UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

UNION CARBIDE CORPORATION

DOCKET NO. 50-54

UNION CARBIDE NUCLEAR REACTOR

AMENDMENT TO FACILITY LICENSE

Amendment No. 13
License No. R-81

1. The Nuclear Regulatory Commission (the Commission) has found that:

A. The application for amendment by Union Carbide Corporation (the licensee) dated June 21, 1977, as amended and supplemented by telex dated February 21, 1979, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;

E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and

F. Publication of notice of this amendment is not required since it does not involve a significant hazards consideration nor amendment of a license of the type described in 10 CFR Section 2.106(a)(2).

2. Accordingly, the license is amended by changes to the Technical Specifications (Final Hazards Summary Report for the UCNC Research Reactor) as indicated in the attachment to this license amendment, and paragraph 4.E. of Facility License No. R-81 is hereby amended to read as follows:

   E. The licensee is authorized to conduct the experiments described in the "Final Hazards Summary Report for the UCNC Research Reactor" dated November 1960, as modified by the licensee's amendment to the application dated October 27 and November 27, 1961, August 5, 1974, and as revised through Amendment No. 13

3. This license amendment was effective on February 22, 1979.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 15, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 13

FACILITY LICENSE NO. R-81

DOCKET NO. 50-54

Replace page 51 of the Technical Specifications (Final Hazards Summary Report for the UCNC Research Reactor dated November 1960) with the attached revised page. The changed area on the revised page is shown by a marginal line.

2. EXPERIMENTAL PROGRAM AND POLICY

a. Experimental Program

The experimental program at the Union Carbide Nuclear Company Reactor will consist of work planned by the resident staff and by members of the research groups of the other companies in the Union Carbide Corporation. Normally, experimenters from the other companies will work with resident staff members to prepare their experiments for insertion into the reactor, secure the necessary approvals, and take data during operation.

The following list shows the general type of work which will be done:

(1) Testing of reactor materials.

(a) Graphite and borated graphite
(b) Insulators
(c) Organic moderators
(d) Semi-conductors
(e) Control rod Materials
(f) Shielding
(g) Fuel

(1) The inventory of solid fuel bearing materials being irradiated in the reactor core at any time shall be limited to 200 gm of source and/or 750 gm of special nuclear material. The specific hazards related to each experiment containing these materials shall be evaluated by the Nuclear Safeguards Committee.

(2) The inventory of solid fuel bearing materials in a single irradiation capsule shall be limited to 200 gm of source and/or 50 gm of special nuclear material.

(3) The fission power of an irradiation capsule containing special nuclear material shall be limited to 13 kW.

(4) The iodine inventory shall be limited to 500 curies I-131 dose equivalent for doubly encapsulated capsules and 70 curies I-131 dose equivalent for singly encapsulated capsules.

(2) Preparation of radioisotopes

(3) Activation for wear studies and other non-destructive tests.

(4) Neutron activation analysis.

(5) Chemical Research

(a) Catalyst activation
(b) Use of radiation as initiating agent
(c) Production of free radicals at low temperatures
(d) Initiation of organic reactions by high energy fission fragments
(e) Use of radiation in plastics manufacture