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Proposed Best Demonstrated Available Technology (BDAT) for K061

OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

MAR 9 1988

MEMORANDUM

SUBJECT: Proposed Best Demonstrated Available Technology (BDAT)
for K061

FROM: Jeffery D. Denit, Acting Director
Office of Solid Waste

TO: Robert E. Greaves, Chief
Waste Management Branch
U.S. EPA, Region III

This memorandum is in response to the concerns you raised with respect to the determination of BDAT for K061 for the Land Disposal Restrictions Rule (LDRR) and its possible implications for Region III. There seems to be several points that have been apparently misunderstood by your staff.

EPA is not approving the Waelz Kiln as BDAT. The proposed Land Disposal Restrictions for K061 are performance standards that represent a level of performance achievable by High Temperature Metals Recovery (HTMR). We have identified several classes of HTMR systems; they include: rotary kilns (which includes the Waelz Kiln as well as other types currently being marketed), flame reactors, electric furnaces, plasma arc furnaces, slag reactors, and rotary hearth kiln/electric furnace combinations. Many of these systems produce metallic zinc, metallic lead, both for direct sale, metallic iron to be recycled back to the electric arc furnace, and slags requiring land disposal. The restrictions are concentrations of constituents in the waste that must be achieved prior to land disposal of K061 in a Subtitle C facility. EPA is not requiring any specific class of HTMR, nor are we recommending any specific class.

The data used for the development of the proposed Land

Disposal Restrictions for K061 were generated by the EPA sampling of the Waelz Kiln process because it was convenient and appeared to provide effective treatment. Your discussions with Bill Myers, our contractor's sampling crew chief, failed to reveal the full extent of our analysis in determining BDAT for K061. Mr. Myers was not involved in the BDAT analysis for K061. As the sampling crew chief on that trip, his responsibilities and knowledge were limited to taking representative samples of the materials generated by the Waelz Kiln process. The flow diagram of the process considered by EPA, which was not developed by Mr. Myers, is a complete diagram of the K061 treatment system. The calcining process was considered in our analysis of the treatment system prior to the sampling visit, but was rejected because the crude zinc oxide product that is collected in the baghouse is sold as a product. We are aware that the crude zinc oxide product is frequently refined further to remove the lead and cadmium to produce a saleable American grade zinc. However, it also is sold for direct use in product formulation by such industries as fertilizer manufacturing. Therefore, the calcining process was not included as part of the K061 treatment system, since at the point the crude zinc oxide is collected in the baghouse it becomes a product, and ceases to be considered derived from K061 based on the "product rule" (40 CFR 261.3 (c)(2)(i)).

Furthermore, the calcining process historically has been applied to other crude zinc oxides, including those produced by the primary smelting of zinc bearing ores in the Waelz Kiln. If K061 were not used as feedstock, zinc bearing ores or other scrap material would be necessary. Although calcining residuals from refining of ores are exempted currently by the Beville Amendments, the calcining residuals from K061 wastes, under certain circumstances, would be regulated as D006 (EP Toxic for Cadmium) and/or D008 (EP Toxic for Lead). Treatment standards for the "D" wastes are expected to be final by May 8, 1990, three months before the effective date of the Land Disposal Restrictions for K061.

In response to your concerns regarding the interpretation of the waste as an "indigenous" waste, we have not interpreted K061 to be indigenous to that type of furnace. Instead, we have determined treatment standards that the residual material must meet prior to land disposal. We will be soliciting additional comment on that subject in the proposal of the LDRR.

The current use of the K061 treatment residual from the Waelz Kiln as roadbed and anti-skid material, however, is considered to be "use in a manner constituting land disposal" and is not exempt from regulation based on 40 CFR 261.2 (c)(1)(A). We have discussed this issue with the Region III RCRA Enforcement Office. However, we do not think this issue is germane to whether BDAT based on recovery is effective, since placement of the residuals in a subtitle C landfill will eliminate any compliance problems.

It is my hope that this additional information will eliminate any concern about the BDAT we intend to propose for K061. If your staff has any additional questions regarding this matter, please contact Mr. John Keenan of my staff, at FTS 755-0356.