HQ 200a (11-7

NO. 75-2408 NRC LOGGING DATE March 17, 1975

SECRETARIAT

TO: ☐ COMMISSIONER DATE: 3/17/75
☐ GEN. MANAGER ☒ GEN. COUNSEL ☐ INFO. SERVICES
☐ DIR. REGULATION ☐ PLAN. & ANAL. ☐ SECRETARY

INCOMING FROM: Myron M. Cherry
One IBM Plaza
Chicago, Ill. 60611

DATE: 3/12/75 To: Chairman Anders

SUBJECT: Concerned that he did not receive cys of documents related to Palisades & Midland

☒ PREPARE REPLY FOR SIGNATURE OF:
- ☒ CHAIRMAN
- ☐ COMMISSIONER
- ☐ GM, DR, GC, PA, IS, SECY
- ☐ SIGNATURE BLOCK OMITTED

☒ PLEASE RETURN ORIGINAL WITH RESPONSE

☐ FOR DIRECT REPLY

☐ SEND COPY OF REPLY TO:
- ☐ SECY MAIL FACILITY (3) Suspense Date: 3/26/75
- ☐ CHAIRMAN
- ☐ COMMISSIONERS
- ☐ SECRETARY

☐ FOR APPROPRIATE ACTION Date 3/19/75
☐ FOR INFORMATION Time 11:30
☐ FOR RECOMMENDATION

REMARKS: Cy of incoming to Chairman Anders, each Commissioner, Exec. Dir. for Operations & D&SS

FOR THE COMMISSION: 8367

WHEN SEPARATED FROM ENCLOSURES HANDLE THIS DOCUMENT AS

GPO 870-868 ACTION SLIP

H-2

LAW OFFICES
MYRON M. CHERRY
ONE IBM PLAZA
CHICAGO, ILLINOIS 60611
(312) 565-1177

'75 MAR 17 AM 10:

OFFICE OF SECRETA

March 12, 1975

Mr. William A. Anders
Chairman
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Chairman:

On March 11, 1975 I received (by accident) a copy of a letter dated March 4, 1975 which you sent to the members of the Michigan Public Service Commission, apparently in response to the Michigan PSC's November 8, 1974 letter to the Chairman of the now-defunct Atomic Energy Commission.

Your March 4, 1975 letter deals with two cases in which I am involved, Palisades and Midland. I have not been apprised of your letter, nor did you or any of your staff send me a copy. Additionally, your letter enclosed certain information prepared by the Regulatory Staff (one of the parties to the former proceedings) and certain other documents (OOE-OS-002, May, 1974 and OOE-ES-001, January, 1974). I did not receive any of these documents.

I also find it interesting to note that while your staff sent to the Michigan PSC certain "general studies regarding nuclear power plant availability and capacity factors," the staff's enclosures indicated that those were dated May, 1974 and January, 1974. Your staff did not enclose the December 2, 1974 study by Dr. Edwin G. Triner of the Office of Policy Planning for the Nuclear Regulatory Commission which study supports the criticism that has been made about nuclear power plant capacity -- that it is appallingly low and results in increased costs to consumers. Dr. Triner's study (which I have not received and herewith request) was, as usual, recorded in the news media (Sunday New York Times, March 9, 1975, Midwest Edition, p. 42) and disclosed as a result of efforts of criticism of the Nuclear Regulatory Commission and not by the Nuclear Regulatory Commission itself. The question certainly arises as to whether your staff conveniently failed to submit to the Michigan PSC an NRC-in-house report critical to the nuclear combine. I trust you will correct the record as quickly as possible with the Michigan PSC and suggest that you consider sending the Triner report to all PSC's

throughout the United States so that state bodies realize the economic problem which can arise from jumping into nuclear power without adequate foundation or economic base.

Finally, I am making a request for a copy of your March 4 1975 letter together with all of the enclosures and I am asking that in the future, when you communicate with anyone in connection with matters in which I and my clients have filed an appearance, that I promptly be served with copies. While I am prepared to regard the failure to send me the March 4, 1975 letter and enclosures as bureaucratic oversight, I do believe that in the future, the Nuclear Regulatory Commission should take care to see that all interested persons receive copies of correspondence in a contested case.

Sincerely,

Myron M. Cherry

MMC:KK

c.c. Commissioner William R. Ralls
Commissioner Lenton G. Sculthorp
Chairman William G. Rosenberg
Michigan Public Service Commission

Enclosure (New York Times article referred to on page 1)

Federal Study Charges Little Concern By Utilities in Reliability of Reactors

By DAVID BURNHAM
Special to The New York Times

WASHINGTON, March 8—A Federal study has concluded that the utilities that own most American nuclear reactors—which have recently been generating only about 55 per cent of their power capacity—are not sufficiently concerned about the safety and performance of their reactors.

The study further charges that the state commissions that are supposed to regulate the utilities have "little or no influence" on the design process that could make reactors more reliable and efficient.

The analysis of reactor reliability and what steps the Federal Government should take to improve it was written by Edwin G. Triner, director of the Office of Policy Planning in the Nuclear Regulatory Commission.

Dr. Triner said the utilities, in theory, should have prime responsibility for making sure that the reactors they buy are both safe and efficient.

"The reality, however, is that without external suasion the likelihood f the utility customer taking aggressive action to improve plant reliability is not very great," he said.

There are 55 nuclear plants operating in the United States that generate about 7.5 per cent of the country's electricity. Because of various problems in the continuing supply of oil and natural gas, the Ford Administration is committed to building hundreds of additional reactors in the next 10 years.

Comment on Reliability

Norman C. Rasmussen, a professor of nuclear engineering at Massachusetts Institute of Technology who is the director of a major Atomic Energy Commission study on reactor safety, commented on the reliability issue at an industry con-

"Probably one of the most serious issues that the intervenors can raise today, with good statistics to back their case, is that nuclear plants have not performed with the degree of reliability we would expect from machines built with the care and attention to safety and reliability that often has been claimed for nuclear plants," Dr. Rasmussen was quoted as saying in an April report by the Atomic Industrial Forum, an industry lobbying group supported by major reactor builders, the utilities and engineers.

Dr. Triner's five-page analysis of reactor reliability, dated Dec. 2, 1974 was made available by the Nuclear Regulatory Commission in response to a request by Daniel Ford, staff director of the Union of Concerned Scientists, an organization that has been critical of atomic power.

Dr. Triner's study described a number of factors that he felt contributed to the reliability problem.

"By and large, the utilities are not that sophisticated," the official said. "There is no evidence, for example, that they have contractually imposed reliability standards upon their architect-engineers. Very few of the utilities exercise very much influence at all over the design process as it impacts reliability."

Costs a Factor

He said that a second factor was the reluctance of the utilities to incur extra design costs during the early stages of a nuclear reactor building project which would require them to generate additional capital.

"There is no incentive for them to make a total life cycle cost analysis that includes both design and construction cost and the 30 or 40 years of operating and maintenance cost," Dr. Triner wrote.

The official said another part of the problem was that the "architecture engineers who are largely responsible for power plant design have little incentive to consider increased reliability during the design process. Their interest is short term. Once a plant is constructed, the architecture engineers fade out of the picture."

as part of the reactor design group. He said that a limited investigation indicated that because of the all-inclusiveness of its responsibility for design, construction and operation, Duke "is more concerned with questions of reliability than most other utilities."

Concerning the role of the state utility commissions, the official said that besides having virtually no influence on the design of reactors, "to my knowledge the appointment of individuals to these commissions is not normally based upon their technical knowledge of the design and operations of a power plant."

He added that another problem was that "in all too many instances the quantity and quality of staff assigned to this function [nuclear reactors] within the states is inadequate."

The person who has publicly raised the most persistent questions about the reliability of reactors is David Dinsmore Comey, a member of the Chicago-based Business and Professional People for the Public Interest. In a statement last September, Mr. Comey said that the average capacity of the large nuclear reactors was 50.4 per cent during the first six months of 1974.

Put another way, this means that because of breakdowns, inspections, fuel loading and other reasons, these reactors produced only about half the amount of power they were designed to generate during the period in question.

A Second Analysis

Using a slightly different group of reactors, Dr. Triner in a second analysis of 44 reactors found the average capacity during the same period examined by Mr. Comey was 53.7 per cent.

Because Mr. Comey's study prompted strenuous debate within the industry, he recently issued a second one aimed at answering some of the criticism.

One industry response is that Mr. Comey's criticism of the reactors for not producing at least 80 per cent of their designed capacity is a straw man and that no one ever expected them to achieve such levels.

Mr. Comey, in a Feb. 14 paper, replied to this point by noting the final environmental statements prepared for more than 20 reactors by the Atomic Energy Commission included cost benefit calculations assuming 80 per cent capacity.

March 19, 1975

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Docket No. 50-255

Mr. James Kellogg
Deputy Director
Department of State Highways
and Transportation
Lansing, Michigan 48904

Dear Mr. Kellogg:

Commissioner Gilinsky has referred to me your question: Why is Consumers Power Company's Palisades Plant not operating at the present time?

In December 1974 while the plant was shut down for repairs of the condenser and turbine, Consumers Power Company conducted an examination of about 7% of the tubes in one of the two steam generators and submitted a request for an amendment to their operating license which, if approved, would have substituted this test for the more extensive tube inspection of both steam generators that was required by the operating license.

Our review of the test results led us to the conclusion that further testing and plugging of defective tubes was required prior to allowing the resumption of power operation. On February 6, 1975, we issued an Order for Modification of License to this effect. A copy of this Order is enclosed for your information.

Normal power operation may be resumed after our review and approval of the results of the ongoing additional testing. Consumers Power Company has informally advised us that they expect to be prepared for operation by the end of March 1975.

Please do not hesitate to contact me should you require any additional information.

Sincerely,

Original Signed By
A. Giambusso

A. Giambusso, Director
Division of Reactor Licensing
Office of Nuclear Reactor Regulation

approve by Gilinsky per tel. conversation with S. Castro on 3/19/75

Enclosure:
Order for Modification of License dated February 6, 1975

CHANGES MADE PER GILINSKY
SEE PREVIOUS YELLOW FOR OTHER CONCURRENCES

OFFICE	RL:ORB-1	RL				
SURNAME	CMTrammell/ltmer RAPurple	AGiambusso				
DATE	3/13/75	3/13/75				

Form AEC-318 (Rev. 9-53) AECM 0240

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EPeyton

Docket No. 50-255

Mr. James Kellogg
Deputy Director
Department of State Highways
and Transportation
Lansing, Michigan 48904

Dear Mr. Kellogg:

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Please do not hesitate to contact me should you require any additional information.

Sincerely,

Original Signed By

A. Giambusso

A. Giambusso, Director
Division of Reactor Licensing
Office of Nuclear Reactor Regulation

Enclosure:
Order for Modification of
License dated February 6, 1975

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
CONSUMERS POWER COMPANY	)	Docket No. 50-255
	)	
(Palisades Plant)	)	

ORDER FOR MODIFICATION OF LICENSE

I.

Consumers Power Company (the Licensee) is the holder of Provisional Operating License No. DPR-20, which authorizes operation of the Palisades Plant (the facility) at power levels up to 2,200 megawatts thermal. The facility is located in Covert Township, Van Buren County, Michigan.

II.

The facility is a pressurized water reactor which consists of a two loop system using two steam generators designated as "A" and "B". The facility commenced commercial operation on December 22, 1971, and, during the course of operation since that time, the tubes within

both steam generators have experienced localized corrosion of the wastage type and intergranular cracking. The cause of this steam generator tubing corrosion is attributed to phosphate treatment of the water chemistry in the secondary coolant system.

It should be noted by way of background that on January 15, 1973, after approximately one year of intermittent operation of the facility, the first leak in the facility's steam generator tubes developed. Eddy current inspection detected wall thinning in the tubes of both steam generators in the U-bend area. All tubes in the first eleven rows from the divider plates were plugged, and the facility returned to service early in March 1973, after which it operated at essentially 100% rated power. On August 11, 1973, the facility was shutdown because of steam generator tube leakage in excess of the limits established by the license technical specifications. Eddy current measurements performed during September 1973 showed measurable wall thinning on nearly half the tubes in each of the two steam generators. The inservice inspection and evaluation continued through April 1974, and all tubes with eddy current indications of 60% or more wall thinning were plugged. During a pre-operational hydrostatic test early in May 1974, leaks developed in

two tubes at a pressure differential of 200 psi. Reinspections of the steam generators showed that a number of tubes had developed a new type of degradation called "intergranular attack" during the nine-month period of shutdown. Thereafter, the Licensee plugged all tubes suspected of intergranular attack.

By September 1974, the Licensee had plugged all steam generator tubes which either were the subject of intergranular attack or exhibited eddy current indications of wall thinning of 50%* or more. In addition, the Licensee proposed to avoid further corrosion effects by changing from a phosphate water chemistry regime to an all volatile water chemistry treatment of the secondary coolant system. Based on the then AEC Regulatory Staff's (hereinafter referred to as the "NRC Staff") Safety Evaluation Reports dated August 30, 1974, and November 27, 1974, resumed operation of the facility was authorized. Specifically, (i) the facility could be operated at first only at limited power levels consistent with the requirements of a program designed to flush residual phosphates from the secondary coolant system, and then at power levels up to 100% of rated power subject to the limiting of the maximum operating transient differential pressure across the steam generator

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* By September 1974, the plugging criterion had been revised from 60 to 50%.

tubes to 1530 psi; and (ii) because of the possibility of the recurrence of further corrosion, the facility would be subject to a further steam generator tube inspection at the end of ninety effective full-power days or six calendar months from the date of resumption of criticality -- September 5, 1974 -- whichever occurs first. Based on the foregoing, the NRC Staff determined that, taking into account the number of tubes plugged, the steam generators met the requirements for reactor system performance, and that steam generator tube integrity could be maintained with adequate margins of safety during normal operation or under postulated accident conditions. Accordingly, on August 30, 1974, and November 27, 1974, Provisional Operating License No. DPR-20 was amended by Amendments Nos. 10 and 11 to reflect the foregoing requirements.

In December 1974, the Licensee, on its own initiative, conducted an eddy current inspection of steam generator tubes in the "A" steam generator. On January 3, 1975, the Licensee reported the results of this inspection. The Licensee tested a sample of 569 tubes selected with emphasis upon tubes which had eddy current indications of at least 40% wall thinning in previous tests. Within the inspection sample, 27 tubes had eddy current indications of corrosion exceeding

50%. Of the 27 tubes, one tube had indications exceeding 70% (which the Licensee has since plugged); three tubes, from 60 to 70%; and 23 tubes, from 50 to 60%. These test results suggest (i) the possibility of continuing corrosion, and (ii) that there may exist, within the facility's steam generators, a number of tubes with wall thinning significantly in excess of the limit established by the tube plugging criterion upon which the basis for operation of the facility has been authorized under Amendments Nos. 10 and 11, and that, therefore, such thinning could represent a significant reduction in the margins of safety needed to protect the health and safety of the public.

Although the facility is otherwise ready to resume operation, the Licensee has maintained the facility in a shutdown condition since the December 1974 inspection was performed. Under the present operating license, absent further action by the NRC Staff, the Licensee could return the facility to full power operation in its present condition until March 5, 1975, without any further inspections.*

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* As indicated supra, Amendments Nos. 10 and 11 require a further steam generator tube inspection after ninety effective full-power days or six calendar months, whichever occurs first. The six-month period expires first, and it occurs on March 5, 1975.

III.

In view of the foregoing, the Acting Director, Office of Nuclear Reactor Regulation, finds that the additional license provisions set forth in Part IV below are required, and that the public health, safety or interest require that these conditions be made immediately effective upon issuance.

IV.

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's Rules and Regulations in 10 CFR Parts 2 and 50, IT IS ORDERED THAT:

1. The Provisional Operating License No. DPR-20 is amended by the addition of paragraphs 4.14.4 and 4.14.5 to the Technical Specifications as follows:

   4.14.4 The Licensee shall conduct prior to further reactor operation the following steam generator in-service

inspection program:

A. Inspect all steam generator tubes in both steam generators which previously had defect indications (not including plugged tubes) of greater than 20% wall penetration in the manner prescribed by Regulatory Guide 1.83 (issued June 1974), as that guide applies to inspections after the baseline inspection. All tubes with indications of 50% or more wall thinning shall be plugged; or in the alternative,

B. Conduct additional statistical inspections as follows:

1. With respect to each steam generator "A" tube with December 1974 test indications of 50% or more wall thinning, either plug such tube or re-evaluate by the following procedure:

   (a) eddy current test such tube to obtain at least 2 additional readings.

   (b) average the 2 or more additional readings with the December 1974 reading.

   (c) if the average indicated wall thinning is 50% or more, plug the tube.

2. If the results of B.1 above require plugging one or more tubes (in addition to the one tube already plugged since the December 1974 inspection), an additional 3% of the total tubes in steam generator "A" shall be inspected, concentrating on those areas of the tube sheet array where tubes with defects were previously found. All tubes with indications of 50% or more wall thinning shall be plugged.
3. Continue the sampling procedure of B.2 above until a sampling results in no tubes found that require plugging, or all tubes have been inspected.
4. Irrespective of the results of the inspection in B.1 through B.3 above, sample 3% of the total tubes in steam generator "B", concentrating on those areas of the tube sheet array where tubes with defects were previously found. Acceptance, plugging and further sampling criteria shall be the same as described above for steam generator "A".

C. The results of the above-described inspection and tube plugging program, and a proposal for the conduct of future operations, including a recommended schedule for the next steam generator tube inspection shall be submitted to the NRC Staff for review and approval by letter prior to further operation.

4.14.5 Any steam generator tubes with eddy current indications of 50% or more wall thinning shall be removed from service by plugging. Such indications may be confirmed by averaging during a given inspection, but such average shall be based on not less than three readings, in which case an average indication of 50% or more wall thinning shall result in tube plugging.

2. This Order is effective immediately upon issuance.

3. Within thirty (30) days of the date of issuance of this Order, the Licensee may file a request for a hearing with respect to this Order. Within the same thirty (30) day period, any other person whose interest may be affected

may file a request for a hearing with respect to this Order. If a request for a hearing is filed within the prescribed time herein, the Commission will issue a notice of hearing or such other order as may be appropriate. A request for a hearing must be filed with the Office of the Secretary, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Docketing and Service Section. A copy of the request for a hearing should also be sent to the Chief Hearing Counsel, Office of the Executive Legal Director, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, and to R. Rex Renfrow, III, Esquire, Isham, Lincoln & Beale, One First National Plaza, Chicago, Illinois 60670, attorney for the Licensee.

A petition for leave to intervene must be accompanied by a supporting affidavit which identifies the specific aspect or aspects of this Order as to which intervention is desired and specifies with particularity the facts on which the petitioner relies as to both his interest and his contentions with regard to each aspect on which intervention is requested. Petitions stating contentions relating only to matters outside the Commission's jurisdiction will be denied.

All requests for a hearing and petitions for leave to intervene will be acted upon by the Commission or an Atomic Safety and Licensing Board designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel.

In the event that a hearing is held and a petitioner is permitted to intervene, that petitioner becomes a party to the proceeding and has a right to participate fully in the conduct of the hearing. For example, the petitioner may present evidence and examine and cross-examine witnesses.

For further details with respect to this action, see (1) Provisional Operating License No. DPR-20, as amended, (2) the Licensee's inspection report dated January 3, 1975, (3) the Commission's Safety Evaluation Report dated August 30, 1974, issued in connection with Amendment No. 10 to the operating license dated August 30, 1974, which was issued in response to the Licensee's application for amendment dated August 20, 1974, and its letter to the Directorate of Licensing dated August 28, 1974, requesting interim Technical Specifications, and (4) the Commission's Safety Evaluation Report dated November 27, 1974, issued in

connection with Amendment No. 11 to the operating license dated November 27, 1974, which was issued in response to the Licensee's August 20, 1974, application for amendment as supplemented November 7, 1974. All of the above documents are available for inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. and at the Kalamazoo Public Library, 315 South Rose Street, Kalamazoo, Michigan 49006.

FOR THE NUCLEAR REGULATORY COMMISSION

Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation

Order dated and issued at
Bethesda, Maryland, this
6th day of February, 1975.