UNITED STATES DEPARTMENT OF COMMERCE
National Bureau of Standards
325 Broadway
Boulder, Colorado 80303

May 5, 1983

Reply to the attention of:

'83 MAY 10 A11:00

Mr. Paul R. Guinn
License Management Branch
Division of Fuel Cycle and Material Safety
U.S. Regulatory Commission
Washington, D.C. 20556

Dear Mr. Guinn:

This is a request for amendment to our NRC license number 05-03166-05 to include: "Any radioactive material with atomic number Z from 3 to 83 in the form of irradiated organic-matrix composite electrical insulators with a total activity not to exceed 5 microcuries."

As stated in the attached letter from Dr. Kasen, the supplier will be Oak Ridge National Laboratory and Los Alamos National Laboratory. These composite insulator materials will be used in research and development studies.

If you have any questions, I would be happy to help you. My telephone number (FTS) is 320-3948.

Sincerely yours,

Winston W. Scott Jr.

Winston W. Scott, Jr.
Radiation Protection Officer

Attachment

UNITED STATES DEPARTMENT OF COMMERCE
National Bureau of Standards
325 Broadway
Boulder, Colorado 80303

Reply to the attention of:

May 4, 1983

MEMORANDUM FOR: Winston Scott
Radiation Protection Officer

FROM: M. B. Kasen
Fracture and Deformation Division

SUBJECT: NRC License Amendment for Study of Irradiated Organic-Matrix Composite Materials

The amendment is required to permit NBS to fulfill contractual obligations to the Department of Energy. The overall program addresses development of radiation resistant organic-matrix composite electrical insulators to be used in the superconducting magnets of magnetic fusion energy (MFE) systems. In part, it is the task of NBS to provide assistance to the Oak Ridge National Laboratory (ORNL) and to the Los Alamos National Laboratory (LANL) in assessing the effect of cryogenic gamma and neutron irradiation on the failure modes of various candidate insulator materials.

Irradiated materials will be provided to NBS by ORNL and LASL. NBS will conduct detailed fractographic studies of specimens subjected to post-irradiation strength testing at these laboratories. NBS may also conduct such in house mechanical, thermal or electrical tests as are required by the investigation. The primary research technique will be optical and scanning electron microscopy. Some cutting of the specimens will be necessary for purposes of mounting. However, the debris will be minimal, and will be collected to prevent dispersal. Test materials will be returned to the supplier following completion of the study, or will otherwise be disposed of in an approved manner.

I concur that the amendment request that we be allowed to work with shipments of materials having a total activity not in excess of 5 microcuries.

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