

Consumers Power Company



General Offices: 212 West Michigan Avenue, Jackson, Michigan 49201 • Area Code 1-7788-0550

May 18, 1972



Mr. E. J. Bloch, Director  
Directorate of Licensing  
US Atomic Energy Commission  
Washington, DC 20545

Re: Docket No 50-155  
License No DPR-6

Dear Mr. Bloch:

By letter dated December 30, 1971, we reported preliminary results of our reanalysis of the performance of the Emergency Core Cooling Systems (ECCS) installed at the Big Rock Point Nuclear Plant. In responding to our submittal (Mr. Donald J. Skovholt's letter of January 17, 1972), you requested that we revise our analysis to include more conservative assumptions and to submit a schedule of improvements, if they are necessary, by July 1, 1972. This letter is intended to provide such information for the Design Basis Accident. Information concerning intermediate- and small-break sizes will be submitted at a later date.

Reanalysis was performed in accordance with the Interim Acceptance Criteria of both the "worst" case of fuel type currently in use at the Big Rock Point Nuclear Plant as well as future fuel design concepts. Results of the analysis for the "worst" case current fuel, referred to as Type F fuel, and a new type of fuel scheduled for initial use at the Big Rock Point Nuclear Plant (Nuclear Fuel Services, Inc (NFS) demonstration fuel assemblies) in 1973 are described in the attached report titled "Design Basis Accident Loss-of-Coolant Analysis for NFS Demonstration Fuel Assemblies." This reanalysis shows the Type F fuel exceeds the Interim Acceptance Criteria, but the NFS demonstration fuel is well within the criteria.

The reanalysis for Type F fuel was performed assuming that the assembly operated at its licensed power limits, with the reactor operating at full power, 240 MW<sub>t</sub>. The analysis of the NFS demonstration assemblies assumed that an assembly was operated at power output equal to the Type F fuel when "F" fuel is operated at its licensed limit.

Studies of the design basis accident, and existing equipment and plant configurations, have shown plant operation within the Interim Acceptance Criteria limits is only achievable through changes in fuel design from those presently in use in the Big Rock Point Nuclear Plant.

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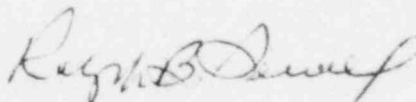
The use of the 11 x 11 rod array and unpowered rod is one design concept that will enable Big Rock Point to meet Interim Acceptance Criteria limits in future reload fuel types.

Our plans, and schedule for meeting the Interim Acceptance Criteria, are based on replacing the current reload fuel, Type F, as it reaches its design and equilibrium fuel cycle end of life with Type Reload G fuel assemblies. On a pure equilibrium fuel cycle basis, Reload G would displace all Reload F fuel by spring of 1977. However, equilibrium fuel cycles have not been possible in the past at the Big Rock Point Nuclear Plant because of the large numbers of fuel bundles irradiated (past and present) for research and development purposes and premature failures of reload fuel types. For these two reasons, it is possible that some Reload F fuel may remain in the core through the spring of 1978. A licensing submittal is currently being prepared for Reload G and will be submitted within one month.

Four NFS demonstration assemblies, of the type analyzed in the attached report, are scheduled to be placed into use at the Big Rock Point Nuclear Plant during the next refueling outage, currently scheduled for spring of 1973. A licensing submittal will be submitted within the next two months.

Reanalysis of the small-break loss-of-coolant accident is in progress. Required modification, if any, will likely have an effect on the intermediate-break analysis. The results of these reanalyses will be submitted prior to the July 1, 1972 deadline.

Yours very truly,



Ralph B. Sewell  
Nuclear Licensing Administrator

RBS/map

CC: Boyce H. Crier,  
USAEC