUREG-0737) provided only the expected margin for instrument error and did not specify acceptable values for instrument drift or atmospheric changes contributing to the total sensing loop error. Additional staff guidance established a limit of 3.0 psi for an isolation setpoint margin over the normal containment pressure to account for total loop error. In addition, for subatmospheric containment, a 3.0 psi setpoint margin over atmospheric pressure is also considered acceptable.

In consideration of these values, the isolation pressure setpoint is to be as low as practical without increasing the probability of inadvertent activation of the isolation signal.

3.0 DISCUSSION AND EVALUATION

By letter dated March 1, 1982, the licensee stated that the maximum observed pressure inside containment during normal operation was 0.99 psig. The letter states that the proposed High Containment Pressure setpoint of 4.0 psig (+0.4/-0.3) for actuation of engineered safety features was based on this maximum observed pressure inside containment during normal operation and allowances for instrument drift and fluctuation due to the accuracy of the pressure sensor. This proposed revised setpoint is about 1 psig less than the current setpoint. This means that a trip on containment high pressure would occur sooner for the proposed setpoint compared to that which would occur for the current setpoint. Based on the review of the licensee's submittal, the NRC staff finds that the proposed setpoint for Containment High Pressure that actuates the engineered safety features of safety injection, containment spray, containment isolation, and containment air coolers-accident mode, meets the requirements of NUREG-0737, including the additional guidelines developed by the staff.

The licensee also proposed modifying the Containment High Pressure setpoint for actuation of the reactor protection system from $\leq$ 5 psig to $\leq$ 3.7 psig. This change is consistent with the change discussed above and will assure that a reactor trip on containment high pressure will occur at least as soon as containment isolation. This proposed change would also result in a trip on containment high pressure occurring sooner than it would based on the current technical specification. The NRC staff finds that this proposed change would result in a more conservative trip setpoint.

The staff concludes that the proposed containment high pressure setpoints are acceptable.

4.0 ENVIRONMENTAL CONSIDERATION

The staff has determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, the staff has further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

5.0 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.

6. ACKNOWLEDGEMENT

W. A. Paulson and M. Fields prepared this evaluation.

Dated: April 10, 1984