



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION I  
JOHN F. KENNEDY FEDERAL BUILDING  
ONE CONGRESS STREET  
BOSTON, MASSACHUSETTS 02203-2211

March 4, 1994

Todd Leedberg, Waste Management Specialist  
New Hampshire Department of Environmental Services  
Hazardous Waste Compliance Section  
6 Hazen Drive  
Concord, NH 03301-6509

Dear Todd:

On or about December 29, 1992, Joan Jouzaitis of my staff received information from Robert A. Tardif of NHDES pertaining to Watts Regulator Company's (Watts) exportation of lead contaminated silica sand from its Jet Wheelblast finishing operation to Falconbridge/Kidd Creek smelting operations in Timmins, Ontario. Following is the Regional interpretation of the regulatory status of the lead contaminated sand, given the information provided by Watts and NHDES. We apologize for the delay in responding to your request for a regulatory interpretation on this issue, but as you know, we have been coordinating our effort with EPA headquarters in Washington, DC.

Lead Containing Sand - Characteristics & Intended Fate

The correspondence between Watts and NHDES indicates that the lead contaminated silica sand being shipped from Watts to Canada contains quantities of lead which have been shown to leach by the TCLP and EP toxicity tests (EP Toxicity - 73 mg/l lead, per laboratory test result dated 6/4/86; and TCLP - 130 mg/l lead, per laboratory results dated 8/17/90) and this sand is used as a flux in a Canadian copper smelter. Watts has claimed that the flux provided by their facility contains 2-5% copper and 80% silica, and is therefore an effective substitution for a commercial product, and thus is not regulated as a solid waste, in accordance with 40 C.F.R. § 261.2(e).

As Watts has stated in its letters to NHDES, the ultimate fate of the lead contained in the silica sand fed into the foundry operations is that it is caught up in the vitrified slag generated from smelting operations. This vitrified slag (which is blasted with water to form a granular grit) is either sold to the asphalt shingle industry as a grit additive, or disposed on-site in Canada. According to Watts, this grit is rendered unleachable, due to the vitrification process.



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## Considerations For Regulatory Interpretation

The regulation 40 C.F.R. § 261.2(e)(ii) states that materials are not solid wastes when they can be shown to be recycled by being used or reused as effective substitutes for commercial products. Watts states in a letter dated November 5, 1992 to John J. Duclos of NHDES that the lead containing silica sand is to be used as a flux additive, and enclosed a letter from Noranda (parent company of Kidd Creek) demonstrating that this material can be used as a flux additive. Watts also stated that "the silica is discharged directly into the flux feed hoppers without any preparation, recovery, or reclamation." Although the waste sand generated by Watts is a "spent material," it is similar to virgin silica used as a fluxing agent to remove metal contaminants (including lead) in the copper smelting process.

In its correspondence to EPA, Watts provided a copy of a draft agreement between itself and Noranda Sales Corporation (Noranda) as agent for and on behalf of Falconbridge Ltd., stating that there was an agreement to accept the material as a fluxing agent feedstock. It is clear that the smelter has accepted, and can use this material as a feedstock.

EPA Region I is forwarding you a copy of a memo dated April 26, 1989, from Sylvia K. Lowrance, Director of the Office of Solid Waste to Hazardous Waste Management Division Directors. This memo addresses the issue of whether a secondary material may be considered "commodity like." The considerations in making this determination are spelled out as follows: (1) whether the secondary material truly has value as a raw material/product (i.e., is it likely to be abandoned or mismanaged prior to reclamation rather than being reclaimed?) and 2) whether the recycling process (including ancillary storage) is likely to release hazardous constituents (or otherwise pose risks to human health and the environment) that are different from or greater than the processing of an analogous raw material/product. These considerations should be addressed by Watts in order to support NHDES's determination of the regulatory status of this material.

## Conclusion

Watts should be required to demonstrate to NH DES that they have addressed the considerations set forth in Sylvia Lowrance's memo, above, in order to classify the lead contaminated silica sand as a non-hazardous waste. The first of these considerations is whether the secondary material truly has value as a raw material or product. Whether the lead contaminated silica sand is likely to be abandoned or mismanaged prior to reclamation rather than being reclaimed must also be addressed.

Noranda has stated in a letter to John P. Twombly of Watts Regulator, dated January 18, 1991, that "a sample of the foundry [sic] sand was analysed [sic] at our laboratory at Kidd Creek, and we believe, due to the high silica content, that this

material has the proper composition and consistency to be used as a fluxing agent. Our analysis shows that this material has value due to its intended practical application as a silica flux." The material being shipped from NH to Canada is useable, according to Watts.

Watts has stated that they must pay a fee of \$65 per short wet ton of contaminated silica received at the smelter site. Watts should address, in correspondence to NH DES, why it must pay this fee. If this is related to the fact that Watts is only able to supply a few days supply of silica to the foundry, then this should be detailed in Watts response. (Mr. Twombly of Watts stated in a conversation with Joan Jouzaitis of EPA Region I on March 31, 1993, that his annual supply of silica sand provides only 5-8 days worth of flux for the foundry.) Watts should address the perceived conflict between the utility of using the lead contaminated silica sand vs. the monetary value of the lead contaminated silica sand.

The second consideration is whether the recycling process, as detailed by Watts, including storage and transport considerations, is likely to release hazardous constituents, or otherwise pose risks to human health and the environment) that are different from or greater than operation of the smelter with non lead contaminated sand used as the flux. As an example, it is not clear how Watts will store lead contaminated silica sand at its facility so as to pose minimal risk of harm to human health and the environment. NH DES may wish to further question Watts on its current storage practices for this material at its NH facility, as well as how the transportation of the material to Canada will be performed in a manner minimizing risk. Watts should be advised that mismanagement of the material, such as the uncontrolled storage of the sand on the ground, may be classified as use constituting disposal, which would result in the designation of the storage area as a Solid Waste Management Unit (SWMU). Releases from a SWMU could potentially subject the facility to corrective action responses.

The Canadian smelter currently manages lead containing ores, and should have some practices in place for limiting employee and environmental exposures to the lead. However, it is Watts' responsibility to detail to NH DES how the presence of the lead in the sand is not likely to release hazardous constituents that are different from or greater than the operation of the lead smelter with non lead contaminated sand used as the flux.

The unleachable, lead-containing grit generated in Canada by foundry operations would be regulated by all applicable Canadian laws and regulations.

So long as the considerations set forth in Sylvia Lowrance's letter are met, the lead contaminated silica identified above would not be a solid waste, and therefore would not be a federal hazardous waste. The shipment of the material to Canada would

not be subject to the hazardous waste exporting requirements. Please be advised that our assessment of the non-hazardous classification of these wastes is based solely upon the recycling scenario spelled out by Watts in its correspondence to NHDES, and that any changes in the proposed method of recycling may result in a change to the regulatory status for that specific material.

You may wish to look at Federal Register, Volume 50, No. 3, p. 638, dated January 4, 1985. This portion of the Federal Register for the recycling regulations provides guidance for determining whether a particular recycling operation constitutes a "sham" recycling operation. The preamble language states, among other things, that a secondary material must not be ineffective or marginally effective for its claimed use. Secondary materials that are ineffective or marginally effective for a claimed use are deemed "surrogate disposal." The preamble also states that secondary materials used in excess of the amounts necessary for operating a process or not handled in a manner consistent with their use as a raw material or commercial product substitute are further indications of a sham recycling operation.

A determination by the State or EPA that a particular recycling activity does not constitute a "sham" would also confirm that this secondary material is "commodity-like" and, therefore, would have an economic value at least equivalent to the commercial product this material is replacing.

Please call Joan Jouzaitis of my staff at (617) 573-5775 if you have any questions concerning this matter.

Sincerely,



Bruce Marshall, Chief  
RCRA Support Section