

January 31, 1979



U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards
Boulder, Colorado 80302

Mr. Paul R. Guinn
License Management Branch
Division of Fuel Cycle and Material Safety
U.S. Nuclear Regulatory Commission
Washington, D.C. 20556 Mail Control No. 96870

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Dear Mr. Guinn:

U.S. NUC. REG.
COMMISSION
NMS MAIL SECTION

The following are replies to questions asked in your numbered paragraphs within your letter dated January 9, 1979.

1. The other isotopes were disposed of either through Colorado Nuclear Disposal, Inc. or the University of Colorado Health Physics Laboratory (see attached transfer certificates). The described isotopes were all that were ever received from the manufacturers.
2. During use, the area around the 4 curie source will be surveyed with our Eberline E-500B in order to establish the boundaries of a radiation area, if needed. Appropriate shielding will be added as needed for protection of personnel. The attached surveys for the 17 curie source (now sent back to NASA) is a sample of what we will be doing.

For the less active cobalt 60 civil defense source set, we will use the Eberline E-500B to establish the radiation extent for training purposes in any future civilian defense exercise.

3. Leak test procedures will consist of analysis using the Eberline Model RM-3A. Wipes performed every six months will be taken with special wipe paper provided by Acne Distributors, Kingston Tenn. Instrument readings will be compared with those received from a 0.0048 μ c TC99 check source. A Model SH-2 sample holder is used to accurately control distances from the samples. Tongs will always be used while taking wipe samples.
4. Both the Eberline Model RM-3A and Model E-500B are Beta and Gamma calibrated at the University of Colorado Health Physics Laboratory by the Chief of Health Physics, Ralph Andersen. Procedures are on file under Colo 82 (1883)-8SF. An example of his certification and specification is attached.
5. The cesium 137 source holder is secured to a permanent frame that surrounds a cryogenic vessel; therefore, it is not moved.

The shutter opening is directed at the center of the 4 foot diameter vessel. Across the vessel from the source is a high sensitivity radiation detector which senses variations of the beam intensity that are caused by variation of the density of the cryogen in the vessel.

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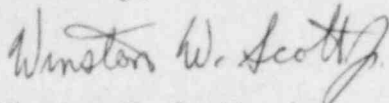
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The source-detector system thus provides for a bulk density measurement of cryogenes.

The shutter remains closed and secured with a padlock when the system is not in use. Both the source holder and the sensor are covered with lead plat or bricks to maintain radiation levels less than 5 mr/hr while the shutter is closed. A survey will be made each time the shutter is opened to assure radiation levels are not excessive (see 2.)

If you have any further questions, feel free to call me at 323-3948.

Sincerely,

A handwritten signature in cursive script that reads "Winston W. Scott, Jr.".

Winston W. Scott, Jr.
Radiation Protection Officer
NBS/Boulder

Attachments