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Oak Ridge, Tennessee
October 10, 1957

Mr. C. C. Carroll, Chairman
Institutional Isotopes Committee
United States Radium Corporation
Post Office Box 380
Bloomsburg, Pennsylvania

Subject: DISPOSAL OF RADIOACTIVE WASTE BY BURIAL IN THE SOIL

Dear Mr. Carroll:

We wish to acknowledge receipt of your letter of August 26, 1957, concerning the disposal of radioactive wastes by burial in the soil. Subsequent to our receipt of your letter, Mr. T. W. Taylor of the United States Radium Corporation discussed waste disposal with Mr. G. W. Morgan, Chief, Isotopes Extension, Division of Civilian Application. A discussion with Mr. Taylor may be of interest to you.

At the present time, the Atomic Energy Commission discourages the disposal of radioactive wastes by burial except as permitted in Section 20.304, Title 10, Code of Federal Regulations, Part 20. As you may know, the Commission is studying the feasibility of establishing a regional land burial area in the northeastern section of the United States. Upon establishment of such an area, individual burial areas may become economically unattractive. Therefore, until a decision is reached regarding the establishment of this regional land burial area, the Atomic Energy Commission is hesitant to license the establishment of private burial areas such as you propose. However, if you wish to pursue this method of disposal and can demonstrate that adequate precautions are taken and long term control of the area is exercised, the Atomic Energy Commission may license this method of waste disposal. An exact consideration of the information discussed in Section 20.302 of Title 10, Code of Federal Regulations, Part 20, should be submitted to us.

Due to the special nature of the method of waste disposal proposed, detailed information concerning all aspects of this waste disposal method should accompany any application submitted. We assume that

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you do not intend to offer a commercial waste disposal service; rather, that you propose to dispose of the waste resulting from the operation of the United States Radium Corporation. For an evaluation of your proposal, the following should be submitted:

1. A completed application form AEC-313 for waste disposal.
2. The name of the person who will supervise, and be responsible for, the handling of the radioactive wastes.
3. The experience and training with radioactivity and the name of the individual who will serve as the radiological safety officer.
4. An estimate of the maximum total radioactivity which will be possessed, as waste, at any one time.
5. A copy of the procedure which will be followed to insure the radiological health safety of those individuals who handle and package waste.
6. An exact specification of the location at which the disposal will be made. Included, also, should be an analysis and evaluation of this location as to:
 - a. Assurance that the soil has geographic and topographic characteristics which will not make it subject to significant erosion or leaching.
 - b. Assurance that the vegetation covering the burial area will not be subject to consumption by either animals or humans.
 - c. An evaluation of the drainage and hydrological characteristics of the location and a discussion of the usage of ground and surface waters in the general area.
7. A description (including warning signs and physical barriers) of the degree and means of control exercised over the disposal area. This should include a statement of ownership of the location. If the location is not owned by the United States Radium Corporation, please verify that the owner is aware that radioactive wastes are being buried on his property. Provisions should be made for maintaining control over the area for a long period of time. For example, if long-lived materials are to be buried, perpetual control of the area should be established.

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8. A discussion of how the waste will be packaged and labeled prior to burial. A description of the physical forms and types of waste (i.e., liquids, powders, foils, glassware, etc.) and specific packaging for these forms should be included. Sketches of special containers and labels will be helpful.
9. A description of the transportation facilities which will be employed in moving the waste from your plant facilities to the burial site. This description should contain a discussion of the type of vehicle to be used and ownership of this vehicle, the type of warning sign (if any) to be placed on the vehicle, and the precautions taken to prevent contamination of the vehicle. A copy of the emergency procedure to be followed in the event of an accident involving a vehicle transporting radioactive materials should be submitted.
10. A discussion of the records which will be maintained by you concerning radioactive waste disposal.

As you probably are aware, the transportation of radioactive materials in interstate commerce is subject to the regulations of the Interstate Commerce Commission. The Interstate Commerce Commission does not issue separately its regulations applying specifically to shipments of radioactive materials. The complete regulations covering packaging, labeling, and transportation of dangerous articles are published as Title 49, Parts 71 to 78, of the Code of Federal Regulations.

As you state in your letter, the Commonwealth of Pennsylvania will have an interest in the transportation and disposal of radioactive materials within its boundaries. We recommend that you discuss your proposal with appropriate officials of Pennsylvania.

If you have further questions concerning the Atomic Energy Commission's licensing policies for waste disposal, please do not hesitate to contact us.

Very truly yours,

Davis/msb

for: Cecil R. Buchanan, Assistant Chief
Byproduct Licensing
Isotopes Extension
Division of Civilian Application

Enclosures:				
OFFICE	1. Form AEC-313 w/instructions		Isotopes	
	2. Part 20, Code of Federal Regulations		<i>ms</i>	<i>Hild</i>
SURNAME	2. Part 30, Code of Federal Regulations			
DATE			10-10-57	