

Specialty Chemicals

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May 25, 2000

Certified Mail:
7080-7066

U.S. Nuclear Regulatory Commission
Ms. Leslie Fields
Division of Fuel Cycle Safety & Safeguards, NMSS
Washington, DC 20555-0001

Subject: Radioactive Waste Burial
 Scrap Metal
 Less than 0.05% by Weight

Dear Ms. Fields:

We would again like to take advantage of 10 CFR Part 40.13 "Unimportant Quantities of Source Material" for burial at Waste Control Specialists, Inc. in Texas. At the present time we have several thousand cubic feet of scrap steel, along with scrap aluminum, copper, and concrete that is contaminated with source material which is by weight less than one-twentieth of 1 percent (0.05 percent) of the alloy.

The NRC guide "Radiological Assessment for Clearance of Equipment and Materials from Nuclear Facilities" (NUREG-1640) was used to determine the Surface-to-Mass Ratio (cm^2/g) for each type of material to calculate the $\text{dpm}/100 \text{ cm}^2$ for objects commonly found at nuclear facilities.

Please note the following step-by-step calculations to demonstrate compliance with the less than 500 PPM limit for scrap steel:

1. $500 \text{ PPM U} \times 0.677 \text{ (S.A. Unat.)} = 338.5 \text{ pCi/g}$
2. $338.5 \text{ pCi/g} \times 2.22 \text{ dpm/pCi} = 751.5 \text{ dpm/g}$
3. $751.5 \text{ dpm/g} \times 3.33 \text{ g/cm}^2 = 2,505 \text{ dpm/cm}^2$
4. $2,505 \text{ dpm/cm}^2 \times 100 = 250,500 \text{ dpm}/100 \text{ cm}^2$

The $\text{dpm}/100 \text{ cm}^2$ for 500 PPM uranium contamination on copper, aluminum, and concrete can be determined in a similar manner by using the correct Surface-to-Mass Ratio for each

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of these materials. This ratio is found in the NRC guide NUREG-1640. Please refer to the table below for the specific limits on each of these materials:

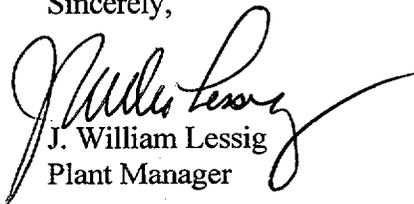
<u>Scrap Material</u>	<u>Surface-to-Mass Ratio (cm²/g)</u>	<u>dpm/100 cm²</u>
Steel	0.3	250,500
Copper	0.45	167,000
Aluminum	10.0	7,515
Concrete	0.024	3.131 E ⁶

We have the necessary monitoring equipment to perform the surveys to demonstrate compliance. Items that exceeded the calculated dpm/100 cm² limit will either be cleaned to acceptable levels or sent to Envirocare of Utah for burial.

It is very important for this facility to reduce radioactive burial costs. We would appreciate your review and approval on this request in a timely manner. We must also obtain approval from WCS before this scrap metal is shipped to Texas and meet the requirements for the State of Texas. We need to ship this material during the summer months and take advantage of the improved outside environmental conditions. As you are aware, we are trying to eliminate all of the "legacy waste" this year.

If you need any additional information, please contact Mr. Hugh Roberts at 618-524-6349 or Mr. Alex Del Priore at 618-524-6245.

Sincerely,



J. William Lessig
Plant Manager

JWL/sm

Cc: M. Shepherd
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