

**Georgia Department of Natural Resources**  
4244 International Parkway, Suite 114, Atlanta, Georgia 30354  
Lonice C. Barrett, Commissioner  
Environmental Protection Division  
Harold F. Reheis, Director  
(404) 362-2675

November 12, 1999

Mr. Paul H. Lohaus, Director  
Office of State Programs (03D23)  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Dear Mr. Lohaus;

In All Agreement States letter SP-99-074 NRC requested information on current practices relating to the release of solid materials. The following responds to that request.

1. How were your State's radiological criteria derived and to what type of materials (e.g., medical, pipe scale) do they apply? If Regulatory Guide 1.86 was used as a basis please indicate so, if another technical basis was used, please provide that basis.

RESPONSE: Regulatory Guide 1.86 for Radioactive materials and for soil and other media contaminated with NORM the following from the Rules and Regulations for Radioactive Materials Chapter 391-3-17 applies.

1. Either:
  - (i) 30 picocuries (1.11 Bq) per gram or less of technologically-enhanced radium-226 or radium-228 in soil, averaged over any 100 square meters and averaged over the first 15 centimeters of soil below the surface, provided that the radon emanation rate is less than 20 pCi (.74 Bq) per square meter per second, or
  - (ii) 30 pCi (1.11Bq) per gram or less of technologically-enhanced radium-226 or radium-228 in media other than soil, provided that the radon emanation rate is less than 20 pCi (.74 Bq) per square meter per second;
2. Either:
  - (i) 5 pCi (.185 Bq) per gram or less of technologically-enhanced radium-226 or radium-228 in soil, averaged over any 100 square meters and averaged over the first 15 centimeters of soil below the surface, in which the radon

emanation rate is equal to or greater than 20 pCi (.74 Bq) per square meter per second, or

- (ii) 5 pCi (.185 Bq) per gram or less of technologically-enhanced radium-226 or radium-228 in media other than soil, in which the radon emanation rate is equal to or greater than 20 pCi (.74 Bq) per square meter per second; or

Mr. Lohaus  
November 12, 1999  
Page 2

3. Either:

- (i) 150 pCi (5.55 Bq) or less per gram of any other NORM radionuclide in soil, averaged over any 100 square meters and averaged over the first 15 centimeters of soil below the surface, provided that these concentrations are not exceeded at any time, or
- (ii) 150 pCi (5.55 Bq) or less per gram of any other NORM radionuclide in media other than soil, provided that these concentrations are not exceeded at any time.

2. How are your State's radiological criteria applied (e.g., through guidance, licensing actions, regulations)?

RESPONSE: Criteria is applied through guidance and for NORM through regulations.

3. What surveying/monitoring methodologies are used? If NUREG/CR-5849 or MARSSIM are used, please indicate so. If a State developed or another method is used, please provide that method.

RESPONSE: MARSSIM methodology was followed on the last project. Previously we required a 100% survey of all accessible surfaces for items released for unrestricted use. A statistical sampling methodology was used for facilities which were release for unrestricted use. The Program performs a confirmatory survey of at least 10%.

4. What type of instruments (e.g., manual versus automated, hand-held versus stationary,

barrel counters versus conveyor systems) and what sensitivity (i.e., lower limit of detection) values are used as selection criteria for instruments used in demonstrating compliance with the radiological criteria provided in response to Question 1?

RESPONSE: Hand-held instruments with capability of detecting fractions of Reg. Guide 1.86 limits and as necessary laboratory instrumentation capable of detecting environmental levels of radioactivity.

5. If your release criterion is zero, how do you have your licensees determine that a solid to be released is not radioactive or meets the zero criterion?

RESPONSE: N/A

6. If any State licensees currently have volumetric release authorization, please identify the licensees and whether the quantities released are tracked, summarize the scope of these authorized activities, and provide the criteria used in granting the authorization.

RESPONSE: No Georgia licensee has volumetric release authorization.

Sincerely,

Thomas E. Hill, Manager  
Radioactive Materials Program