

Journal 50-263

DEC 10 1970

Mr. John P. Badalich
Executive Director
State of Minnesota Pollution
Control Agency
717 Delaware Street, S.E.
Minneapolis, Minnesota 55440

Dear Mr. Badalich:

I am pleased to respond to your letter of November 2, 1970, addressed to Chairman Seaborg concerning the burial of radioactive wastes in the State of Minnesota.

The statement made by an Atomic Energy Commission representative at the Monticello hearing, to which you referred in your letter, was made in response to statements made and questions raised by persons who had made limited appearances. Mr. D. B. Vassallo, of the Commission's Division of Reactor Licensing, made the following statement concerning the burial of radioactive waste:

"In regard to some concern related to burial grounds, all solid radioactive waste, such as filter sludges, spent resins, and spent control blades accumulated from the Monticello operation will be shipped to AEC-approved disposal areas located outside the State of Minnesota. The transportation of these wastes will be in accordance with the regulations I have already discussed. It should be noted that there are no such disposal areas located in the State of Minnesota."

The statement made by Mr. Vassallo is correct. Because of the quantities involved, the wastes mentioned by Mr. Vassallo, if disposed of by land burial, can be buried only at a facility specifically authorized by the AEC or by an Agreement State. Such disposal facilities must be on land owned by the Federal government or by a state government.

The burials described by 3M Company in the report they submitted to you on September 9, 1970, are burials which were authorized under the

OFFICE ►					
SURNAME ►					
DATE ►					

Mr. John P. Badalich

- 2 -

provisions of Section 20.304 and Appendix C of 10 CFR Part 20. Any AEC licensee may dispose of small quantities of radioactive material by burial in soil to the extent that the burials are made in accordance with the provisions of Section 20.304. Enclosed are the provisions of Section 20.304 and a copy of Appendix C of Part 20 as it appeared in the Commission's rules and regulations at the time the 3M burials took place.

Sincerely,

(signed) Harold L. Price

Harold L. Price
Director of Regulation

Enclosures:

1. Sect. 20.304, 10 CFR Part 20
2. Appendix C, 10 CFR Part 20

Distribution:

Chairman Seaborg (2)
 Commissioner Ramey
 Commissioner Johnson
 Commissioner Larson
 Secretary (2)
 J. DiNunno, OEA
 H. L. Price, DR
 H. K. Shapar, OGC
 P. A. Morris, DRL
 L. Johnson
 DR Reading file
 DML Reading file
 Gladys Ertter - DR-2888
 Public Document Room

OFFICE ▶	DML <i>Johnson/ec/js</i>	DRL <i>Morris</i>	OGC <i>MB/K</i>	DR <i>HLPrice</i>		
SURNAME ▶	LJohnson/ec/js	Morris	MB/K	HLPrice		
DATE ▶	11/30/70	11/30 170	12/2 170	12/10 170		

MM

10 CFR Part 20, Section 20.304 -- Disposal by burial in soil.

No licensee shall dispose of licensed material by burial in soil unless:

- (a) The total quantity of licensed and other radioactive materials buried at any one location and time does not exceed, at the time of burial, 1,000 times the amount specified in Appendix C of this part; and
- (b) Burial is at a minimum depth of four feet; and
- (c) Successive burials are separated by distances of at least six feet and not more than 12 burials are made in any year.

PART 20 - STANDARDS FOR PROTECTION AGAINST RADIATION

APPENDIX C

APPENDIX C
UNITED STATES ATOMIC COMMISSION

Material	Microcuries	Region	Address	Telephone	
				Daytime	Nights and holidays
Ag ¹⁰⁵	1	I Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.	Region I, Division of Compliance, USAEC, 970 Broad St., Newark, N.J. 07102.	201-645-3960	212-989-1000
Ag ¹¹¹	10				
As ⁷⁶ , As ⁷⁷	10				
Au ¹⁹⁸	10				
Au ¹⁹⁹	10				
Ba ¹⁴⁰ +La ¹⁴⁰	1				
Be ⁷	50				
C ¹⁴	50				
Ca ⁴⁵	10				
Cd ¹⁰⁹ +Ag ¹⁰⁹	10				
Ce ¹⁴⁴ +Pr ¹⁴⁴	1	II Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Panama Canal Zone, Puerto Rico, South Carolina, Tennessee, Virginia, Virgin Islands, and West Virginia.	Region II, Division of Compliance, USAEC, Suite 818, 230 Peachtree St. N.W., Atlanta, Ga. 30303.	404-526-4537	404-526-4537
Ci ¹³⁶	1				
Co ⁶⁰	1				
Cr ⁵¹	1				
Cr ⁵¹ +Ba ¹³⁷	50				
Cu ⁶⁴	50				
Eu ¹⁵⁴	1				
Fe ⁵⁵	50				
Fe ⁵⁹	1				
Ga ⁶⁷	10				
Ge ⁷¹	50	III Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin.	Region III, Division of Compliance, USAEC, 799 Roosevelt Road, Glen Ellyn, Ill. 60137.	312-858-2660	312-858-2660
H ³ (HTO or H ₂ O)	250				
I ¹³¹	10				
In ¹¹⁴	1				
Ir ¹⁹²	10				
K ⁴²	10				
La ¹⁴⁰	10				
Mn ⁵²	1				
Mn ⁵⁶	50				
Mo ⁹⁹	10				
Na ²²	10	IV Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming.	Region IV, Division of Compliance, USAEC, 16395 West Colfax Ave., Denver, Colo. 80215.	303-297-4211	303-237-5095
Na ²⁴	10				
Nb ⁹⁵	10				
Ni ⁶³	1				
Ni ⁶³	1				
Pd ¹⁰³ +Rh ¹⁰³	50				
Pd ¹⁰⁹	10				
Pm ¹⁴⁷	10				
Po ²¹⁰	0.1				
Pr ¹⁴³	10				
Pu ²³⁹	1	V Alaska, Arizona, California, Hawaii, Nevada, Oregon, Washington and U.S. territories and possessions in the Pacific.	Region V, Division of Compliance, USAEC, 2111 Bancroft Way, Berkeley, Calif. 94704.	415-841-5121 Ext. 651.	415-841-9244
Ra ²²⁶	0.1				
Rb ⁸⁶	10				
Re ¹⁸⁶	10				
Rh ¹⁰³	10				
Ru ¹⁰⁶ +Rh ¹⁰⁶	1				
S ³⁵	50				
Sb ¹²⁴	1				
Sc ⁴⁶	1				
Sm ¹⁵³	10				
Sn ¹¹³	10				
Sr ⁸⁹	1				
Sr ⁹⁰ +Y ⁹⁰	0.1				
Ta ¹⁸²	10				
Tc ⁹⁹	1				
Tc ⁹⁹	1				
Te ¹²⁷	10				
Te ¹²⁹	1				
Th (natural)	50				
Ti ²⁰⁴	50				
Tritium. See H ³	250				
U (natural)	50				
U ²³³	1				
U ²³⁴ -U ²³⁵	50				
V ⁴⁸	1				
W ¹⁸³	10				
Y ⁹⁰	1				
Y ⁹¹	1				
Zn ⁶⁵	10				
Unidentified radioactive materials or any of the above in unknown mixtures	0.1				

33 FR 5212

NOTE: The record keeping and reporting requirements contained in this part have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

Appendix C from 25 FR 10914.

Appendix D from 27 FR 10826.

NOTE: For purposes of §§ 20.203 and 20.304, where there is involved a combination of isotopes in known amounts the limit for the combination should be derived as follows: Determine, for each isotope in the combination, the ratio between the quantity present in the combination and the limit otherwise established for the specific isotope when not in combination. The sum of such ratios for all the isotopes in the combination may not exceed "1" (i.e., "unity").

EXAMPLE: For purposes of § 20.304, if a particular batch contains 2,000 µc of Au¹⁹⁸ and 25,000 µc of C¹⁴, it may also include not more than 3,000 µc of I¹³¹. This limit was determined as follows:

$$\frac{2,000 \mu\text{c Au}^{198}}{10,000 \mu\text{c}} + \frac{25,000 \mu\text{c C}^{14}}{50,000 \mu\text{c}} + \frac{3,000 \mu\text{c I}^{131}}{10,000 \mu\text{c}} = 1$$

The denominator in each of the above ratios was obtained by multiplying the figure in the table by 1,000 as provided in § 20.304.

May 8, 1968