

PPC 9441.1984(19)

MINERAL PROCESSING RESIDUALS FROM COMBUSTION UNITS
BURNING HAZARDOUS WASTE FUEL

AUG 15 1984

MEMORANDUM

SUBJECT: Regulatory Interpretation on Mineral Processing
Residuals Generated by Combustion Units Burning
Hazardous Waste Fuel

FROM: John H. Skinner, Director
Office of Solid Waste (WH-562)

TO: Conrad Simon, Director
Air and Waste Management Division (2AWM)

I am writing in response to your memorandum of May 25, 1984, in which you requested a regulatory interpretation regarding mineral processing residuals generated from the thermal expansion of shale in rotary kilns that are fired with hazardous waste fuels. The issue is whether these mineral processing residuals, i.e., shale fines sludge, which would otherwise be exempt from Subtitle C of RCRA under the mining "extraction, beneficiation, and processing" exclusion of 40 CFR §261.4(b)(7), are subject to regulation as a hazardous waste due to the use of listed hazardous waste as a fuel source for the process. This letter responds to the questions that you raised in your request, and also addresses the points that Norlite Corporation has made in response to the Region's complaint against them.

In response to one of your questions, we are not aware of any explicit precedent or policy that has been established regarding the applicability of either the mining waste exemption or the cement kiln dust exemption whether waste solvents are employed as fuels. Therefore, we have consulted with the Office of General Counsel and the Office of Waste Programs Enforcement in developing the following responses.

Background

Norlite Corporation, located in Cohoes, New York, mines shale and thermally expands it to produce a lightweight aggregate that is used in construction products. The thermal expansion takes place in two rotary kilns that are fired by listed hazardous waste fuels (hazardous waste nos. F001-F005, according to Norlite) that are purchased from waste generators and fuel blenders. Before entering the stack, the kiln gases are scrubbed with an alkaline aqueous slurry. The shale fines captured by the scrubber are collected in surface impoundments from which they are subsequently dredged at a rate of 40,000 tons year. The shale fines sludge dredgings are accumulated in waste piles at Norlite's facility.

Question 1: Is Norlite's shale fines sludge exempt from regulation under Subtitle C of RCRA by virtue of the mining waste exclusion in §261.4(b)(7)?

Answer: Yes, the waste is currently exempt.

Discussion:

Section 261.4(b)(7) provides an exemption from Subtitle C control for "Solid wastes from the extraction, beneficiation, and processing the ores and minerals...". In the preamble to the rule providing this exemption, the Agency said we would interpret the exclusion to include solid waste from the exploration, mining, milling, smelting, and refining of ores and minerals (see 45 Federal Register 76618-76619, November 19, 1980). This interpretation includes residuals from mineral processing, including air emission control wastes.

The process that Norlite uses involves heating shale to produce a lightweight aggregate, thus enhancing its value. This approach is analogous to many other thermal processes used to dry, smelt, or otherwise upgrade an ore or mineral. Therefore, the Norlite process would be considered beneficiation or processing, and the wastes from that process fall within EPA's current interpretation of the §261.4(b)(7) exclusion. The use of hazardous waste fuels as the total or partial energy source does not, in our opinion, change the status of the waste as beneficiation or processing waste. EPA made it clear in the November 19, 1980, preamble that the exclusion does not apply to solid wastes, such as spent solvents, pesticide wastes, and discarded commercial chemical products, that are not uniquely associated with the mining and allied processing

industries. The solvents that we were addressing in the 1980 notice are those that might be generated as a result of equipment maintenance or some other general plant operations, but not as a result of extraction, beneficiation, or processing operations.

We arrive at the same conclusion for cement kiln dust waste that may be generated during a cement manufacturing process that employs hazardous waste fuels as an energy source. Cement kiln dust waste is currently exempt from Subtitle C by §261.4(B)(8). The use of hazardous waste fuels in this process would not negate the exclusion.

We emphasize that this interpretation of the mining waste exclusion does not necessarily exclude all solvents from regulation under Subtitle C. As described above, wastes that are not generated from extraction, beneficiation, or processing operations, e.g., spent solvents generated during equipment maintenance, are not excluded from Subtitle C regulation. Therefore, if Norlite mixes its shale fines sludge with nonexcluded listed hazardous waste, the resulting waste is subject to the "mixture rule" in §261.3(b)(2).

The Office of Solid Waste is currently reviewing its 1980 interpretation of the mining waste exclusion to define more accurately the wastes that Congress intended to exclude from Subtitle C pending completion of the mining waste study. We will keep you advised on the progress of the reevaluation and the supporting studies.

Question 2: Is Norlite's shale fines sludge exempt under the beneficial reuse exemption provided for by §261.6?

Answer: No. Wastes resulting from a beneficial reuse process are not covered by the §261.6 exemption.

Discussion:

Sections 261.3(c) and (d) state that any solid waste generated from the treatment (which includes some recycling), storage, or disposal of hazardous waste, including any sludge or emission control dust, is a hazardous waste until the generator proves otherwise. In the case of a waste that is derived from a listed hazardous waste, the solid waste is considered hazardous unless

and until it is delisted in accordance with §§260.20 and 260.22.

In the case of Norlite Corporation, the shale fines sludge is considered to be derived from the treatment of hazardous wastes, i.e., the solvents that are used as fuel. Burning of hazardous wastes, albeit for legitimate energy recovery, is still considered treatment. If the shale fines sludge had not been considered a beneficiation or process waste under §261.4(b)(7), and therefore excluded from regulation, it would be classified as listed hazardous waste.

The beneficial reuse exemption contained in §261.6 applies to the beneficial reuse process only, and not to any wastes that may be generated as a result of such processes. This exemption thus applies solely to hazardous wastes prior to and during legitimate recycling.

It should be noted that listed hazardous wastes, such as the solvents that Norlite uses, are subject to certain transportation and storage requirements prior to reuse. These requirements are contained in §261.6(b). I assume that Norlite's tanks used for storage of these listed hazardous wastes prior to firing in the kiln are subject to these provisions.

Question 3: Is Norlite's shale fines sludge exempt under the wastewater exemption of §261.3(a)(2)(iv)?

Answer: No, this exemption does not apply to the shale fines sludge.

Discussion:

The wastewater exemption contained in §261.3(a)(a)(iv)(A) applies only if solvents are commingled with process wastes as part of routine housekeeping procedures (e.g., minor release of solvents during degreasing operations that would collect in the wastewater sewer). The provision has no applicability to sludges that are mixed or otherwise commingled with wastewater, or to sludges that, in effect, generate a wastewater through the settling of solids from the sludge.

You expressed concern that the mining waste and cement kiln dust exclusion could lead to burning hazardous waste fuels with

high levels of toxic organic or metals constituents, resulting in the generation of hazardous residues. We are presently developing standards to regulate burning of hazardous waste in boilers and in cement and aggregate kilns, and intend to require that these units generally meet the same performance standards applicable to incinerators. The residues from burning hazardous waste in these units may contain high levels of toxic compounds, particularly metals. Consequently, if we find through our research that aggregate kiln residuals or cement kiln dusts pose a substantial hazard, we will consider eliminating their respective exemptions under Part 261, and subjecting the wastes to regulation under Subtitle C of RCRA.

Your letter and Norlite's response to the Region's complaint necessitated this lengthy response. However, it has enabled us to develop a position on a highly complex regulatory interpretation issue. I trust that our response can be used by the Region in resolving the Norlite case, as well as providing advice to similar waste fuel/mineral processors that you mentioned. John Heffelfinger of my staff has discussed our findings on this issue with Bob Harris, of your office. You may contact him at FTS-382-7923. For further information on the subject of burning and blending hazardous waste fuels and our regulatory development efforts, please contact Bob Holloway at FTS-382-7936.

cc: Solid Waste Branch Chiefs
Regions I-X
w/attachment (Region II ltr. dated 5/25/84)