

MAR 2 1973

Docket No. 50-155

*Consumers notified
3-2-73*

Consumers Power Company
ATTN: Mr. Ralph B. Sewell
Nuclear Licensing Administrator
212 West Michigan Avenue
Jackson, Michigan 49201

Change No. 35
License No. DPR-6

Gentlemen:

Your Proposed Change No. 36 dated February 2, 1973, requested changes to the Technical Specifications of Facility License No. DPR-6 to permit replacement of two existing auxiliary antimony-beryllium neutron sources in the reactor core with two new sources. This change is necessary to provide auxiliary neutron sources that are compatible with the new 11 x 11 rod array fuel bundles that will be used to reload the core in 1974 and thereafter. The old sources cannot fit into the smaller tubes of the Reload G fuel bundles.

Our February 22, 1971 review of the use of the two antimony-beryllium sources presently in the reactor revealed that the design of the auxiliary neutron sources was conservative and that safety may be enhanced by the insertion and operation with those sources because of the greater ability to measure neutron count rates. The proposed neutron sources are not significantly different from the original sources. Until the activity of the new sources builds up to a useful level (1 to 3 years), the original auxiliary neutron sources will remain in core positions close to the startup detectors.

Based on our evaluation, we have concluded that operation of the Big Rock Point reactor with the two new auxiliary neutron sources inserted in its core in the manner proposed does not decrease the critical heat flux ratios significantly, change the DBA peak clad temperature, increase the probability of or change the consequences of the DBA, nor does it present significant hazards considerations not described or implicit in the Big Rock Point Safety Analysis Report. There is reasonable assurance that the health and safety of the public will not be endangered by operation in the manner proposed.

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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	Two Initial Sources and up to Four Auxiliary Sources

*Location

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

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 east-west line through the center of the reactor core. Two additional auxiliary sources may each be contained in a removable rod in a fuel bundle located in an opposite quadrant from the first two auxiliary sources (i.e., the two additional auxiliary neutron sources will not be located in the easternmost 12 fuel bundle quadrant defined by Row 57 and Column 07 or the westernmost 12 fuel bundle quadrant defined by Row 54 and Column 04).

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-channel assembly. 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.

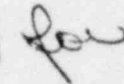
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The auxiliary neutron sources shall each consist of a homogeneous 50-50 mixture of antimony-beryllium first encapsulated in a steel tube (Type 304L SS), then secondarily encapsulated in a zirconium alloy tube. Each doubly encapsulated source will be equipped with a spring-loaded, keynet-latch locking device to permit it to be locked into a corner fuel rod position in a fuel bundle.

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

Sincerely,

Original signed by
Robert J. Schemel



Donald J. Skovholt
Assistant Director for
Operating Reactors
Directorate of Licensing

cc: Mr. Paul A. Perry, Secretary
Consumers Power Company
212 West Michigan Avenue
Jackson, Michigan 49201

Mr. Donald W. Aldrich
Consumers Power Company
Legal Department
212 West Michigan Avenue
Jackson, Michigan 49201

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