[redacted] TIC 71-5957

Battelle
Columbus Laboratories
505 King Avenue
Columbus, Ohio 43201
Telephone (614) 424-6424
Telex 24-5454

August 25, 1980

Mr. Charles E. McDonald
Transportation Certification Branch
Division of Fuel Cycle and Material Safety
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. McDonald:

Docket No. 5957, Certificate of Compliance
for the Model BMI-1 Shipping Cask

Battelle's Columbus Laboratories requests an amendment to the subject Certificate of Compliance for the transport of process uranium oxide powder in the BMI-1 cask. The powder is a recovery product of the Union Carbide Corporation's Medical Products Division. In support of this request we are enclosing eight (8) copies of replacement pages for the Safety Analysis Report for the Model BMI-1 Shipping Cask.

The replacement pages address the use of a specially designed Union Carbide process uranium oxide container and a special form capsule proposed as the containment vessel for the uranium oxide. Both of these containments will be transported in the existing BMI-1 cask and baskets. We request that the amendment specifically permit the following:

1) Transport of up to 352 grams of U^{235} in oxide form in each of the twenty-four (24) process containers described by Union Carbide Corporation Drawing No. 101501, Rev. 0. The maximum decay heat load per capsule is 20 watts.

2) Transport of a mixture of Union Carbide process containers (maximum of 352 grams of U^{235} in oxide form) and MTR type fuel elements in any proportion up to a combined total of twenty-four (24). The MTR type fuel elements shall comply with the specifications for MTR type fuel elements stipulated by Revision 6 of the subject Certificate of Compliance.

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3) Transport of up to 100 grams of U^{235} in oxide form in each of twenty-four (24) special form capsules. The decay heat load per capsule may vary. However, the combined heat load of all capsules may not exceed 1500 watts (rating of the BMI-1 cask).

4) During transport, the three types of contents described above will be securely confined in the existing BMI-1 baskets so as to preclude secondary impacts during accident conditions of transport.

The fee for your review of this application was sent to you on July 14, 1980, by Mr. Marcus H. Voth, Manager, Nuclear Operations, Union Carbide Corporation. A copy of his letter is attached for your reference.

Also attached is an index of the replacement pages indicating the safety related features of the changes. All replacement pages are identified by the legend "Rev. B. 8-1-80" centered on the bottom margin. If only part of the text on any one page is changed, that part is identified by a vertical bar in the outside page margin opposite the revised or added material. If the entire page is revised or added, no bar is used.

If you have any questions concerning this application, please telephone me at FTS 976-7502.

Sincerely,

Richard J. Burian

Richard J. Burian
Principal Research Engineer
Nuclear and Flow Systems Section

RJB/llj

Enclosures (10)

cc: Mr. Marcus H. Voth, Manager, UCC

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

July 14, 1980

Mr. Charles E. MacDonald, Chief
Transportation Branch
Division of Fuel Cycle and Materials Safety
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Re: Request for Amendment to Certificate of Compliance 5957

Dear Mr. MacDonald:

Union Carbide hereby requests that Certificate of Compliance 5957 for the Model BMI-1 shipping cask be amended to include in the contents approved for shipment, containers of irradiated fissile target material. This material, which is the end product of our process for irradiating and separating medical radioisotopes, has been disposed of as radioactive waste in the past. In the future we will recover the material and ship it to a reprocessor.

The containers we propose to use are of similar materials, dimensions, and materials as MTR fuel elements which are already approved for the BMI-1 shipping cask. The same baskets can be used as are already designed fabricated and licensed. We have engaged Battelle Columbus Laboratories, the primary licensee of the cask, to perform a safety analysis of the differences between the proposed and already approved contents. The safety analysis will be sent to you directly by Battelle in early August. Since we will be shipping spent reactor fuel in the BMI-1 shipping cask during the month of September we ask that the license be amended as soon as possible to allow us to make our first shipment of reclaimed target material in September while we have the cask.

This matter has been discussed with Mr. Richard Odegaarden of your staff some weeks ago. In an attempt to expedite matters we are filing the license amendment fee at this time to avoid any delay when the safety analysis is available to you. Attached you will find a check for $2,800.00 to cover the fee for a minor amendment to Certificate of Compliance 5957.

Yours very truly,

Marcus H. Voth

Marcus H. Voth
Manager
Nuclear Operations

MHV:ltm

cc: Mr. Richard J. Burian - Battelle
Mr. Richard Odegaarden - NRC

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