

No. **77-0131**Logging Date **2/2**

NRC SECRETARIAT

TO: ☐ Commissioner _____ Date _____
☒ Exec. Dir./Oper. _____ ☐ Gen. Counsel
☐ Cong. Liaison _____ ☐ Solicitor
☐ Public Affairs _____ ☐ Secretary
☐ _____

Incoming: Maurice S. Reizen, M.D., Director
From: State of Michigan, Dept. of Public Health

To: Chairman Rowden Date 1/27

Subject: The need for increased nuclear spent fuel storage.

- ☐ Prepare reply for signature of:
- ☐ Chairman
 - ☐ Commissioner _____
 - ☐ EDO, GC, CL, SOL, PA, SECY
 - ☐ Signature block omitted
 - ☐ _____
 - ☐ Return original of incoming with response

- ☒ For direct reply* **SUSPENSE: Feb. 22**
- ☐ For appropriate action
- ☐ For information
- ☐ For recommendation
- 2/2/77
2/15

Remarks: Cys to: Chairman, PE, GC.

RF

For the Commission: _____

*Send three (3) copies of reply to Secy Mail Facility



WILLIAM G. MILLIKEN, Governor

MAURICE S. REIZEN, M.D., Director

STATE OF MICHIGAN

DEPARTMENT OF PUBLIC HEALTH

P.O. Box 30035

3500 N. LOGAN, LANSING, MICHIGAN 48909

January 27, 1977

Honorable Marcus A. Rowden
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: Docket 50-255

Dear Chairman Rowden:

The need for increased nuclear spent fuel storage capacity is a national energy problem resulting from the present zero capacity for commercial fuel reprocessing and high level nuclear waste storage. The fact that the problem exists is not to the credit of the fuel cycle management of a responsible federal agency-industrial complex.

The continued lack of a national plan to cope with the problem even on an interim basis while plans are made for long-term storage is a matter of public health, safety and environmental concern. The undirected and unanalyzed interim solution of providing for additional storage capacity for spent fuel at the nuclear powered generating sites via the routes of license amendment applications is subject to severe questioning. Each site is evaluated only as an independent case. This method, in our opinion, cannot result in meaningful cost effectiveness or benefit risk studies. The best interests of the public will not be served if this non-solution persists.

This department requests that the Energy Research and Development Administration address this problem before amendments to licenses are granted for increased fuel storage capacity. An environmental impact statement may be required under the National Environmental Protection Act to evaluate the consequences of the management of large quantities of spent fuel by storage above ground at many locations throughout the nation.

As a matter of concern for this department, the "Consumers Power Company Palisades Nuclear Generating Station Spent Fuel Pool Modification Description and Safety Analysis" and "Environmental Impact Evaluation" do not adequately address the issues raised by the added spent fuel storage capacity. We raise the following questions for which we would appreciate answers:

1. What alternatives to the increased spent fuel storage capacity at Palisades are being considered by the U.S. Nuclear Regulatory Commission or the Energy Research and Development Administration?



MICHIGAN The Great Lake State



2. What are the benefit/risk ratios for each of the alternatives being considered by these agencies in terms of public health and environmental impact?

3. The Report and the Environmental Impact Evaluation state that "normally" only fuel decayed for at least one year will be stored in the Future Tilt Pit and the safety analyses are based on the "normal" condition. Will storage of fuel that has decayed for less than one year be prohibited in the Future Tilt Pit? What assurance will be given to the U.S. Nuclear Regulatory Commission?

4. A number of cooling alternatives are noted as backups to the primary Fuel Pool cooling source. Would these cooling sources be available in the event of any accident, or could they be required for other essential plant functions, thus invalidating the temperature analyses?

5. Section 6 of the Report states that cooling analyses treat the main pool and the tilt pool as one pool. In view of the construction of the pools, is this treatment reasonable?

6. Why do some of the analyses assume the presence of boron in the cooling water while others do not? Under what conditions would boron be absent in the cooling water?

7. Why has the possibility of blocked coolant flow through one or more fuel assemblies with attendant temperature rise and fuel failure been omitted, especially in the Future Tilt Pit with its normally higher temperature? Would elevated temperatures adversely affect the boron carbide (B_4C) plates?

8. Have dose calculations been made assuming water loss in the pools?

9. Has the probability of a breach of pool integrity been considered in view of the fuel tilt pit addition with a north wall thickness of only two feet?

10. The Report describes the use of "detailed written procedures designed to preclude any possibility of dropping a rack on the stored fuel elements" and control of crane movement "by written administrative procedures which will prohibit the movement of spent fuel racks or control rod racks directly over locations in the pool where fuel assemblies are being stored." It is a matter of record for the Palisades Plant and other nuclear facilities that written administrative procedures do not "preclude" or "prohibit" anything. Will the use of mechanical and/or electrical interlocks to control and limit the movement of the crane during rack installation be required?

11. What are the numerical increases in dose rate and actual projected doses for conditions as related in Section 7 of the Report?

12. Section 7 of the Report discusses the gamma dose rate under the Cask Laydown Area of the Spent Fuel Pool. Section 2 of the Environmental Impact Evaluation describes the pool as having "reinforced concrete walls and floor 4½ to 6 feet thick." The concrete floor thickness in the Cask Laydown Area is only 2½ feet. Likewise, the Tilt Pit floor contains 5 feet of concrete, compared with 6 feet for the main Spent Fuel Pool floor. Have these thicknesses been used for the dose rate calculations?

✓ 13. The Environmental Impact Evaluation notes that 3.4% of the annual United States consumption of B₄C will be used. Considering that Palisades is one of the many nuclear plants which may have this same need, 3.4% does not seem to be "only a small fraction" of this resource. Should not other uses of B₄C and the effect of total nuclear industry needs upon its availability for these uses be addressed?

14. The accessibility of nuclear materials could by skillful use of available explosives produce a public health and safety risk out of proportion to the benefits. What additional security protection is proposed to prevent sabotage by a reactionary group or a disgruntled or deranged employee?

✓ 15. Plans include the installation of a jib crane to facilitate Tilt Pit fuel handling. No details are provided. Will simultaneous Spent Fuel Pool and Tilt Pit fuel handling be allowed? What portion of the Tilt Pit pool will the crane service? Will the crane be mobile? Crane installation is planned for the north end of the Tilt Pit, which is adjacent to the alternate cask laydown area. Has interference of the crane with cask and Fuel Handling Machine movement been considered? Compared with existing fuel handling and crane facilities, how will the probable reduced reliability of fuel handling by the jib crane affect the accident analysis?

16. The number of fuel assemblies projected for the pool is not compatible with the stated refueling schedule. What refueling schedule is the basis for the projection?

Your careful consideration of these issues before a decision is reached on Consumers Power Company license amendment is requested. We empathize with the electrical power generating problems and energy needs, but health and safety must not be compromised.

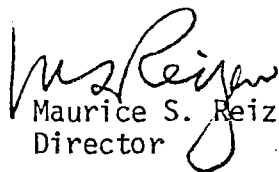
Honorable Marcus A. Rowden

- 4 -

January 27, 1977

Thank you for your cooperation in the protection of the public health and safety of Michigan's residents.

Sincerely,

A handwritten signature in dark ink, appearing to read "M. S. Reizen", written over the typed name.

Maurice S. Reizen, M.D.
Director