

May 31, 1989

See Correction letter of  
7/13/89

Docket No. 50-255  
Serial No. PAL-89-005

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

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EJordan

Dear Mr. Berry:

SUBJECT: AMENDMENT NO. 125 TO PROVISIONAL OPERATING LICENSE NO. DPR-20:  
STATION BATTERY PERIODIC TEST REQUIREMENTS (TAC NO. 67411)

The Commission has issued the enclosed Amendment No. 125 to Provisional Operating License No. DPR-20 for the Palisades Plant. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated March 14, 1983 as supplemented by letters dated May 13, 1985 and February 2, 1988.

This amendment revises the Appendix A TSs relating to periodic testing of the station batteries. The proposed changes would add specifications 4.7.2.c and 4.7.2.d. Additionally, a change was made to the Basis to identify the purpose of the battery surveillance requirements, and a sentence was rearranged to improve clarity. It is to be noted that these proposed changes have been approved on an interim basis only. The Commission will reevaluate the subject technical specification when Consumers Power Company submits the Restructured Technical Specifications.

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,

/s/

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

Enclosures:

1. Amendment No. 125 to License No. DPR-20
2. Safety Evaluation

cc w/enclosures:  
See next page

PALISADES AMEND TAC 67411

\*SEE PREVIOUS CONCURRENCE

LA/PD31:DRSP  
PShuttleworth  
5/18/89 *MSA*

PM/PD31:DRSP  
ADeAgazio:bw  
5/18/89 *MSA*

(A)D/PD31:DRSP  
JStefano  
5/18/89 *JStefano*

OGC *Back*  
5/23/89

\*SELB  
FRosa  
5/16/89

*DFP*  
*C/PA*

Docket No. 50-255  
Serial No. PAL-89-005

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

Dear Mr. Berry:

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STATION BATTERY PERIODIC TEST REQUIREMENTS (TAC NO. 67411)

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This amendment revises the Appendix A TSs relating to periodic testing of the station batteries. The proposed changes would add specifications 4.7.2.c and 4.7.2.d. Additionally, a change was made to the Basis to identify the purpose of the battery surveillance requirements, and a sentence was rearranged to improve clarity.

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,

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Project Directorate III-1  
Division of Reactor Projects - III, IV, V  
& Special Projects  
Office of Nuclear Reactor Regulation

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See next page

PALISADES AMEND TAC 67411

LA/PD31:DRSP *MMA*  
PShuttleworth  
5/9/89

*AMC*  
PM/PD31:DRSP  
ADe Agazio:bw  
5/9/89

(A)D/PD31:DRSP  
JStefano  
5/ /89

OGC  
5/ /89

*see note*  
SELB *FR*  
F. ROSA  
5/16/89



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

May 31, 1989

Docket No. 50-255  
Serial No. PAL-89-005

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

Dear Mr. Berry:

SUBJECT: AMENDMENT NO. 125 TO PROVISIONAL OPERATING LICENSE NO. DPR-20:  
STATION BATTERY PERIODIC TEST REQUIREMENTS (TAC NO. 67411)

The Commission has issued the enclosed Amendment No. 125 to Provisional Operating License No. DPR-20 for the Palisades Plant. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated March 14, 1983 as supplemented by letters dated May 13, 1985 and February 2, 1988.

This amendment revises the Appendix A TSs relating to periodic testing of the station batteries. The proposed changes would add specifications 4.7.2.c and 4.7.2.d. Additionally, a change was made to the Basis to identify the purpose of the battery surveillance requirements, and a sentence was rearranged to improve clarity. It is to be noted that these proposed changes have been approved on an interim basis only. The Commission will reevaluate the subject technical specification when Consumers Power Company submits the Restructured Technical Specifications.

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

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

Enclosures:

1. Amendment No. 125 to  
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2. Safety Evaluation

cc w/enclosures:  
See next page

Mr. Kenneth W. Berry  
Consumers Power Company

Palisades Plant

cc:

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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. 125  
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 14, 1983 as supplemented by letters dated May 13, 1985, and February 2, 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.

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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. 125, 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 July 15, 1989.

FOR THE NUCLEAR REGULATORY COMMISSION



Lawrence A. Yandell, Acting Director  
Project Directorate III-1  
Division of Reactor Projects - III, IV, V  
& Special Projects  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: May 31, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 125

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

4-43

-

INSERT

4-43

4-43a

4.7 EMERGENCY POWER SYSTEM PERIODIC TESTS (Continued)

- b. Every three months, the specific gravity of each cell, the temperature reading of every fifth cell, the height of electrolyte, and the amount of water added shall be measured and recorded.
- c. At least once per refueling cycle, during shutdown, each station battery shall be demonstrated operable by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for 2 hours when the battery is subjected to a battery service test.
- d. At least once every three refueling cycles, during shutdown, each station battery shall be demonstrated operable by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. The performance discharge test shall be performed in lieu of the battery service test.

4.7.3 Emergency Lighting

The correct functioning of the emergency lighting system outside of containment shall be verified at least once each year. The emergency lighting system inside containment shall be verified operable prior to each removal of the reactor head.

Basis

The emergency power system provides power requirements for the engineered safety features in the event of a DBA. Each of the two diesel generators is capable of supplying the minimum required safeguards equipment from independent buses.<sup>(1,2)</sup> (1) This redundancy is a factor in establishing testing intervals. The monthly tests specified above will demonstrate operability and load capacity of the diesel generator. The fuel supply and various controls are continuously monitored and alarmed for abnormal conditions. Starting on complete loss of off-site power will be verified by simulated loss-of-power tests during refueling shutdowns. The emergency diesel generator limit of 750 amperes at 2400 volts corresponds to the manufacture's nameplate kVa and kW rating of these machines.

Considering system redundancy, the specified testing intervals for the station batteries should be adequate to detect and correct any malfunction before it can result in system malfunction. Batteries will deteriorate with time, but precipitous failure is extremely unlikely. The surveillance specified for every month and every three months is that which has been demonstrated over the years to provide an indication of a cell becoming unserviceable long before it fails.

#### 4.7.3 Basis (Continued)

The surveillance specified for each refueling cycle and for every three refueling cycles will provide an adequate demonstration of battery capacity. The battery service test will verify that the battery capacity is adequate to deliver the design requirements of its connected emergency dc load. The battery discharge test will verify that the battery capacity is at least 80% of the manufacturer's rating in addition to verifying that the battery capacity is adequate to deliver the design requirements of its associated emergency dc loads. Results of these tests reflect all factors which determine battery capability.

#### References

- (1) FSAR, Section 8.4.1.
- (2) FSAR, Section 8.5.2.2.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO.125 TO PROVISIONAL OPERATING LICENSE NO. DPR-20

CONSUMERS POWER COMPANY

PALISADES PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

On May 22, 1981, the NRC staff issued a safety evaluation which discussed a review of the then existing TSs with regard to periodic surveillance of the Class 1E batteries. The review was made to ensure that battery capacity testing includes (1) an acceptance test for battery capacity performed in accordance with IEEE Std. 450-1975, (2) a performance discharge test as listed in Table 2 of IEEE Std. 308-1971 performed in accordance with IEEE Std. 450-1975, Sections 4.2 and 5.4, and (3) a battery service test as described in Section 5.6 of IEEE Std. 450-1975.

The staff found that there were no requirements for either battery discharge or service tests and, therefore, concluded that the Palisades Plant did not comply with licensing requirements in effect at that time. The staff then proposed that the testing of the batteries in accordance with IEEE Std. 450-1975, IEEE Std. 308-1974, BTP EICSB 6, and the Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors, NUREG-0212, be added to the TSs. The tests as proposed by the staff were:

1. At least once per 18 months, during shutdown, a battery service test should be performed to verify that battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
2. At least once per 60 months, during shutdown, a battery discharge test should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

2.0 EVALUATION

Consumers Power Company committed, by letter dated March 31, 1982, to implement station battery service and discharge testing meeting the requirements of IEEE Std. 450-1975. Consumers Power Company also agreed to propose a license amendment to incorporate the testing requirements into the TSs. On October 29, 1982, the Commission issued NUREG-0820, "Integrated Plant Safety Assessment." Section 4.25 of that document indicates staff acceptance of Consumers Power Company's testing program of station batteries.

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On March 14, 1983, Consumers Power Company submitted an application to amend the TSs in accordance with their commitment. The original application was supplemented later by letters dated May 13, 1985 and February 2, 1988. These supplements made minor revisions to the original application. Consumers Power Company has proposed to add Specifications 4.7.2.c and 4.7.2.d.

Specification 4.7.2.c would require:

At least once per refueling cycle, during shutdown, each station battery shall be demonstrated operable by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for 2 hours when the battery is subjected to a battery service test.

Specification 4.7.2.d would require:

At least once every three refueling cycles, during shutdown, each station battery shall be demonstrated operable by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. The performance discharge test shall be performed in lieu of the battery service test.

We have reviewed Consumers Power Company's proposed additions to the TSs for station battery testing, and have compared the proposal to the testing program the staff had previously evaluated (NUREG-0820) and have found the additions acceptable. We find two deviations.

One deviation is that a maximum three-refueling-cycle interval is specified for battery discharge testing per Section 4.7.2.d vice 60 months. As the nominal refueling cycle is approximately 18 months, the intent remains unchanged; however, the proposed TSs would allow operational flexibility and avoid the possibility of a plant shutdown solely to perform the testing.

The other deviation is that the performance discharge test specified in proposed Section 4.7.2.d each three refueling cycle would obviate the need for performing the battery capacity test that would otherwise also be due. We consider the battery capacity testing redundant and unnecessary when performance discharge testing is to be done. Furthermore, repeated testing which discharges a battery many times in a relatively short period of time materially affects the long life typical of stationary batteries.

Based on the above, we find the proposed addition of testing requirements for the station batteries acceptable. However, it is to be noted that these proposed changes are being approved on an interim basis only. The Commission will reevaluate the subject technical specification when Consumers Power Company submits the Restructured Technical Specifications (currently planned for the first quarter of 1990). Our specific concern relates to the limiting battery capacity (80%) specified in Specification 4.7.2.d. While the change proposed by Consumers Power Company meets the intent of the Commission's safety evaluation of May 22, 1981, the staff now believes that battery capacity should not be less than 90% of the manufacturer's rating, especially

considering that the battery capacity is to be determined only once each three refueling outages (about five years). We also have reviewed a proposed change and addition to the Basis and find the proposed changes acceptable. The change to the Basis is editorial in nature; the addition establishes the purpose of station battery discharge and capacity testing.

### 3.0 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 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.

### 4.0 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, (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.

Date: May 31, 1989

Principal Contributor: Albert W. De Agazio