

March 24, 1987

Posted  
Ammt 104  
to DPR-20

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:

The Commission has issued the enclosed Amendment No. 104 to Provisional Operating License No. DPR-20 for the Palisades Plant. This amendment consists of changes to the Technical Specifications in response to your application dated October 20, 1986.

This amendment deletes the operability requirement for Containment Air Cooler V4A from Technical Specification 3.4.1.b. Additional information in support of this request was submitted by letter dated November 21, 1986.

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

Sincerely,

/s/  
Thomas V. Wambach, Project Manager  
PWR Project Directorate #8  
Division of PWR Licensing-B

Enclosures:

1. Amendment No. 104 to License No. DPR-20
2. Safety Evaluation

cc w/enclosures:  
See next page

PBD#8  
PKreutzer  
3/23/87  
43

PBD#8 *JVM*  
TWambach:dj  
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Mr. Kenneth W. Berry  
Consumers Power Company

Palisades Plant

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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. 104  
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 October 20, 1986, as supplemented by letter dated November 21, 1986 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.

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, as revised through Amendment No. 104, 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



Ashok C. Thadani, Director  
PWR Project Directorate #8  
Division of PWR Licensing-B

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: March 24, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 104

PROVISIONAL OPERATING LICENSE NO. DPR-20

DOCKET NO. 50-255

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

REMOVE

3-34

3-35

3-36

3-37

INSERT

3-34

3-35

3-36

3-37

### 3.4 CONTAINMENT COOLING

#### Applicability

Applies to the operating status of the containment cooling systems.

#### Objective

To assure operability of equipment required to remove heat from the containment in normal operating and emergency situations.

#### Specifications

##### Containment Cooling Systems

3.4.1 The reactor shall not be made critical, except for low-temperature physics tests, unless all the following conditions are met:

a. The following equipment associated with diesel generator 1-2 is operable:

Containment Air Cooler	V1A
Containment Air Cooler	V2A
Containment Air Cooler	V3A
Service Water Pump	P7A
Service Water Pump	P7C
Containment Spray Pump	P54A
Component Cooling Water Pump	P52B

b. The following equipment associated with diesel generator 1-1 is operable:

Service Water Pump	P7B
Containment Spray Pump	P54B
Containment Spray Pump	P54C
Component Cooling Water Pump	P52A
Component Cooling Water Pump	P52C

c. All heat exchangers, valves, piping and interlocks associated with the above components and required to function during accident conditions are operable.

3.4.2 During power operation, one of the components listed in Specification 3.4.1 above may be inoperable provided that the corresponding redundant components shall be tested to demonstrate operability. If the inoperable component is not restored to operability within 7 days, the reactor shall be placed in a hot shutdown condition

3.4 CONTAINMENT COOLING (Cont'd)

within 12 hours. If the inoperable component is not restored to operability within an additional 48 hours, the reactor shall be placed in a cold shutdown condition within 24 hours.

- 3.4.3 During power operation, the requirements of Specification 3.4.1 may be modified to allow a total of two of the components listed in Section 3.4.1a or b to be inoperable at any one time provided the emergency diesel connected to the opposite engineered safe-guards bus is started to demonstrate operability. The redundant component or system on the other bus shall be tested before initiating maintenance on the inoperable components. If the operability of at least one of the two inoperable components is not restored within 24 hours, the reactor shall be placed in a hot shutdown condition within 12 hours. If the operability of at least one of the two inoperable components is not restored within an additional 48 hours, the reactor shall be placed in a cold shutdown condition within 24 hours. Continued power operation with one component out of service shall be as specified in Section 3.4.2, with the permissible period in inoperability starting at the time that the first of the two components became inoperable.
- 3.4.4 Any valves, interlocks and piping directly associated with one of the above components and required to function during accident conditions shall be deemed to be part of that component and shall meet the same requirements as listed for that component.
- 3.4.5 Any valve, interlock or piping associated with the containment cooling system which is not covered under Specification 3.4.4 above and which is required to function during accident conditions may be inoperable for a period of no more than 24 hours provided that prior to initiating repairs, all valves and interlocks in the system that provide the duplicate function shall be tested to demonstrate operability.

### 3.4 CONTAINMENT COOLING (Cont'd)

#### Basis

An emergency diesel generator is connected to each of the two engineered safeguards 2400-volt buses. Redundant equipment is connected to each of the two buses to assure that equipment is available under all conditions for minimum containment cooling, and minimum safety injection. If a piece of equipment is inoperable, it is intended it be returned to service promptly after repairs have been completed or action will be taken to place the reactor in a shutdown condition.

The original FSAR analysis of the post-accident containment response determined that a 42" double-ended rupture of the primary coolant piping was the most limiting break with respect to the in-containment response. It was determined by analysis that three containment air coolers or two containment spray pumps could provide sufficient cooling to limit containment pressure to less than the design condition. The three air coolers, fed from bus 1D and associated with diesel generator 1-2 were therefore considered redundant to the two spray pumps on bus 1C associated with diesel generator 1-1. Additional excess containment cooling was provided with one spray pump on the 1D bus included with the three air coolers on that bus and one air cooler fed from bus 1C included with the two spray pumps on that bus. The LOCA analysis did not consider the use of either of these excess pieces of equipment.

In 1980, as reported in LER 80-003, reanalysis of the Palisades Main Steam Line Break Event resulted from a determination that the containment spray initiation time was longer than had been assumed in the FSAR analysis. Peak containment pressure for a MSLB is mitigated by the actuation of the containment cooling system whereas for a LOCA the peak pressure is initially limited by the heat sinks in containment. It was determined in the reanalysis that the peak containment pressure during a MSLB is mitigated by the use of the single containment spray pump and the three containment air coolers on the diesel generator 1-2 bus or by the two containment spray pumps on diesel generator 1-1 bus.

3.4 CONTAINMENT COOLING (Cont'd)

Basis (Cont'd)

Operability of the component cooling and shutdown heat exchangers is specified by Technical Specification 3.3.1e.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 104 TO PROVISIONAL OPERATING LICENSE NO. DPR-20

CONSUMERS POWER COMPANY

PALISADES PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

During recent testing of the service water system at Palisades, the licensee, Consumers Power Company, determined that the original design flow requirements for mitigation of design basis events as specified in the Final Safety Analysis Report (FSAR) could not be provided to various essential components served by the system. To correct this condition, the licensee has initiated a program to assure sufficient service water flow to required equipment. The licensee is determining which post-loss-of-coolant accident (LOCA) service water requirements not specified in the FSAR could be reduced or eliminated and how post-LOCA service water flow could be increased to permit operation with service water inlet temperatures of 75°F or above.

By letter dated October 20, 1986, the licensee proposed the removal of Containment Air Cooler Fan V4A from Technical Specification Section 3.4. The licensee stated that credit was not taken for this component to mitigate the consequences of a loss-of-coolant accident (LOCA) or a Main Steam Line Break Event (MSLBE). The licensee proposed to block the service water flow to this component during conditions which initiate a safety injection signal (SIS). This action will increase service water flow to the coolers and heat exchangers required to mitigate the consequences of a LOCA or a MSLBE; i.e.:

1. Engineered Safeguards Room Coolers (VHX-27A/B)
2. Component Cooling Water Heat Exchangers (E-54A/B)
3. Control Room Coolers (VC 10/11)
4. Diesel Generator Heat Exchangers (D/G 1-1/1-2)
5. Containment Air Coolers (V-1A/2A/3A)

2.0 EVALUATION

This evaluation concerns the proposed Technical Specification changes regarding Containment Air Cooler Fan V4A.

## 2.1 Removal of Containment Air Cooler Fan V4A from Technical Specifications

The FSAR analysis of the post-accident containment response indicated that a 42" double-ended rupture of the primary coolant piping was the most limiting LOCA with respect to the in-containment response. This analysis showed that three containment air coolers or two containment spray pumps could provide sufficient cooling to limit maximum containment pressure to less than the containment design pressure. The three air coolers powered by diesel generator 1-2 were considered redundant to the two spray pumps powered by diesel generator 1-1. Containment cooling capability in excess of these design requirements can be provided by the one spray pump powered by diesel generator 1-2 along with the three air coolers, and by the one air cooler (V4A) powered by diesel generator 1-1 along with the two spray pumps. The containment response to the LOCA analysis did not take credit for the use of either of these excess containment cooling capabilities. In a 1980 reanalysis of the MSLBE, the licensee took credit for the spray pump and the three air coolers powered by diesel generator 1-2 but did not take credit for containment air cooler V4A. On the basis of the above rationale, the staff finds that Containment Air Cooler Fan V4A is not required to mitigate the consequences of a LOCA or MSLBE. Therefore, the proposed removal of this component from the Technical Specifications is acceptable, because the requirements of General Design Criterion (GDC) 50 concerning post-accident containment cooling for pressure control are met.

## 3.0 FUTURE ACTIONS

The licensee is reviewing additional options for assuring adequate service water flow. Staff reviews of the interim and final proposed long term modifications will be provided in the future as a basis for any additional changes to the operating requirements and restrictions.

## 4.0 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. 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 or environmental assessment need be prepared in connection with the issuance of this amendment.

5.0 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: March 24, 1987

Principal Contributors:

R. Ferguson  
T. Wambach



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

March 24, 1987

MEMORANDUM FOR: Sholly Coordinator

FROM: Ashok C. Thadani, Director  
PWR Project Directorate #8  
Division of PWR Licensing-B

SUBJECT: REQUEST FOR PUBLICATION IN BIWEEKLY FR NOTICE - NOTICE OF  
ISSUANCE OF AMENDMENT TO PROVISIONAL OPERATING LICENSE

Consumers Power Company, Docket No. 50-255, Palisades Plant, Van Buren  
County, Michigan

Date of application for amendment: October 20, 1986 (partial)

Brief description of amendment: This amendment deletes the operability  
requirement for Containment Cooler V4A, one of four coolers. This cooler  
is not required for accident mitigation. Other aspects of the October 20,  
1986 amendment request are being handled separately.

Date of issuance: March 24, 1987

Effective date: March 24, 1987

Amendment No. 104

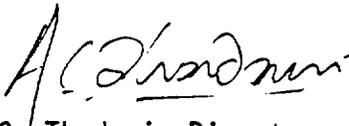
Provisional Operating License No. DPR-20. The amendment revised the  
Technical Specifications.

Date of initial notice in Federal Register: October 31, 1986 (51 FR 39831)

The Commission's related evaluation of the amendment is contained in a  
Safety Evaluation dated March 24, .987.

No significant hazards consideration comments received: No.

Local Public Document Room location: Van Zoeren Library, Hope College,  
Holland, Michigan 49423.

  
Ashok C. Thadani, Director  
PWR Project Directorate #8  
Division of PWR Licensing-B