



UNION CARBIDE CORPORATION

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DOCKET NO. 70-687

STERLING FOREST RESEARCH CENTER

January 3, 1969

Regulatory Suppl File Cy.

Mr. D. A. Nussbaumer
Source and Special Nuclear Materials Branch
Division of Materials Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545



Dear Mr. Nussbaumer:

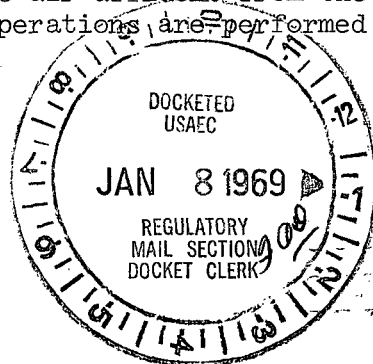
Union Carbide Corporation hereby requests the renewal of our Special Nuclear Material License No. SNM-639. This license is required in conjunction with our New York State Radioactive Materials License No. 729-0322 and our A.E.C. Reactor Operating License No. R-81 to cover a broad program of research and development. This license does not authorize the insertion or removal of special nuclear materials into or from our nuclear reactor. It does cover work with special nuclear material in our Hot Laboratory which is connected to our reactor building (see attached floor plan.)

The special nuclear materials covered by this license are:

Table with 2 columns: Materials, Quantity Limit. Lists items A-F including U-233, U-235, Pu-238, Pu-239, Pu-241, Pu encapsulated as Pu-Be neutron sources, and spent fuel elements.

When not being used, all unirradiated special nuclear material will be kept in a locked steel cabinet under the control of the Health Physics Department. Work with more than 0.1 gms of Plutonium or 10 millicuries of any other special nuclear material, in unencapsulated form, shall be performed in a glove box or hot cell with separate alpha containment. The concentrations of alpha radioactivity in the air affluent from the Hot Lab facility shall be determined whenever operations are performed with unencapsulated special nuclear materials.

ACKNOWLEDGED



Mr. D. A. Nussbaumer
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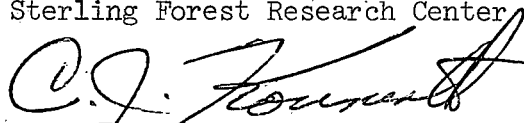
A maximum of four spent fuel elements from our research reactor will be utilized in the hot cells at one time as a source of gamma photons. No other fissionable material will be permitted in the cell with the four fuel elements. Four spent elements will contain approximately 640 grams of Uranium - 235 (four new elements would contain approximately 784 grams of Uranium - 235). No cutting or dissolution of these elements will be done.

During work with any unencapsulated special nuclear material, room air samples and floor wipes shall be counted for alpha radioactivity. Removable alpha radioactivity from 100 cm² of floor area in excess of 100 dpm shall require immediate clean up.

Should you need additional information before granting this license renewal, please let me know.

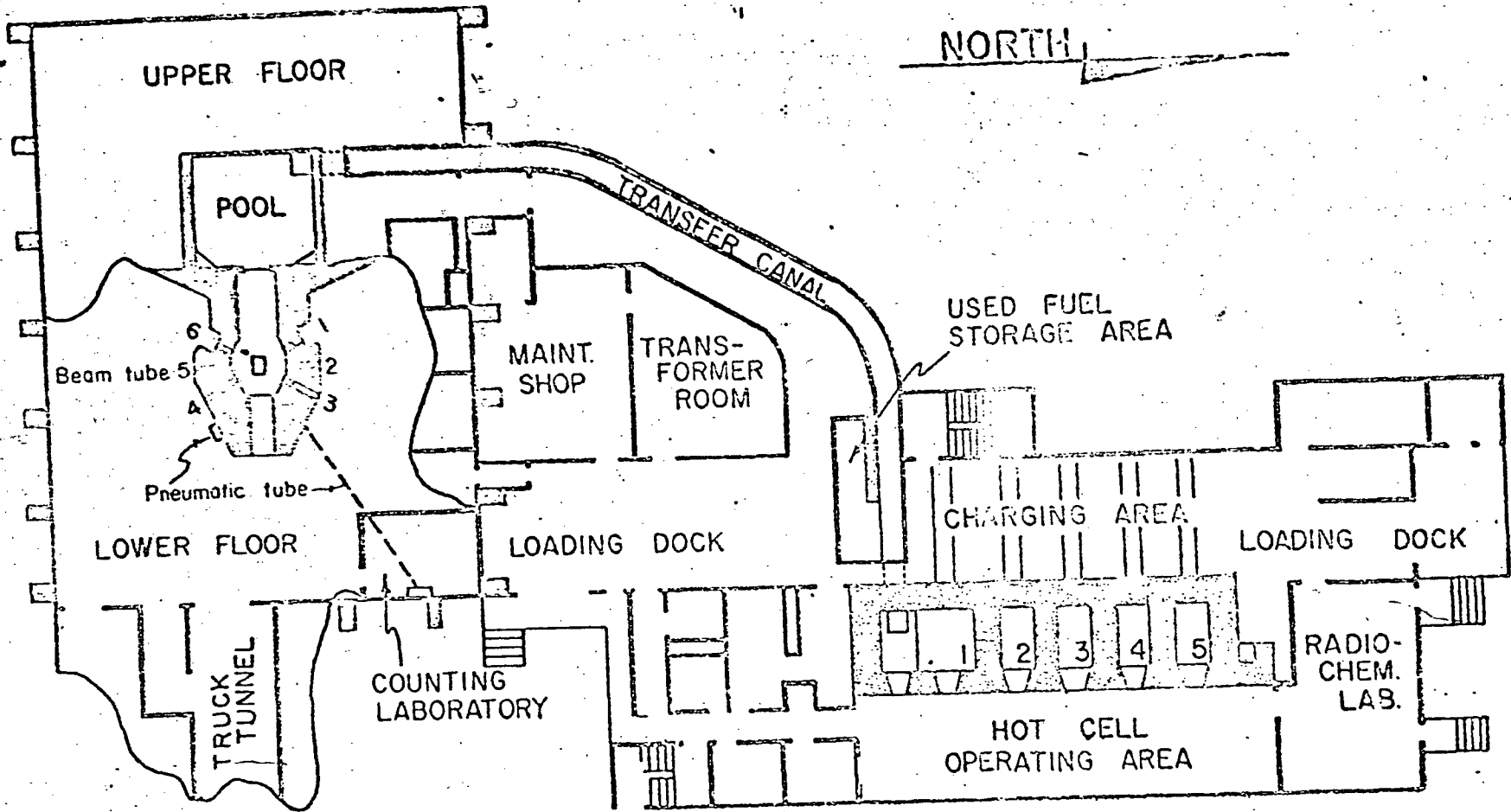
Very truly yours,

UNION CARBIDE CORPORATION
Sterling Forest Research Center



C. J. Konnerth
Health Physics Supervisor

CJK:jw



PLAN OF REACTOR AND HOT LABORATORY
 FIGURE 1