UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

February 22, 1971

Docket No. 50-155

Consumers Power Company
ATTN: Mr. Gerald J. Walke
Nuclear Fuel Management
Administrator
212 West Michigan Avenue
Jackson, Michigan 49201

Change No. 23
License No. DPR-6

Gentlemen:

Your Proposed Change No. 25 dated January 18, 1971, and TWX supplements thereto dated February 1 and 9 requested changes to the Technical Specifications of Facility License No. DPR-6 to permit operation of the Big Rock Point Nuclear Reactor with two auxiliary antimony-beryllium neutron sources inserted in the reactor core. The auxiliary neutron sources would be contained in removable fuel rod positions in two fuel bundles to increase the startup count rate. We have redesignated your request Proposed Change No. 23.

We agree that the design of the auxiliary neutron sources is conservative and that safety may be enhanced by the insertion of and operation with the proposed two sources because of the greater ability to measure neutron count rates. We have concluded that the proposed change does not increase the probability of or change the consequences of the design basis accident nor does it involve significant hazards considerations not described or implicit in the Safety Analysis Report. There is reasonable assurance that the health and safety of the public will not be endangered by operation of the Big Rock Point Nuclear Reactor with two auxiliary antimony-beryllium neutron sources in the reactor core in the manner proposed.

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, Section 5.1.6 of the Technical Specifications of Facility License No. DPR-6 is hereby changed to read as follows:

"Section 5.1.6 Sources

Type	Antimony Beryllium
Quantity	2 Initial Sources and up to 2 Auxiliary Sources

Location*

The initial neutron sources shall be placed in Core Positions 02-59 and 09-52 as shown in Figure 5.1.

The two auxiliary neutron sources may each be contained in a removable rod in a fuel bundle located one fuel bundle position from the outside of the core, symmetrically near the E-W line through the center of the reactor core.

Physical Description

The initial neutron sources shall consist of a steel jacketed antimony pin, 1 inch diameter by 12 inches long, centrally located on the vertical axis of a steel jacketed (Type 304 SS) beryllium cylinder 5-1/2 OD by 16 inches long. The entire assembly, including support structure, is a cylinder 79-7/16 inches long by 6 inches diameter which rests on a special orifice in a standard support tube and fuel channel. A lifting bail shall be provided for handling purposes. The assembly design shall allow adequate cooling along the surface of the source pin and the outer surface of the assembly.

The auxiliary neutron sources shall each consist of a homogeneous 50-50 mixture of antimony-beryllium first encapsulated in a steel tube (Type 304 SS),

*With in-vessel low-level neutron detectors in service, one operating source may be temporarily relocated as the operator deems appropriate.

then secondarily encapsulated in a zirconium alloy tube. Each doubly encapsulated source will be equipped with a spring-loaded, bayonet latch locking device to permit it to be locked into a corner fuel rod position in a fuel bundle."

Sincerely,

Peter A. Morris

Peter A. Morris, Director
Division of Reactor Licensing

cc: George F. Trowbridge, Esquire
Shaw, Pittman, Potts, Trowbridge & Madden
910 - 17th Street, N.W.
Washington, D.C. 20006

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