

# Office Memorandum • UNITED STATES GOVERNMENT

TO : James R. Mason, Chief, Isotopes Branch  
Division of Licensing and Regulation

DATE: February 28, 1961

FROM : W. S. Cool, Isotopes Branch  
Division of Licensing and Regulation

SUBJECT: MATTERS TO BE DISCUSSED WITH A. GOLDSTEIN DURING OFFICE VISIT

L&R:IB:WSC

1. U. S. Nuclear Corporation application August 24, 1959, amended by letter of January 13, 1961 to request land burial only. Notice of Proposed Issuance (15 day) sent to H. L. Price on February 17, 1961.
2. January 13, 1961 request for transfer of Isotopes Specialties Co., waste disposal License No. 4-580-6 to Isotopes Specialties Company, Division of U. S. Nuclear Corporation. The following items of information are required:
  - A. Clear statement of the facilities to be available to this program at 170 West Providencia, Burbank, California.
  - B. Indication that all administrative instructions, radiation safety procedures and packaging techniques previously submitted by Isotopes Specialties Co., Division of Nuclear Corporation of America, Inc., will apply to Isotopes Specialties Co., Division of U. S. Nuclear Corporation, or a detailed statement of those which will apply.
  - C. Indication that equipment such as instrumentation and heavy handling equipment previously described will be available.
  - D. Reply to our letter of December 2, 1960 (copy attached)/
3. California Salvage Company application for amendment, with particular reference to pressure relief tube location outside of metal inside container; the size of reinforcing rods or bars and wire and how they are attached to each other. (Note, arrangements are being made to test their type of drum in the laboratory phase of the Reactor Development container testing program.)

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DEC 2 1960

L&S:LD:WSC  
Docket No. 27-7

Isotopes Specialties Company  
Division of Nuclear Corporation  
of America, Inc.  
170 West Providence  
Burbank, California

Attention: Mr. Alfred J. Moens, Chairman  
Isotope Committee

Gentlemen:

Receipt is acknowledged of your application dated July 25, 1960.

Pursuant to Section 30.35(b) of 10 CFR 30, since your application for renewal was received more than thirty (30) days prior to expiration, the license shall not expire until the application has been finally determined by the Commission.

In reviewing this application we find that there are several items which require clarification or further information, before licensing action can be taken.

Supplement A of the application states that waste material received under License No. 4-530-6 may be reclaimed and used under License No. 4-530-7. You are requested to provide a detailed description of the types of anticipated operations indicating the nature of the isotopes and/or equipment to be reclaimed and the maximum levels of contamination which will be allowed on reclaimed items. The radiation safety procedures for such operations should also be submitted. You should also indicate whether this authorization is desired to provide a decontamination service to customers. Such use may be considered for coverage under a separate license.

Supplement B, III, 'Storage of Radioactive Waste' should be expanded to indicate how waste material will be stored prior to encasement in concrete or impervious containers, to protect it from damage or dispersion due to weather.

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Isotopes Specialties Co.

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Supplement B, II.4.4 indicates the information to be logged on radioactive waste received from Isotopes Specialties Company's customers. Upon amendment of License No. 4-530-6, we propose to add a condition specifying the records which shall be kept regarding each incoming container and each container as finally prepared for disposal, substantially in the following form:

The licensee shall maintain:

A. Records of the following items of information regarding each container of waste received from customers:

- (1) Name and address of customer.
- (2) Principal radioactive isotopes.
- (3) Amount of radioactivity.
- (4) Radiation level at the surface of the container and at 1 meter.
- (5) Level of removable contamination on the container surface.
- (6) Date received.

B. Records of the following items of information regarding each container of waste packaged for disposal:

- (1) Amount of radioactivity.
- (2) Radiation level at the surface of the container and at 1 meter.
- (3) Level of removable contamination on the container surface.
- (4) Most hazardous radioisotope.
- (5) Date of packaging.
- (6) Weight of final container.
- (7) Disposal location and date.

Therefore, any record system which will include this information may be used. Indication of the acceptability of this condition would be associated.

Supplement C, IV indicates that wastes may be processed by chemical dissolution, filtration, extraction, ion exchange, chemical polymerization and physical absorption. You are requested to provide detailed information regarding the types of waste material to be created by each technique, the facilities available for such processing, and the procedures to be followed.

Isotopes Specialties Co.

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Supplement B, VI.B.1.b. indicates the information to be provided on all radioactive waste containers. You are requested to indicate how this information will be semipermanently attached to the final sea disposal containers.

Supplement B, VI.B.1.d. states that solid waste will be put into the drum in increments of 4" to 6" and a slurry of cement will be carefully added to each incremental layer of waste to produce a solid mass. We are concerned that this technique may result in laminations of waste in which significant voids may exist, which may be compressible such that voids may be produced when the drum is subjected to pressure, or which may separate and allow buoyant items to rise to the surface of the ocean. Is the technique proposed is such as to result in an integral mixing of the waste and concrete, please so verify. If laminations may result you are requested to describe the provision to be made for pressure relief, including the size and type of tube to be used and the method of installation; reinforcement to be provided to assure adherence of the multiple layers of waste and the securing of the 3 to 5 concrete cap to the drum contents to provide assurance that it will not come off during handling, transportation and disposal operations.

Supplement B, VI.B.1.e. states that other special containers may be used dependent upon the shape, toxicity and intensity of radiation of the waste. Drawings 1-XIII and 1-XXIV showing an I beam and a cross cone encased in reinforced concrete have previously been approved. If it is proposed to construct forms and encase irregularly shaped items in concrete blocks, it will be necessary to submit a complete description of each type of such container to be used including such information as the shape, wall thickness, the reinforcement to be provided and the provision to be made for pressure relief if significant voids may exist in the package.

Review of your application will be continued upon receipt of the requested information.

Sincerely yours,

JAMES A. MASON, Chief  
Isotopes Branch  
Division of Licensing and Regulation

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