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NOV 20 1971

Docket No. 50-255

Consumers Power Company
ATTN: Mr. R. C. Youngdahl
Senior Vice President
212 West Michigan Avenue
Jackson, Michigan 49201

Gentlemen:

The Atomic Energy Commission has issued Amendment No. 1 to Interim Provisional Operating License No. DPR-20. The license, as previously issued, authorizes the Consumers Power Company to possess, use and operate the Palisades Plant at power levels up to one (1) megawatt thermal. This amendment supersedes the original license in its entirety and authorizes the operation of the facility at power levels not to exceed 440 megawatts thermal in accordance with the provisions of the license and the Technical Specifications.

Copies of the license amendment and a related Federal Register notice are enclosed.

This license amendment has been issued pursuant to an order of the Atomic Safety and Licensing Board, a copy of which was sent to you previously.

Sincerely,

Original signed by
R. C. DeYoung

Peter A. Morris, Director
Division of Reactor Licensing

Enclosures:

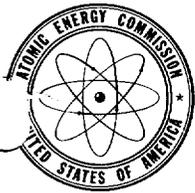
1. Amendment No. 1 to License No. DPR-20
2. Federal Register Notice

- bcc: A. Wells, ASLB
H. McAlduff, ORO
E. Hall, GMR/4
J. Harris, PI
R. Leith, OC
E. Tremmel, IP
J. Buchanan, ORNL
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2
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UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

CONSUMERS POWER COMPANY

(Palisades Plant)

DOCKET NO. 50-255

INTERIM PROVISIONAL OPERATING LICENSE

License No. DPR-20

Amendment No. 1

The Atomic Energy Commission (the Commission) having found that:

- a. Construction of the Palisades Plant (the facility) has been substantially completed in conformity with the application, as amended, the provisions of Provisional Construction Permit No. CPPR-25, the provisions of the Atomic Energy Act of 1954, as amended (the Act), and the rules and regulations of the Commission set forth in Title 10, Chapter 1, CFR; and
- b. The facility will operate in conformity with the application, as amended, the provisions of the Act and the Commission's rules and regulations; and
- c. There is reasonable assurance (i) that the activities authorized by this operating license, as amended, can be conducted without endangering the health and safety of the public and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission; and
- d. The Consumers Power Company (the licensee) is technically and financially qualified to engage in the activities authorized by this license, as amended, in accordance with the rules and regulations of the Commission; and
- e. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements" of the Commission's regulations; and
- f. 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 is pursuant to an Order of the Atomic Safety and Licensing Board dated November 9, 1971, authorizing issuance of an amendment to Operating License No. DPR-20 authorizing operation at power levels not to exceed 440 megawatts thermal, in accordance with Section 50.57 (c) and Appendix D, Section D.2 of 10 CFR Part 50.

Interim Provisional Operating License No. DPR-20, issued to the Consumers Power Company (Consumers Power) for operation of the Palisades Plant, on March 24, 1971, is hereby amended in its entirety to read as follows:

1. This license applies to the Palisades Plant, a closed cycle, pressurized, light water moderated and cooled reactor, and electric generating equipment (the facility). The facility is located in Covert Township on the Consumers Power site in Van Buren County, Michigan, and is described in the "Final Safety Analysis Report," as supplemented and amended.
2. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Consumers Power:
 - A. Pursuant to Section 104b of the Atomic Energy Act of 1954, as amended (the Act), and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility as a utilization facility at the designated location;
 - B. Pursuant to the Act and 10 CFR Part 70, "Special Nuclear Material," to receive, possess, and use at any one time up to 4000 kilograms of uranium 235 as reactor fuel assemblies and 96 grams of encapsulated plutonium-beryllium in connection with operation of the facility;
 - C. Pursuant to the Act and 10 CFR Part 30, "Rules of General Applicability to Licensing of Byproduct Material," to receive, possess, and use in connection with operation of the facility 1500 curies of Polonium-210 as two sealed sources not to exceed 750 curies each, 10 curies of Cesium-137 as a sealed source, 111 millicuries of Cesium-137 as three sealed sources not to exceed 100 millicuries, 10 millicuries, and 1 millicurie, respectively, and up to 500 millicuries per nuclide of any byproduct material with Atomic Numbers 3 to 83, inclusive, without restriction as to chemical and physical form to a total of 10 curies; and
 - D. Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear material as may be produced by the operation of the facility.
3. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41

of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50 and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Level

Consumers Power is authorized to operate the facility at steady state power levels not in excess of 440 megawatts thermal (20% of the rated power level of the facility), provided that thermal releases from the condensers shall not add a heat load which would warm the water of Lake Michigan more than 3°F above existing natural temperature at the edge of the mixing zone established by the Michigan Water Resources Commission for the Palisades Plant, and provided further that the facility shall remain subcritical until the tests performed following repair and reassembly of the control rod drive mechanisms have been completed and the results thereof have been determined to be acceptable by the Director of Regulation.

B. Technical Specifications

The Technical Specifications attached hereto as Appendix A are hereby incorporated in this license. Consumers Power shall operate the facility in accordance with the Technical Specifications and may make changes therein only when authorized by the Commission in accordance with the provisions of Section 50.59 of 10 CFR Part 50.

C. Reports

Consumers Power shall make certain reports in accordance with the requirements of the Technical Specifications.

D. Records

Consumers Power shall keep facility operating records in accordance with the requirements of the Technical Specifications.

4. Consumers Power shall observe such standards and requirements for the protection of the environment as are validly imposed pursuant to authority established under Federal and State law and as are determined by the Commission to be applicable to the facility covered by this provisional operating license. This condition

does not apply to radiological effects, since such effects are dealt with in other provisions of this provisional operating license.

5. The concentration of residual chlorine in water discharged from the facility as a result of cleansing of the condenser shall not exceed one half part per million (0.5 ppm) at the point at which such water enters Lake Michigan.
6. This amendment is issued without prejudice to subsequent licensing action which may be taken by the Commission with regard to the environmental aspects of the facility. Issuance of this license shall not preclude subsequent adoption of alternatives in facility design or operations of the type that could result from the environmental review called for by 10 CFR Part 50, Appendix D.
7. This license is effective as of the date of issuance and shall expire on September 24, 1972, unless extended for good cause shown, or upon the earlier issuance of a superseding operating license.

FOR THE ATOMIC ENERGY COMMISSION

Original signed by
Frank Schroeder

Frank Schroeder, Deputy Director
Division of Reactor Licensing

Attachment:
Appendix A - Technical Specifications

Date of Issuance: NOV 20 1971

UNITED STATES ATOMIC ENERGY COMMISSION

DOCKET NO. 50-255

CONSUMERS POWER COMPANY

(PALISADES PLANT)

NOTICE OF ISSUANCE OF AMENDMENT TO INTERIM PROVISIONAL OPERATING LICENSE

Notice is hereby given that the Atomic Energy Commission (the Commission) has issued Amendment No. 1 to Provisional Operating License No. DPR-20 to Consumers Power Company (the licensee) which permits operation, at steady state power levels not to exceed 440 megawatts thermal, of the Palisades Plant (the facility), a pressurized water nuclear reactor located at the licensee's site on the eastern shore of Lake Michigan in Covert Township, Van Buren County, Michigan. The facility is designed for operation at approximately 2200 megawatts thermal, but in accordance with the provisions of Interim Provisional Operating License No. DPR-20, as amended, activities under the license are restricted to operation at steady state power levels not to exceed 440 megawatts thermal (20% of the facility's rated power level of 2200 Mwt).

A notice of proposed issuance of a provisional operating license for the facility was issued by the Commission on March 10, 1970, (35 F.R. 4310). The notice provided that within 30 days from the date of publication, any person whose interest might be affected by the issuance of the license could file a petition for leave to intervene in accordance with the requirements of 10 CFR Part 2, "Rules of Practice". Petitions for leave to intervene and requests for hearing were filed by a number of persons. The Notice of Hearing

issued by the Commission on May 18, 1970, (35 F.R. 7750) ordered a hearing held in the matter, permitted intervention by petitioners, and appointed a presiding atomic safety and licensing board (the Board).

On March 24, 1971, pursuant to an Initial Decision by the Board, on a motion by the licensee, the Commission issued Interim Provisional Operating License No. DPR-20 authorizing fuel loading and initial operation limited to one megawatt thermal.

On September 27, 1971, the licensee requested the Board, in accordance with the provisions of paragraph.D.2 of 10 CFR Part 50, Appendix D, to issue an order authorizing the Director of Regulation to issue an amendment to Interim Provisional Operating License No. DPR-20 authorizing operation of the Palisades Plant at power levels not to exceed 1320 megawatts thermal (60% of the facility's rated power level of 2200 Mwt). Subsequently, the licensee presented information to the Board as to the environmental impact of such operation, and the Commission's staff presented information as to the environmental impact of operation at power levels up to 440 megawatts thermal. On November 9, 1971, the Board issued an order authorizing the Director of Regulation to make appropriate findings on the matters set forth in 10 CFR 50.57 (a) and to issue an amendment to Interim Provisional Operating License No. DPR-20 authorizing operation at steady state power levels not to exceed 440 megawatts thermal, and directing the inclusion of a condition limiting thermal discharges to Lake Michigan.

The Commission's regulatory staff has inspected the facility and has determined that, for operation as authorized by the amendment, the facility has been constructed in accordance with the application, as amended, the provisions of Interim Provisional Construction Permit No. CPPR-25, the Atomic Energy Act of 1954, as amended, and the Commission's regulations. The licensee has previously submitted proof of financial protection in satisfaction of the requirements of 10 CFR Part 140.

The Director of Regulation has made the findings set forth in the license, and has concluded that the application, as amended, complies with the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR Chapter 1, and that the issuance of the license will not be inimical to the common defense and security or to the health and safety of the public.

The license amendment is effective as of the date of issuance and shall expire on September 24, 1972, unless extended for good cause shown or upon the earlier issuance of a superseding operating license.

Copies of (1) the Board's Order dated November 9, 1971, (2) Amendment No. 1 to Interim Provisional Operating License No. DPR-20, Technical Specifications, and (3) "Discussion and Conclusions by the Division of Reactor Licensing, U. S. Atomic Energy Commission, Pursuant to Appendix D of 10 CFR Part 50, Supporting the Issuance of a License to Consumers Power Company, Inc., Authorizing Limited Operation of the Palisades Nuclear Generating Plant, Docket No. 50-255, dated October 13, 1971," are available for public inspection

in the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. Copies of the amended license, and item (3) above may be obtained upon request addressed to the Atomic Energy Commission, Washington, D. C., 20545, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland, this 20th day of November, 1971.

FOR THE ATOMIC ENERGY COMMISSION

Original signed by
Frank Schroeder

Frank Schroeder, Deputy Director
Division of Reactor Licensing

UNITED STATES OF AMERICA
ATOMIC ENERGY COMMISSION

COMMISSIONERS:

James R. Schlesinger, Chairman
James T. Ramey
Wilfrid E. Johnson
Clarence T. Larson
William O. Doub

IN THE MATTER OF
CONSUMERS POWER COMPANY
(PALISADES PLANT)

DOCKET NO. 50-255

MEMORANDUM AND ORDER

This matter comes before the Commission by a referral from the presiding Atomic Safety and Licensing Board dated February 28, 1972, on the application by the Consumers Power Company for an interim license authorizing operation of the company's Palisades Plant at up to 60 percent of rated power. The application was made and the Commission's determination is now sought pursuant to Section D of Appendix D to 10 CFR Part 50.

The Palisades Plant is a nuclear electrical generating facility utilizing a closed cycle, pressurized, light-water nuclear reactor designed to operate at steady-state power levels of up to 2200 megawatts thermal (MWT). It is located on a 487-acre site of the applicant on the eastern shore of Lake Michigan in a semi-rural area in Covert Township, Van Buren County, Michigan.

Construction of the Palisades Plant was authorized by order of an Atomic Safety and Licensing Board on March 13, 1967, following a public hearing. On November 1, 1968, the company applied for a license to operate the plant at its designed power level. This request for an operating license is currently under consideration by the Atomic Safety and Licensing Board in the present proceeding.

On March 22, 1971, the Licensing Board, acting pursuant to Section D.2 of Appendix D to 10 CFR Part 50, authorized the Director of Regulation to issue a license permitting fuel loading and low power testing (up to one thermal megawatt) of the Palisades Plant; and Interim Provisional Operating License No. DPR-20 was thereafter issued authorizing these operational activities. On September 27, 1971, the company filed a motion with the Licensing Board requesting authority to operate the Palisades Plant up to 60 percent of rated power (1320 MWT). Following a hearing on the request, the Licensing Board (again pursuant to Section D.2 of Appendix D) issued an order dated November 9, 1971, authorizing an amendment to the Interim Provisional Operating License permitting operation up to 20 percent of rated power (440 MWT). Further hearings were held on January 25 and 26, to receive evidence on the company's request for interim operational authority up to 60 percent of rated power; and on February 28, 1972, the Licensing Board referred that matter

to the Commission for determination, as contemplated by Section D.2 of the referenced regulations.^{1/}

To assist the Commission in its review of the record on this company request, the Licensing Board's referral order directed the Commission's attention to a number of specific items deemed of significance by the Board. In summary, the Licensing Board expressed the view that, subject to certain limitations proposed by the regulatory staff and a Division of Compliance determination regarding plant operability, the Board was satisfied in regard to the radiological aspects of operation. As to other

^{1/} The pertinent portion of Section D.2 provides as follows:

"...the presiding Atomic Safety and Licensing Board may, upon satisfaction of the requirements of § 50.57(c), grant a motion [for limited operation during the period of an ongoing NEPA review],...after consideration and balancing on the record of the factors described below: Provided, however, that operation beyond twenty percent (20%) of full power may not be authorized except upon specific prior approval of the Commission.

"FACTORS

"(a) Whether it is likely that limited operation during the prospective review period will give rise to a significant, adverse impact on the environment; the nature and extent of such impact, if any; and whether redress of any such adverse environmental impact can reasonably be effected should modification or termination of the limited license result from the ongoing NEPA environmental review.

"(b) Whether limited operation during the prospective review period would foreclose subsequent adoption of alternatives in facility design or operation of the type that could result from the ongoing NEPA environmental review.

"(c) The effect of delay in facility operation upon the public interest. Of primary importance under this criterion are the power needs to be served by the facility; the availability of alternative sources, if any, to meet those needs on a timely basis; and delay costs to the licensee and to consumers."

environmental matters, the Licensing Board expressed no overall judgment, confining itself to specifying areas in which additional information would be helpful either in evaluating the present 60 percent interim operating request or in subsequent evaluation of the environmental effects of long-term full power operation, a matter still awaiting licensing determination. Finally, the Licensing Board expressed certain reservations as to the evidentiary support for the existence of a power emergency either in Consumers' service area or the surrounding region. These environmental and power needs comments of the Board are discussed later in this Memorandum and Order.

Before embarking on a consideration of the company's request, the Commission believes that a discussion of Section D.2 and the background of its adoption would be helpful in setting the context for the subject determination.

Section D of Appendix D to Part 50 was adopted by the Commission as part of the overall revision of the AEC's regulations for implementing NEPA in the reactor licensing process following the decision of the United States Court of Appeals for the District of Columbia Circuit in Calvert Cliffs' Coordinating Committee, et al., v. United States Atomic Energy Commission, et al., 449 F.2d 1109 (July 23, 1971). The Commission's NEPA regulations were then substantially revised (effective September 9, 1971)

to comply with the mandate of that decision that AEC licensing review for nuclear power plants take account of total plant environmental impact. The revised NEPA regulations covered the full spectrum of Commission licensing actions, and encompassed facilities such as the Palisades Plant which were completed and at the hearing stage but for which the supplemental environmental review required by Calvert Cliffs had not as yet been performed.

Section D of Appendix D prescribes the environmental review and licensing procedures applicable to operating license applications for facilities which were already completed, or substantially completed, but not yet licensed for operation at the time the revised NEPA procedures were adopted. These facilities are to receive, in addition to their radiological safety review, a full Section 102(2)(C) NEPA review prior to final licensing action. Section D.2 provides that, during the course of this ongoing supplemental NEPA review^{2/} for a final, full power, operating license, limited interim operation may be authorized in specified circumstances, "consistent with appropriate regard for environmental values". This may be done either (1) when the proposed operational activities would not result in a significant adverse environmental impact, or (2) in those instances where an impact may occur, after "consideration and balancing" of specified environmental and public interest factors (supra). Operation beyond twenty percent of full power requires the specific prior approval of the Commissioners.

^{2/} The Palisades operating license application was the subject of an earlier supplemental review under the Commission's regulations (Appendix D to Part 50) as they existed prior to their revision on September 9, 1971.

Like Section D.3 of Appendix D, which pertains to certain operating license proceedings in which no request for a public hearing is received, Section D.2 contemplates that authorization beyond 20 percent of full power will be given only in emergency situations or other situations where the public interest so requires. Any license issued under Section D.2 is to be without prejudice to such subsequent licensing action as may be taken by the Commission following completion of the ongoing full NEPA review for the facility.

A brief exposition of the steps necessary to bring a completed nuclear power plant to full operational status will contribute to an understanding of the time it takes to achieve that status and of the purpose which interim licensing to conduct activities at less than full power levels serves. These sequential steps, which cover a several-month period, begin with fuel loading and continue as follows: achievement of criticality; core physics testing and confirmation of safety and protective systems; low power (1% plus) testing; integrated testing of engineered safety features and normal plant operating equipment; power ascension to confirm design performance; warranty run or equivalent by the plant supplier; operation at levels up to full power; and normal commercial operation.

Viewing the evidence relating to the company's request in this context, the Commission has determined that operation of the Palisades facility at up to 60 percent of rated power -- a phase in the process of facility

testing and operational readiness preliminary to full power steady-state operations -- is warranted; and that such operation, within the limitations proposed by the regulatory staff, can be undertaken without prejudice to the ends of environmental protection.

In reviewing the applicant's present request the Commission has taken account of the entire record of the proceeding thus far, but has focused its particular attention on the phase of the proceeding directly pertaining to the effects of operation at the 60 percent level. Of primary importance as regards the latter are the regulatory staff's environmental review (a document of approximately 120 pages, with appendices)^{3/} and the oral testimony of seven regulatory staff and company witnesses during two days of hearings. This overall record reflects that environmental impact attendant to interim facility operation up to the requested level will not be substantial; that although several possible adverse effects on the aquatic biota may result from such operation of the facility, they are immediate local effects confined to a relatively small area and are not expected to lead to a significant change in the ecological system of Lake Michigan as presently constituted; that alternatives in facility design or operation would not be foreclosed by interim operation up to 60 percent of rated power; and that operation at this level is justified by urgent power needs.

^{3/} Discussion and Conclusions by the Division of Reactor Licensing, U.S. Atomic Energy Commission, Pursuant to Appendix D of 10 CFR Part 50, Supporting the Issuance of a License to Consumers Power Company, Inc., Authorizing Limited Operation of the Palisades Nuclear Generating Plant, Docket No. 50-255, December 30, 1971 (Corrected January 28, 1972).

The Commission has reached this conclusion after giving due consideration to the items raised by the Licensing Board in its order of referral. As earlier indicated, the Licensing Board was satisfied in regard to the radiological aspects of operation. The comments of the Board which might be deemed as reservations or qualifications relate to possible non-radiological environmental impact, more particularly to effects in the water quality sphere. Those comments are dealt with seriatim below.

1. The Board has indicated a concern as to "whether the mixing zones provision relative to thermal releases ... as provided by Order of the Michigan Water Resources Commission, should be continued in effect as far as federal licensing authority is concerned, or whether more stringent limitations on the mixing zone [i.e., recommendations made by a representative of the Environmental Protection Agency (EPA) at the March 1971 Lake Michigan Enforcement Conference] should be specified." This difference in requirements suggested to the Board that further inquiry along the lines of the EPA approach may be in order in light of the holdings of the Calvert Cliffs decision. The Commission does not believe this to be the case in the context of the record here.

As explained by the Licensing Board, the Lake Michigan Enforcement Conference recommended a thermal discharge standard for the lake which

provides that the temperature of the receiving waters at a distance of 1,000 feet from a fixed point adjacent to the discharge shall not be more than 3° F. above existing natural temperatures. The State of Michigan, however, permits a heat load which would warm the receiving water no more than 3° F. above the existing natural temperatures at the edge of a mixing zone which shall not exceed an area equal to the area of a circle with a 3,630-foot radius.

Turning initially to the referenced EPA recommendations, two factors are worth noting. First, these recommendations have yet to be issued as governing regulations. Moreover, the Conference has made a further recommendation that plants not in operation as of March 1, 1971, will be allowed to go into operation if they are committed to a closed-cycle cooling system construction schedule approved by the State regulatory agency and EPA, and if final construction of the system is completed by December 31, 1974, for facilities utilizing natural draft towers, and by December 31, 1973, for all other types of closed-cycle systems. The record indicates that the company has committed itself to constructing mechanical draft cooling towers and that it plans to meet a completion date of December 31, 1973.^{4/}

^{4/} By March 12, 1971, the applicant and the intervenors in this proceeding entered into an agreement under which the intervenors agreed to forego further contest of the application and the applicant, in turn, agreed to certain conditions pertaining to plant design and operation, including installation of a closed-cycle condenser cooling system.

As to State thermal discharge standards, operation of the Palisades Plant at the 60 percent power level will be well within the Michigan limits.

The regulatory staff, however, did not confine its study of the environmental impact of proposed interim facility operation to thermal discharges permitted by the above standards or recommendations. The staff made its own analysis of the physical characteristics of thermal discharges and its own assessment of the biological impact of discharges with the characteristics analyzed. These are treated in the staff's "Discussion and Conclusions" (pp. 10-15). It was on this basis that the staff reached its overall conclusion concerning environmental impact. The staff's essential conclusion in this regard (p. 56) was that:

"Operation of the Palisades Plant at 60% of full power may have some immediate local effects in the outfall area (i.e., heated water tends to attract fish, chlorinated water tends to drive them away, etc.). These effects of heated water discharges are confined to a relatively small area of the total area of Lake Michigan, and, as indicated above, are not believed to have a detrimental effect on the overall well-being of aquatic life in Lake Michigan nor that along the eastern shore of the lake."

The Commission notes that this conclusion is consistent with the preliminary conclusions on environmental effects set forth in the draft detailed environmental statement for the Palisades Plant issued on February 29, 1972.

The staff review of environmental impact is thus fully in keeping with the holdings of the Calvert Cliffs decision. Moreover, the Board's recommendation that a "complete analysis of this matter be undertaken

at the time that a hearing is held respecting the final environmental impact statement", is consistent with the staff position (p. 56) that operation "after this initial period will depend on the results of the Commission's full NEPA environmental review and upon the results of the applicant's interim operations.^{5/}

2. With respect to the operational and monitoring conditions suggested in the Board's referral, it is the Commission's understanding of the record that the staff has recommended limitations on certain aspects of interim operation at 1320 MWT which, if the Commission approves, the staff would propose to incorporate in the Technical Specifications governing that operation. The operational limitations correspond to those cited by the Board in its referral order. The staff, however, did not propose specific present changes in the environmental monitoring program; rather, it identified additional monitoring activities, the details of which the applicant was to develop and then incorporate in its monitoring program before operations beyond the interim 60 percent level are undertaken. The Commission believes that the staff position in this regard is a reasonable one.

^{5/} The Licensing Board's complaint that it was denied some evidence of investigatory work being done near the Palisades site and at the Cook plant site, apparently stemmed from a misunderstanding by staff witnesses of the Board's interest in this work. This is reflected in a staff letter to the Board dated March 1, 1972, which also states that the staff has initiated action to obtain this information and will provide the information to the Board in connection with its full NEPA review.

3. The Board's referral order goes on to suggest that more data on environmental matters would assist in the evaluation of environmental effects. The data limitations thereafter described by the Board are taken substantially from the regulatory staff's testimony.

Although recognizing certain limitations in existing data, the staff was able, on the basis of the total information available, to reach the conclusions set forth in the previously referenced "Discussion and Conclusions" with respect to interim operation at 60 percent of rated power. The overall record, the Commission believes, is consistent with those conclusions. Moreover, the Commission would note, as did the staff in its report, that operation of the facility after this initial period will depend on the results of the full NEPA environmental review and upon the results of the facility's interim operations.

4. The Board's final suggestion is that the Technical Specifications for the interim license should contain a requirement for reporting of all data to the Commission with recommendations by qualified personnel, where appropriate, as to action which is needed in order to avoid significant adverse environmental impact. The staff, the Commission understands, is reviewing the matter of appropriate Technical Specifications for a full operating license, which specifications would include identification of reporting requirements and provision for any consequent actions needed to protect the environment. As earlier stated, however, the Commission

believes that, for interim operation, the limitations identified to the Board by the staff are adequate.

5. The concluding item mentioned by the Board in its referral order is in the nature of a reservation rather than a suggestion. The Board states that although the evidence is clear that Consumers is very short of reserve power and that it has established a technical basis for the level of reserve power it believes it needs, "the evidence is not clear that an emergency exists either in the Michigan Power Pool or in the Midwestern Power Region." The Commission has considered the Board's comments together with the record developed on this matter in the proceeding below. The Commission has also received additional, more current, information furnished by cognizant Federal and State agencies. On the basis of all of the foregoing, the Commission has concluded that an urgent power need situation does exist which warrants operating authorization at the level requested.

The basic evidence presented by the regulatory staff in regard to power needs was drawn from information supplied by the Federal Power Commission in its letter to the AEC of October 22, 1971, commenting on the company's application for interim authorization to operate this facility at 60 percent of its rated power. The FPC stated in that communication, which was accompanied by supporting data, that under the most favorable forecasted conditions for the summer of 1972, and with the Palisades unit operating at 60 percent of rated power, the unscheduled loss of the two largest units in the Michigan Pool

(in which Consumers participates with Detroit Edison Company) could reduce reserve margins to a level below that at which most systems operate to meet their hour-by-hour and day-by-day operational needs. The FPC concluded that this potential situation would be "distinctly prejudicial to the public interest" and that the circumstances "indicate that there is an emergency need for the Palisades unit to be available for at least 60 percent of rated power for the peak summer period."

Subsequent to the Licensing Board's referral, the Commission requested and received updating information concerning power needs in the Consumers' service area and adjacent regions from the Federal Power Commission and the Michigan Public Service Commission. Updating information was also requested from Consumers itself.^{6/} The letter response from the Federal Power Commission stated that Consumers' reserve capacity had, in fact, been reduced by some 80 megawatts since the FPC's earlier report because of the retirement of the Saginaw River Plant on February 1, 1972, due to environmental requirements. The FPC letter went on to note that:

"For the summer of 1972, the Michigan Pool will have several relatively new large units other than the subject Palisades unit. These are the 789 megawatt Monroe No. 2 unit, the 786 megawatt Monroe No. 1 unit, the 545 megawatt St. Clair No. 7 unit, and the 536 megawatt Trenton Channel No. 9 unit. A reasonable contingency [based on prior experience with new

^{6/} The responses to these Commission requests have been placed in the AEC's Public Document Room. A telegram from the Governor of Michigan, pointing to the critical need for additional power in the State for the 1972 summer peak period, has also been placed in the Public Document Room.

units] would include the simultaneous nonavailability of two of these units, in which case the Pool reserve margin would be almost eliminated."

The FPC communication further noted that the power supply situation for the summer of 1972 in regions adjoining that of the Michigan Power Pool is such that potential deficiencies in desired reserve margin levels also loom within those areas; and that, in this light, it does not appear that firm power from the adjoining areas would be available to Consumers.

The report submitted by the Michigan Public Service Commission furnishes confirmatory data in the above regard. That report states that the availability of Palisades at 60 percent of rated power by mid-June is "critical", and concludes: "We are completely convinced of its need and are likewise convinced that no irreversible environmental damage will result from such operations pending your full environmental review of the construction of a closed cycle cooling system for the plant to which Consumers Power Company is committed."

In light of all of the foregoing, the Commission is of the view that urgent power needs, a situation within the contemplation of Section D.2, have been shown to exist; and that the public interest warrants interim, limited operation up to the level requested herein.

* * * * *

In summary, the Commission has examined the record bearing on this interim licensing application and has considered and balanced the

earlier-described environmental and public interest factors specified in Section D.2 of Appendix D. On the basis thereof, the Commission has concluded that operation up to 60 percent of rated power is warranted pending completion of the ongoing NEPA review.

The Commission notes, in this connection, that it has examined the record with respect to the difference in expected environmental effects from short-term operation of the Palisades facility at various power levels within the range of 20-60 percent of rated power. The principal expected environmental effects would be due to chemical effects from residual chlorine present in the discharge circulating water during chlorination treatment of the condenser tubes, the mechanical effects from impingement on intake screens of aquatic organisms of a size which can be drawn into the cooling water intake structure, and thermal effects from the discharge of heated water. The quantities and concentrations of chlorine required to clean the condensers would be the same for operation at all power levels in the range of 20-60 percent of rated power. Likewise, the quantity of water drawn into the intake structure and the water intake velocity would be the same at all power levels in this range. Therefore, there would appear to be no difference in chemical and mechanical effects at various levels of power operation in this range. The thermal effects, if any, are expected to be subtle and will probably occur over longer periods than a few months of operation at 60 percent of full power. These effects of heated water would be confined to a relatively small area of the total area of Lake Michigan and, as earlier indicated, are

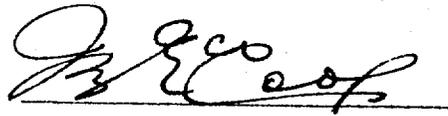
not expected to have a detrimental effect on the overall well-being of aquatic life in Lake Michigan nor that along the eastern shore of the lake. Thus, it would appear that there would be no significant difference in environmental effects from the short-term operation of the Palisades facility at the various power levels within the range of 20-60 percent of rated power.

The Commission deems it worth noting in the subject connection that the draft Section 102(2)(C) NEPA environmental statement was issued for comment on February 29, 1972, and that the final environmental statement is projected to be ready by May 1. Thus, the period of interim operation, while of vital public importance, should be relatively brief in duration.^{1/} If that period should extend beyond July 1, 1972, however, the Commission desires that a report be submitted to the regulatory staff by the applicant evaluating the effects of facility operation to that date, so that the Commission can consider whether any additional action on its part is appropriate.

^{1/} The Board noted in its decision that it did not believe itself limited in taking its earlier (20 percent) interim licensing action, nor was there a limit on 60 percent licensing, by virtue of the Federal District Court decision in Izaak Walton League, et al., v. Schlesinger, et al. (December 13, 1971, U.S. District Court, D.C.). That decision foreclosed issuance of an interim low power license for the Quad Cities facility pending completion of the full NEPA review for that plant. The Commission agrees with the Board that the preliminary injunction issued with respect to that single facility -- an injunctive order which presently is being appealed by the Government -- does not foreclose interim licensing action, in accordance with AEC regulations, in other proceedings.

It is therefore ORDERED that the Director of Regulation is authorized to make appropriate findings on the issues set forth in 10 CFR § 50.57(a) and to issue an amendment to Interim Provisional Operating License No. DPR-20 permitting operation of the Palisades Plant at power levels not to exceed 1320 MWT, subject to the limitations recommended by the regulatory staff as previously described in this Memorandum and Order.

By the Commission,



W. B. McCool
Secretary of the Commission

Dated: March 10, 1972