

RAS 2095



**United States Department of Agriculture**

**Research, Education and Economics  
Agricultural Research Service**

August 14, 2000

Office of the Secretary, U.S.  
Nuclear Regulatory Commission  
Washington, DC 20555-0001

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Attention: Docketing and Service Branch

The ARS wishes for the following to be treated as a limited appearance under 10CFR §2.1211 (a) for Docket No. SSD 99-27 ASLBP No. 00-778-06-ML.

The US Department of Agriculture, Agricultural Research Service (ARS), Eastern Regional Research Center in Wyndmoor, Pennsylvania, has signed a Cooperative Research and Development Agreement with Gray\*Star, Inc. of Mt. Arlington, New Jersey, for the evaluation of the Gray\*Star Irradiator. This agreement was developed because of the interest of Gray\*Star, Inc., to collaborate on a determination of the ability of the Gray\*Star Irradiator to provide uniform and precise gamma irradiation doses to pallet scale quantities of representative foods of various types and bulk densities.

The interest of ARS is to obtain the use of a unique, pallet-scale, gamma irradiation source with precise irradiation dose and environmental controls for research on 1) a determination of the efficacy of gamma irradiation for the control or elimination of food borne pathogens, and 2) shelf-life extension of various fresh and processed meat, poultry, fruit, and vegetable products. The results of such research, are by mutual agreement, to be published in peer reviewed journals and are expected to provide information that will be of value to the food processing industry and to the establishment of regulations by the Food and Drug Administration and the USDA, Food Safety and Inspection Service for the irradiation of foods.

The ARS has expended \$624,302 for renovation of the building and new laboratory space in anticipation of receiving the Gray\*Star Irradiator.

We currently are using a self-contained, dry-storage, irradiator with a rated capacity of 213,000 Ci strength of Cs-137. This irradiator was constructed in 1969 and has been in continual use for research on the irradiation of food. The USDA currently has 22 irradiators on its inventory; 13 of these use Cs-137 as the radiation source and are self-contained, dry-storage types. These irradiators have contributed significantly to the progress of agricultural research and the control of insect vectors of disease. Cs-137 is ideally suited for self-contained irradiators because of it

Template = SECY-038

SECY-02

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Honorable Young

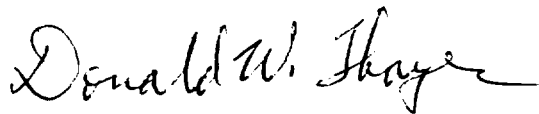
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30 year half-life. Though the unit described above at this facility has gone through one half-life it is still a very useful system for research. I recently was asked to determine the cost of recharging or replacing a Co-60 unit currently in use at the ARS Plum Island facility and learned that the cost to recharge or replace this unit would be very similar. Because of the 5 year half-life of its Co-60 source the activity of that unit has decayed to the point of being of little value. In order to recharge this irradiator it will have to be decontaminated, removed from the BL4 facility on the island, shipped to the mainland, and then to the Nordion facility in Canada. That unit is used to sterilize meat contaminated with exotic animal diseases such as hoof-and-mouth disease virus or anthrax.

I hope that the value of properly contained Cs-137 sources is not overlooked. Our Cs-137 radiation sources, and I believe all others, are cesium chloride (CsCl) powder doubly encapsulated within stainless steel. The only real limitation of such sources is a lower energy level than that of Co-60. Because of the solubility of the CsCl used in these sources, in the unlikely event of a leak in encapsulation, they probably should only be used in dry-storage irradiators such as the Gray\*Star.

We are very interested in the outcome of this hearing and would appreciate receiving copies of filings and decisions.

Sincerely,

A handwritten signature in cursive script that reads "Donald W. Thayer". The signature is fluid and elegant, with a long, sweeping underline.

DONALD W. THAYER, Ph.D.  
Research Leader

cc:

Hon. Ann Marshall Young  
Hon. Frederick J. Shon  
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