



UNION CARBIDE CORPORATION P. O. BOX 324, TUXEDO, NEW YORK 10987
MEDICAL PRODUCTS DIVISION TELEPHONE NUMBER: (914) 351-2131

May 7, 1982

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Chief, Operation Reactor Branch 4

Reference: Docket 50-54

- References:
- a. Amendment No. 14 to License R-81, dated May 17, 1979: Technical Specifications.
 - b. Supplement No. 2 to the Final Hazards Summary Report dated April 1, 1977

Gentlemen:

It is requested that item 3.5.1.c (10) of the Technical Specifications for the Union Carbide Nuclear Reactor, as contained in Reference a above, be changed to read as follows:

(10) Total primary coolant flow utilized by all in core experiments shall meet the following requirement:

$$\text{Fraction of core flow in experiments} \leq 1 - \frac{5}{6} \left[\frac{\text{fraction of rated power}}{\text{produced in fuel elements}} \right]$$

Item 3.5.1.c (10) of the Technical Specifications at present reads "the total primary coolant flow utilized by all in core experiments shall be limited to the same as six standard fuel elements." The basis for this requirement is from the Thermal Hydraulics Safety Analysis Section A of Reference b above. The analysis applies to a core containing 30 fuel elements (each control element counts as a 1/2 element), and experiments equivalent in flow to six fuel elements. The

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analysis therefore assumes that one sixth of the total core flow is through the experiments. This one sixth fraction is used in the above formula as the fraction of core flow allowed through the experiments if all the core power is produced in the fuel elements.

Section 3.5.1 applies to all experiments, fueled and unfueled. Item 3.5.1.c (10) as it presently exists is only appropriate for unfueled experiments in which case all fission power is produced in the fuel elements. Section 3.5.2 of the Technical Specifications entitled "Fueled Experiments" allows for up to 13 kW of fission power per fueled experiment capsule. If less than 5 MW of power is produced in the fuel elements, then the fraction of cooling flow to the elements can be reduced proportionally as proposed. This change would implement Basis 3.5.1 d (10) properly for both fueled and unfueled experiments.

The requested change is administrative in nature in that it does not change the basis or the safety analysis but rather states the condition in a more appropriate manner relative to fueled experiments. If no power were produced in the experiments, the proposed specification would be analogous to the present one.

We consider this requested change a Class II Amendment in the research reactor category and enclose our check for \$600.00 pursuant to 10 CFR 170.22.

Sincerely,

William G. Ruzicka

W. G. Ruzicka
Reactor Supervisor

WGR:js
Enclosure

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