

August 26, 1998

Docket No. 040-07102

License No. SMB-743

Nigel C. Morrison  
Vice President and General Manager  
Shieldalloy Metallurgical Corporation  
West Boulevard, P.O. Box 768  
Newfield, NJ 08344

**SUBJECT: CRITERIA FOR FREE-RELEASE OF SOILS FROM NEWFIELD SITE**

Dear Mr. Morrison:

This is in reference to your letters dated August 11 and 21, 1998 describing criteria for free-release of soils from your Newfield, New Jersey facility. In your letter dated August 11, 1998, you refer to the NRC's Branch Technical Position, "Disposal or Onsite Storage of Thorium or Uranium Wastes From Past Operations", published in a Federal Register Notice dated October 23, 1981. In particular, you reference the concentrations of natural thorium and natural uranium ores and indicate that the concentrations may be applied separately to each radionuclide and that the daughters may not be present. The Branch Technical Position specifically provides for disposal of acceptably low concentrations of natural uranium and natural thorium with all daughters present and in equilibrium. Additionally, as with all NRC dose evaluation limits, the limiting values are derived by adding the sum of the fractions of each respective limit. Therefore, the derivation for ores containing both uranium and thorium would result in a concentration limit for total uranium (i.e., U-238 plus U-234) plus total thorium (i.e., Th-232 plus Th-228) in the ore of 10 pCi/gram. In your letter dated August 11, 1998, the limits were applied separately and therefore indicated a total limit of 20 pCi/gram, instead of the actual total limit of 10 pCi/gram. As stated in your letter dated August 21, 1998, you indicated that your procedures for free-release of equipment and soils were implemented as of August 21, 1998. You should ensure that your implemented procedures regarding free-release of soils meet the criteria as clarified above. The adequacy and implementation of your procedures for free-release of equipment and soils will be reviewed during a future inspection.

Thank you for your cooperation.

Sincerely,

**ORIGINAL SIGNED BY:**  
**JOHN D. KINNEMAN**

John D. Kinneman, Chief  
Nuclear Materials Safety Branch 2  
Division of Nuclear Materials Safety

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N. Morrison  
Shieldalloy Metallurgical Corporation

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cc:  
David R. Smith, Radiation Safety Officer  
State of New Jersey

N. Morrison  
Shieldalloy Metallurgical Corporation

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