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OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

JUN 15 1988

Mr. M. Yaori, Product Manager
Ferrous Raw Materials
Sumitomo Corporation of America
2750 U.S. Steel Building
600 Grant Street
Pittsburgh, PA 15219

Dear Mr. Yaori:

This is in response to your March 15, 1988 letter to Matthew Hale concerning the recycling of electric arc furnace dust, the EPA listed waste K061. EPA cannot provide a definitive response as to your recycling system at this time. As referenced in your letter, the U.S. Court of Appeals ruled in AMC v. EPA that EPA had exceeded its jurisdiction by regulating, or claiming to regulate, certain in-process recycling streams. EPA proposed regulatory changes on January 8, 1988 to comply with the court opinion. (See 52 FR 519.) The comment period on the proposal closed March 23. We have entered your letter as a comment on the proposal. The remainder of this letter describes how EPA's rules, and the January 8 proposal, apply to your situation. Please note, however, that the following is based only on the limited information provided in your letter. If you actually implement your plans, you should deal with the appropriate EPA Region (or authorized State) to determine your facility's regulatory status. Please also be aware that this letter only addresses potential RCRA regulation of the K061 recycling; air emissions from the cyclone and bag filter may be subject to State or Federal air pollution regulations.

Our understanding of the K061 recycling process outlined in your letter is that K061 would be collected from electric arc furnace emissions in a bag filter. The collected dust would be conveyed to a hopper, mixed with coal or coke, pelletized, mixed with a modifier, and dried in a rotary dryer. After drying, it would be stored, then processed in a load cell reactor with oxygen blown into the bottom. The exhaust from the reactor would be filtered in a bag filter, where the zinc rich metal oxide

would be recovered. In the load cell reactor, the process wastes from the electric arc furnace would be combined with the coal/coke/modifier/K061 mixture; the resulting slag from the load cell reactor would be further processed, and finally would be granulated.

If the above described process is normally associated with primary production of steel, it is possible that the electric arc furnace dust would not be a solid waste. To successfully claim the material is not a solid waste under 40 CFR 261.2(e)(1)(iii), the material must be returned to the original primary production process without prior reclamation; it must not be accumulated speculatively, and it must not be used to produce something which is applied to the land or burned for energy recovery. See the conditions specified in Section 261.2(e)(2) and Section 261.2(f).

Under the current regulatory system, K061 that is reclaimed is a solid waste [Section 261.2(c)(3)], and, because it is listed in Section 261.32, it is also a hazardous waste [Section 261.3(a)(2)(ii)]. Until the point where the coal/coke/modifier/K061 mixture enters the load cell reactor, the storage of K061 would be regulated under RCRA [Sections 262.34 or 264.1]. The reclamation processing steps are not regulated, per Section 261.6(c)(1) [see 50 FR 643]. However, if the facility is located in a State which is authorized to implement RCRA, more stringent State regulations may apply.

At the point where the coal/coke/modifier/K061 mixture is introduced to the load cell reactor, it might cease to be a solid waste under the current EPA rules. The information provided in your letter does not allow a definitive interpretation. However, the principle is explained in the preamble to the January 4, 1985 Federal Register (50 FR 630) and in the preamble to the November 29, 1985 Federal Register (50 FR 49167). Briefly, if the load cell reactor qualifies as an industrial furnace, the K061 mixture may cease to be solid waste at the point where the material is introduced into the load cell reactor, depending on its similarity to materials ordinarily burned in the unit. It should be noted that the Agency has proposed to amend this interpretation to exclude from RCRA jurisdiction secondary materials generated and subsequently recycled in a process using the same type of industrial furnace (52 FR 16990 and 17034, May 6, 1987).

If the K061 mixture does not qualify for exclusion from RCRA

jurisdiction under the above-mentioned interpretation, then the status of the materials recovered from the load cell reactor is dependent on several factors. The recovered zinc rich metal oxide, if processed completely enough to be considered a product, may no longer be a solid waste. See 40 CFR 261.3(c)(2); however, note that if the zinc rich metal oxide is burned for energy recovery or is used in a manner constituting disposal, it would remain a listed hazardous waste until delisted (Section 261.3(c) and (d)). The slag mixture likewise may cease to be a solid waste (and also a hazardous waste) once it has been processed to be considered a product. Some information contained in your letter implies that the slag may be used as base or sub-base course or sand material. If a material is applied to the land, or is used to produce a product which is applied to the land, it is a solid waste by Section 261.2(c)(1). As a solid waste derived from the treatment of a listed hazardous waste, it remains a listed hazardous waste until delisted (Section 261.3(c) and (d)). If our understanding that process wastes from the electric arc furnace are mixed with the K061 mixture in the load cell furnace is correct, all of the slag removed from the load cell reactor, if a solid waste, is a listed hazardous waste by Section 261.3(a)(2)(iv). Please note that under 40 CFR Part 266, Subpart C, hazardous wastes recycled by placement on the land are subject to extensive regulations, unless the recyclable material has undergone a chemical reaction in the course of producing the waste-derived product so as to become inseparable by physical means.

Finally, the January 8, 1988 proposal to modify the regulations in Section 261.2(c)(3) may apply to your recycling situation. The docket materials in support of that rulemaking contain an Item #6 which summarizes the factors the Agency used for deciding whether to list certain wastestreams in Section 261.32. K061 was listed because it is typically disposed, or reclaimed in an unrelated process, and is frequently stored in open piles. The proposed rule would allow case-by-case demonstrations by the generator that the material does not meet the conditions for listing, depending on several factors. It is not possible to make a general statement regarding the status of the electric arc furnace dust being recycled with your system. The preamble to the proposed rule discusses the possibility that the material is not discarded (53 FR 526 and 527, January 8, 1988). From the information in your letter, it does not appear that the load cell reactor is closely related to the primary

production of steel.

Again, if you plan to implement your plan you may wish to discuss the process as proposed with EPA Region or State personnel with regulatory authority in the proposed location for the plant. If you have further questions regarding this letter, please contact Michael Petruska at (202) 475-9888.

Sincerely,

Original Document signed

Devereaux Barnes, Director
Characterization and Assessment
Division