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John Ahearne, Acting Chairman
US Nuclear Regulatory Commission
Washington, D. C. 20555

RE: Spent fuel compaction at the Big Rock Nuclear Power Plant,
Charlevoix, Michigan

Docket No. 50 - 155

Intervenors in the Nuclear Regulatory Commission proceeding on Consumers Power's application to increase the spent fuel storage capacity at Big Rock, have recently requested that the plant be closed now. Former NRC Chairman, Joseph Hendrie, received a letter dated Nov. 14, 1979, from J. C. Youngdahl, Executive Vice President, Consumers Power Company, Jackson, Michigan concerning the matter.

In Mr. Youngdahl's letter he stated that Big Rock normally displaces the equivalent of 650,000 barrels of oil per year. This is but a minute fraction of the 20,000,000 barrels of oil per day which this country uses. Further, it would be much more effective and economic to eliminate the 650,000 barrels, and millions more, by such measures as car pools, mass transportation and better automobile mileage than to attempt to replace it with nuclear power plants.

In his letter he states that in 1978 Consumers' nuclear plants generated electricity at a cost of 0.96 cents per kilowatthour including fuel, operating and maintenance costs. Their coal plants averaged 1.88 cents per kilowatthour and the oil-fired units averaged 2.19 cents.

In April 1979 Consumers Power requested an annual rate increase of $4,733,000 to cover an estimated cost of $133,000,000 to dismantle Big Rock in the year 2000. Over the last ten years Big Rock's annual output has averaged 355,000,000 kilowatthours. This figures out to 1.33 cents per kilowatthour for dismantling. Adding this to the 0.96 cents for Consumers' nuclear generated electricity amounts to 2.29 cents which is more than either coal or oil. The additional costs of nuclear waste disposal are yet unknown.

Consumers Power has the total capacity to generate 37% more electricity than peak load requirements. 20% excess capacity is considered adequate. Big Rock produces 1% of Consumers' total. The loss of Big Rock's capacity would be insignificant. Projections show that Consumers has enough capacity to exceed the 20% reserve margin for 25 years without Big Rock. Big Rock might better be moth-balled now and brought back on line if, and when, an electricity shortage develops in Michigan.

As Mr. Youngdahl said, there have been problems with loose bolts causing stuck fuel rods at Big Rock. This first occurred in 1963. In October, 1966 start-up was delayed because of one stuck rod which was freed then another failed to function because of a ¾ inch bolt lodged in a drive thimble. This

bolt was identified with 70 of them on the "grid-bar beam assembly" which holds the fuel rods in the appropriate configuration. There was no record that these bolts had been heat treated. The upper grid bolts were replaced in 1967. In an event report on January 24, 1978 a rod again stuck. It was believed caused by a remnant from the 1967 grid bolt replacement project. Another loose bolt was found this spring. Fortunately, so far, the control rods have stuck in the off position. The situation would suggest a comedy of errors were it not for the seriousness of the matter.

Big Rock is classed as an experimental reactor. Experiments have been done using different types of fuel and fuel cladding, resulting in increased fuel failures and an increased release of radiation to the environment. In 1977 Consumers signed a $15,000,000, eight year contract with the Energy Research and Development Administration for the continuation of experiments at Big Rock on nuclear fuel performance.

Plutonium, in small amounts was first added to the fuel in 1969. In 1975 one hundred and ten pounds were loaded into the reactor. The inhalation of a speck of plutonium, the size of an invisible grain of pollen, would result in a good probability of developing lung cancer.

Although the plant has stayed well within the limits of radiation release rates set by the NRC, the health effects from low doses and low dose rates of radiation still remain basically unknown.

In June, 1979, the Interagency Task Force on Health Effects of Ionizing Radiation reported that health effects from low levels of radiation, the type routinely released from nuclear power plants, may be greater than assumed. Two National Academy of Sciences Committees, one to study Risks Associated with Nuclear Power and the other on the Biological Effects of Ionizing Radiation III, estimated this year that between 2,000 and 2,500 Americans will die from radiation from nuclear power during the last quarter of this century. The often repeated statement that no member of the public has died from nuclear power is simply not valid according to these studies.

Big Rock has been down for eight months this year due to a leak and a loose diffuser plate. It was a loose diffuser plate, or similar type plate, which caused the partial melt down at Fermi I, in Monroe County, Michigan in 1966.

The NRC has recently requested that studies be done on containment building shielding on the 10 oldest nuclear plants in the U. S. Big Rock is one of them. The shielding is apparently permeable to gamma radiation. One of the possibilities under consideration for eliminating this hazard is to build a hugh concrete silo, with walls 2 to 3 feet thick, around the containment building. If the present shielding cannot prevent the escape of gamma radiation, in the event of a loss of coolant accident, one can reasonably ask, why is the plant allowed to operate now? Further, why should the rate payers be saddled with what would be a formidable cost for such a silo, as well as the probably grossly underestimated $2,000,000 for compaction of the spent fuel rods, at this small, unneeded, prematurely aged plant?

In summary then, Big Rock is not needed now and may never be needed. It is one of the oldest in the country, has serious problems and in 1976 was given permanent exemption from meeting the NRC's current safety standards. The plant could

well be moth balled and brought back on line if it ever is needed. We could deal with the spent fuel problem then. If the rational for keeping it going is to use if for experimental purposes let the experiments be done at one of the national nuclear reservations; Hanford, Idaho Falls, Oakridge or Savannah River.

Sincerely Yours,

Gerald A. Drake, M. D.
GAD/jr

cc: Governor William Milliken
U. S. Representatives Robert Davis and Robert Carr
U. S. Senators Carl Levin and Donald Riegle
State Senator Mitch Irwin
State Representative Charles Varnum
Donald VanFarowe, Chief of Radiologic Health,
Michigan State Health Department
Robert Pollard, Consulting Engineer,
The Union of Concerned Scientists