

September 26, 1996

Mr. Thomas C. Bordine  
Manager, Licensing  
Palisades Plant  
27780 Blue Star Memorial Highway  
Covert, MI 49043

SUBJECT: PALISADES PLANT - ISSUANCE OF AMENDMENT RE: REMOVAL OF ALTERNATE  
TRAIN TESTING REQUIREMENTS (TAC NO. M94955)

Dear Mr. Bordine:

The Commission has issued the enclosed Amendment No. 172 to Facility  
Operating License No. DPR-20 for the Palisades Plant. The amendment consists  
of changes to the Technical Specifications in response to your application  
dated February 6, 1996.

The amendment deletes the requirement to perform alternate train testing  
(referred to in your submittal as "cross-train" testing) to demonstrate that  
safety-related components are operable when redundant emergency core cooling  
system and containment cooling system components are found to be inoperable or  
are to be removed from service for maintenance.

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

Sincerely,

Original Signed By:

Robert G. Schaaf, Project Manager  
Project Directorate III-1  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosures: 1. Amendment No. 172 to DPR-20  
2. Safety Evaluation

cc w/encl: See next page

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DATED: September 26, 1996

AMENDMENT NO. 172 TO FACILITY OPERATING LICENSE NO. DPR-20-PALISADES

Docket File

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Consumers Power Company

Palisades Plant

cc:

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August 1996



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

CONSUMERS POWER COMPANY

DOCKET NO. 50-255

PALISADES PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 172  
License No. DPR-20

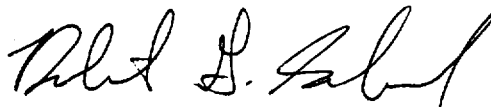
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Consumers Power Company (the licensee) dated February 6, 1996, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules 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;
  - 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 the license amendment and Paragraph 2.C.(2) of Facility Operating License No. DPR-20 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 172, and the Environmental Protection Plan contained in Appendix B are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert G. Schaaf, Project Manager  
Project Directorate III-1  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: September 26, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 172

FACILITY 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 amendment number and contain vertical lines indicating the areas of change.

REMOVE

3-29a  
3-32  
3-34  
3-35

INSERT

3-29a  
3-32  
3-34  
3-35

3.3

EMERGENCY CORE COOLING SYSTEM (Cont'd)

3.3.2

During power operation the requirements of 3.3.1 may be modified to allow one of the following conditions to be true at any one time. If the system is not restored to meet the requirements of 3.3.1 within the time period specified below, the reactor shall be placed in a hot shutdown condition within 12 hours. If the requirements of 3.3.1 are not met within an additional 48 hours, the reactor shall be placed in a cold shutdown condition within 24 hours.

- a. One safety injection tank may be inoperable for a period of no more than one hour.
- b. One low-pressure safety injection pump may be inoperable provided the pump is restored to operable status within 24 hours.
- c. One high-pressure safety injection pump may be inoperable provided the pump is restored to operable status within 24 hours.
- d. One shutdown heat exchanger and one component cooling water heat exchanger may be inoperable for a period of no more than 24 hours.
- e. Any valves, interlocks or 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.
- f. Any valve, interlock or pipe associated with the safety injection and shutdown cooling system and which is not covered under 3.3.2e above but, which is required to function during accident conditions, may be inoperable for a period of no more than 24 hours.

Basis (continued)

ability to tolerate additional equipment failures. If it develops that (a) the inoperable component is not repaired within the specified allowable time period; or (b) a second component in the same or related system is found to be inoperable, the reactor will initially be put in the hot shutdown condition to provide for reduction of the decay heat from the fuel and consequent reduction of cooling requirements after a postulated loss-of-coolant accident. This will also permit improved access for repairs in some cases. After a limited time in hot shutdown, if the malfunction(s) is not corrected, the reactor will be placed in the cold shutdown condition utilizing normal shutdown and cooldown procedures. In the cold shutdown condition, release of fission products or damage of the fuel elements is not considered possible.

The plant operating procedures will require immediate action to effect repairs of an inoperable component and, therefore, in most cases, repairs will be completed in less than the specified allowable repair times. The limiting times to repair are intended to: (1) Assure that operability of the component will be restored promptly and yet, (2) allow sufficient time to effect repairs using safe and proper procedures.

The requirement for core cooling in case of a postulated loss-of-coolant accident while in the hot shutdown condition is significantly reduced below the requirements for a postulated loss-of-coolant accident during power operation. Putting the reactor in the hot shutdown condition reduces the consequences of a loss-of-coolant accident and also allows more free access to some of the engineered safeguards components in order to effect repairs.

Failure to complete repairs within 48 hours of going to the hot shutdown condition is considered indicative of a requirement for major maintenance and, therefore, in such a case, the reactor is to be put into the cold shutdown condition.

With respect to the core cooling function, there is functional redundancy over most of the range of break sizes.<sup>(2)</sup>

Adequate core cooling for the break spectrum up to and including the 42-inch double-ended break is assured with the minimum safety injection which is defined as follows: For the system of four passive safety injection tanks, the entire contents of one tank are assumed to be unavailable for emergency core cooling. In addition, of the two high-pressure safety injection pumps and the two low-pressure safety injection pumps, only one of each type is assumed to operate; and also that 25% of their combined discharge rate is lost from the primary coolant system out the break. The transient hot spot fuel clad temperatures for the break sizes considered are shown on FSAR Figures 14.17.9 to 14.17.13. These



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 for a period of up to seven days. 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 for a period of up to 24 hours. 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.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 172 TO FACILITY OPERATING LICENSE NO. DPR-20

CONSUMERS POWER COMPANY

PALISADES PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

By letter dated February 6, 1996, Consumers Power Company (the licensee) requested an amendment to the Technical Specifications (TS) appended to Facility Operating License No. DPR-20 for the Palisades Plant. The proposed amendment would delete the requirement to perform alternate train testing (referred to in the licensee's submittal as "cross-train" testing) to demonstrate that redundant safety-related components are operable when the emergency core cooling system (ECCS) and containment cooling system are found to be inoperable or are removed from service for maintenance.

2.0 EVALUATION

The licensee proposed to delete requirements from the ECCS (TS 3.3) and containment cooling system (TS 3.4) limiting conditions for operation which require redundant train components to be tested when a required component becomes inoperable.

TS 3.3.2b states:

One low pressure safety injection pump may be inoperable provided the pump is restored to operable status within 24 hours. The other low pressure safety injection pump shall be tested to demonstrate operability prior to initiating repair of the inoperable pump.

TS 3.3.2c states:

One high pressure safety injection pump may be inoperable provided the pump is restored to operable status within 24 hours. The other high pressure safety injection pump shall be tested to demonstrate operability prior to initiating repair of the inoperable pump.

TS 3.3.2f states:

Any valve, interlock or pipe associated with the safety injection and shutdown cooling system and which is not covered under 3.3.2e

above but, which is required to function during accident conditions, may be inoperable for a period of no more than 24 hours. Prior to initiating repairs, all valves and interlocks in the system that provide the duplicate function shall be tested to demonstrate operability.

TS 3.4.2 states:

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.

TS 3.4.3 states, in part:

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 safeguards 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.

(TS 3.4.1 a and b specify components associated with each train of the containment cooling system. These components include the containment air coolers, and the service water, component cooling water, and containment spray pumps.)

TS 3.4.5 states:

Any valve, interlock or pipe 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.

The licensee proposed to delete the underlined phrases from the above TS. The licensee stated that the required periodic surveillance testing has been shown by operating experience to provide adequate assurance that the redundant equipment remains operable. The licensee also stated that testing of some equipment requires rendering the equipment inoperable, which could result in a loss of safety function when this testing is performed while the redundant system is inoperable.

The licensee proposed to replace the underlined phrase in TS 3.4.2 with "for a period of up to seven days", and to replace the underlined phrase in TS 3.4.3 with, "for a period of up to 24 hours". These are editorial revisions which reiterate the allowed outage times of the associated TS.

As articulated in an NRC staff memorandum (C. I. Grimes to R. A. Capra, et al., dated April 10, 1992), alternate train testing requirements were included in early TS to provide a positive demonstration that a loss of safety function had not occurred. This requirement was not included in later TS when it was realized by the staff that the added assurance of redundant system operability was not sufficient to justify the loss of safety function which occurs during the test, provided that required periodic surveillance testing is current and there is no known reason to suggest that the alternate train is inoperable.

The NRC staff's current position with respect to alternate train testing is reflected in NUREG-1432, "Standard Technical Specifications, Combustion Engineering Plants," (STS), which does not require alternate train testing. The STS considers operability of the alternate train of safety equipment to be adequately demonstrated by performance of the required periodic surveillance tests. The staff concludes that adequate assurance of component and system operability is provided by periodic surveillance testing, and the elimination of the specified requirements to perform alternate train testing is acceptable.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendment. The Michigan State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. 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 the amendment involves no significant hazards consideration and there has been no public comment on such finding (61 FR 28611). Accordingly, the 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 the 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, (2) such

activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Schaaf

Date: September 26, 1996