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NEUTRON PRODUCTS inc

Dickerson, Maryland 20753

U. S. A.

301/349-5001 Cable: NUSWASH

June 5, 1968

U.S. Atomic Energy Commission
Division of Materials Licensing
Washington, D.C. 20545

Reference: By-product license no. 19-12667-01
Request for Amendment no. 02

Gentlemen:

Persuant to the Code of Federal Regulations, Title 10, Part 30, "Rules of General Applicability of License of By-product Material", Neutron Products, Inc. requests an amendment to our current by-product license number 19-12667-01 to receive, possess, own, store and use up to 150 millicuries of cobalt-60 in the form of cobalt-60 needles having the following characteristics:

Average activity - 10 millicuries

Number of capsules - 10

Cladding - gold tubing, 0.008 inch thick

Method of sealing - lead tin solder

Active length - 3/4 inch

Overall length - one inch, OD - 0.039 inch

Active diameter - 0.020 inch

Smearable removable contamination - less than 0.005 microcuries

The cobalt is a form of a Mallinckrodt proprietary alloy known as "cobium." We understand that Mallinckrodt has already submitted information on the composition of "cobium" to the U.S. AEC and have been informed by Mallinckrodt that since the above needles do not have points or eyes, they do not fit within the description of any of their catalog items.

The cobalt will be shipped to NPI in a Mallinckrodt lead container. It will be transferred to paint cans and stored dry under water in NPI's pool. In the future we may wish to store these in either concrete or lead storage casks, or temporarily store them behind lead bricks.

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We propose to use the sources for measurement of self-attenuation, and would like to have the use of the sources anywhere in the working area of our Dickerson facility. The sources will be arranged in various configurations with aluminum, stainless steel and cobalt metal shielding, and the dose will be measured as a function of the shielding and geometry. The cobalt will be handled with tongs having a length of at least 12 inches and time and exposure will be limited to prevent excess exposure.

Sincerely,

NEUTRON PRODUCTS, INC.



R. E. Moreland, Treasurer

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