

7/23/80

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD



In the Matter of)	
)	
CONSUMERS POWER COMPANY)	Docket No. 50-155
)	
(Big Rock Point Nuclear)	
Power Station))	

JOHN O'NEILL'S RESPONSE TO
LICENSEE'S SECOND SET OF INTERROGATORIES

Answering Licensee's Second Set of Interrogatories, John O'Neill responds as follows:

1. The intent of O'Neill Contention IIE-3 is to require the analysis of the possibility of criticality being reached in the proposed fuel racks, if the racks are not greatly damaged. It does not itself posit a scenario for a criticality occurring and thus IIE-3 excludes no possible chain of events leading to criticality, save those involving a gross distortion of the racks.

Therefore, Contention IIE-3 calls for an analysis of all events that could lead to criticality occurring in the pool with the modified racks ^{where} ~~There~~ ~~fore~~, the increased density of the racks would be a significant factor in any such potential accident. Accordingly, none of the following are excluded:

Water boiling away, water loss from the uneven distribution of plutonium in the fuel rods or bundles, cladding, deteriorating and causing cooling problems, loss of monitoring capacity, loss of off-site power, and equipment failure.

For example, if criticality would not be achieved in the pool's existing racks if off-site power were lost, but could occur in the proposed racks if off-site power were lost, then the criticality is caused by the increased density of the racks. The applicant has not adequately analyzed the problem of criticality occurring in the spent fuel pool at Big Rock, if the racks are modified. Analysis of this issue becomes even more imperative when the presence of a significant quantity of plutonium in the fuel to be stored is considered. (See enclosed clipping "Consumers Want Greater Plutonium Use at Big Rock".)

The application is inadequate because a) it fails to provide adequate experimental data for safe compaction (experimental as opposed to mere calculations). There is insufficient experimental data for storage for a period of 20 years, which would be allowed by the proposed license amendment. There is insufficient experimental data on the compacted storage of mixed-oxide plutonium-uranium fuels; b) it fails to consider and address the research and testimony of expert witnesses who have participated in other spent fuel pool hearings, all of whom warned of the increased dangers of criticality due to spent fuel compaction. I include Dr. Richard Webb and Dr. Gordon Thompson and refer to number 290 German Report; c) the application fails to analyze sufficiently the effect of increased density upon proper cooling which is essentially related to criticality. For example, in the event of cladding deterioration, the cladding material could block the flow of cooling water; d) the criticality analysis fails to consider the problems that have occurred in other spent fuel pools that have compacted fuel storage racks, including but not limited to the overheating and deterioration of cladding incident in the Montecello plant of Dairyland Co-op Wisconsin.

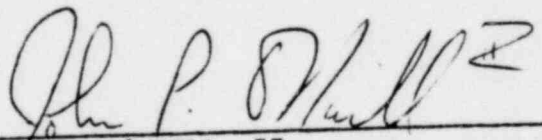
2. Dr. Gordon Thompson
School of Engineering/Applied Science
The Engineering Triangle
Princeton, New Jersey 08544

Testimony of Dr. Thompson before the Energy Agency of the State of Minnesota on 10 May 1980 concerning the proposed increase of spent fuel storage capacity at Prairie Island Nuclear Plant.

Dr. Richard Webb
(Address to be supplied)

Testimony of Dr. Webb regarding contentions regarding the accidental hazards and spent fuel storage at the Salem Nuclear Power Plant in Salem, New Jersey and an analysis of the accident and hazards of storing highly radioactive spent fuel rods at the Zion Nuclear Power Plant near Chicago (PWR) (April 3, 1979)

I affirm that the foregoing answers are true.



JOHN P. O'NEILL, II

Consumers Wants Greater Plutonium Use at Big Rock

JACKSON (UPI) — Consumers Power Co. has asked the federal government to approve the use of plutonium, four times the current amount, in its Big Rock nuclear reactor.

The utility also wants permission to double the size of its storage facilities for highly radioactive nuclear waste there.

Consumers has asked the U.S. Nuclear Regulatory Commission for approval to store as many as 441 used atomic fuel assemblies on the site, near Charlevoix, an increase from the current capacity of 193.

If the NRC grants the request, the plant also would be allowed the use of 150 kilograms of plutonium as fuel to replace some of the uranium now used.

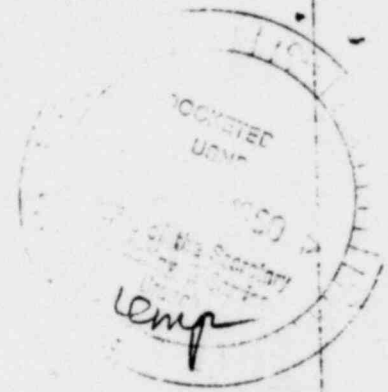
The request is considered controversial because there are no permanent nuclear waste storage sites in the United States.

Plutonium, a byproduct of uranium fission reactions in nuclear facilities, is seldom used as fuel in modern reactors. When airborne, minute plutonium specks will cause lung cancer if inhaled.

Meanwhile, non-radioactive steam and a loud noise blasted from the generating system at the Cook plant in Bridgman when a safety valve erupted, plant officials said.

Plant manager Del Shaller said the valve blew about 7:30 p.m. Monday. The steam poured out for about 20 minutes.

Grand Rapids
Press
Around June '79



Detroit Free Press
Around June '79

Mich. reviews A-leak policy

CHARLEVOIX, Mich. (UPI)—A leakage of radioactive water last week at the Big Rock nuclear plant here has convinced state and local officials that reporting procedures must be changed in the interest of public safety.

State health officials said Monday that the leakage posed no more danger than numerous similar incidents at Michigan nuclear facilities over the years, but that it highlighted serious flaws in how such incidents are reported.

For example, they noted in a report to Gov. William G. Milliken, Charlevoix County authorities did not learn of the leakage until 36 hours after it was discovered—and then only because of phone calls from reporters.

"It's a scary setup," said Civil Defense Director Alice Tunison. "I don't want to panic people, but I'm trying to keep my own stomach under control."

Lee Jager, chief environmental expert for the state Public Health Department, said his department was displeased that the state was not immediately notified of the incident by Consumers Power Co. of Jackson, which operates the plant.

CONSUMERS POWER and other utilities must notify the state of a problem at a nuclear plant only if it is a full-fledged emergency requiring implementation of the emergency preparedness plan.

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document(s) upon each person designated on the official service list compiled by the Office of the Secretary of the Commission in this proceeding in accordance with the requirements of Section 2.712 of 10 CFR Part 2 - Rules of Practice, of the Nuclear Regulatory Commission's Rules and Regulations.

Dated at Washington, D.C. this
6th day of Aug 1970.

Peggy K. Downing
Office of the Secretary of the Commission

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
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CONSUMERS POWER COMPANY) Docket No.(s) 50-155
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(Big Rock Point Plant)) (Spent Fuel Expansion)
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