

PPC 9441.1984(30)

USED OIL CONTAMINATION THROUGH NORMAL USE OR MIXING WITH
HAZARDOUS WASTE - RECYCLING DEFINED

22 OCT 1984

Dr. A.R. Tarrer
Auburn University
Department of Chemical Engineering
230 Ross Hall
Auburn University, Alabama 36849-3501

Dear Dr. Tarrer:

This is in response to your letter of September 20, 1984, in which you requested a clarification of the Environmental Protection Agency's (EPA) policy for distinguishing legitimate from "sham" recycling. In general, burning a hazardous waste with little or no energy value does not constitute legitimate recycling, even if the waste has been blended with high-BTU material (e.g., used oil or fuel oil) that makes the mixture a marketable fuel. (See the Federal Register notice of March 16, 1983; 48 FR 11158 and the guidance memorandums of February 28, 1984, and July 5, 1984, enclosed.)

While the enclosed guidance documents pertain to hazardous wastes burned as legitimate fuels, the same principles apply to used oil. The main issue is whether the used oil became contaminated with hazardous constituents as listed in 40 CFR 261, Appendix VIII, through normal use or through purposeful mixing with hazardous wastes. As you probably know, used oil can pickup small amounts of chlorinated materials from various sources. For example, leaded gasoline contains chlorinated additives ("scavengers") that are deposited in crankcase oil. Also, used oil from vessels can easily pickup chlorine from salt water that may enter the engine room, etc. In fact, a recent study by my office found that 568 of 590 samples of used oil contained some amount of chlorine. In general, if the used oil acquires these contaminants through normal use it is not a hazardous waste and the enforcement policy does not apply, while if it acquires the contaminants through mixing it is a hazardous waste and the enforcement policy does apply. In practice, whether used oil is

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subject to the enforcement policy depends on how much information is available to the enforcing agency regarding the origin of the oil.

We are in the process of developing a number of regulations which will set standards for the management of used oil, and of hazardous wastes used as fuels. The first of these regulations, the Waste-as-Fuels Administrative Standards, is planned to be proposed in January 1985. These standards will, in addition to a number of other requirements, set a specification for used oil that will clearly distinguish between used oil used as fuel and hazardous waste used as fuel. We have recognized that an efficient means must be established to distinguish between used oils that have picked up incidental, the minimis amounts of chlorinated material, and used oil that has been grossly adulterated with large amounts of spent solvents. In the proposal, a limit of 4000 parts per million (0.4%) is the distinguishing criterion. Used oil with greater than 4000 ppm total chlorine will be presumed to have been mixed with agent chlorinated solvents, and, unless a person can show no mixing has occurred, the material will be regulated as hazardous waste (not used oil). Used oil with less than 4000 ppm chlorine will not be presumed to contain hazardous waste. (However, if EPA received information that mixing had in fact occurred, we would retain authority to regulate the mixture as hazardous waste.)

I hope this explanation will help you clear up your problems with the Alabama Department of Environmental Management. While our interpretation of our March 16, 1983, Federal Register Notice regarding Appendix A constituents and our intentions regarding the use of used oil and hazardous wastes as fuels differs from the State of Alabama, you should be aware that States can, under the RCRA system, establish standards more stringent than EPA's. If you require further assistance, contact Michael Petruska of my staff at (202) 382-7917.

Sincerely yours,

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

Enclosures

cc: Mr. Dan Cooper, ADEM
Mr. Larry Dunning, Region IV
Mr. Fred Braswell, ADECA

FEB 28 1984

MEMORANDUM

DATE:

SUBJECT: Guidance on Determining When a Hazardous Waste Is a
Legitimate Fuel That May Be Burned for Energy Recovery
in a Boiler or Industrial Furnace

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

TO: Thomas W. Devine
Director, Air and Waste Management Division
Region IV

This is in response to your January 13 memo requesting guidance on allowable concentrations of halogenated solvents in waste fuels burned in high-efficiency boilers and rotary kiln incinerators.

This issue is understandably creating some confusion in your Region and others as well. I believe that clarification of the following three points can clear up the confusion: (1) the types of combustion devices that can legitimately recover energy; (2) the hazardous wastes that are legitimate fuels; and (3) the status of our efforts to regulate burning in boilers and industrial furnaces.

Legitimate energy recovery can occur only when a legitimate fuel is burned in a legitimate energy recovery device. The enforcement guidance you referenced (48 FR 11157 (march 16, 1983)) and the subsequent proposed amendments to the solid waste definition (48 FR 14507-511 (April 4, 1983)) provide guidance to identify legitimate energy recovery combustion devices and legitimate fuels.

A legitimate energy recovery device must be a boiler that recovers usable heat (i.e., not just to preheat combustion air) or and industrial furnace (e.g., process kiln, smelter, or blast furnace) where the waste replaces other fuels. An incinerator cannot burn hazardous waste without a RCRA permit.

A hazardous waste is a legitimate fuel if it has substantial heat value, as generated. A blended hazardous waste is a legitimate fuel if the mixture has substantial heat value, provided that the mixture does not contain a hazardous waste that does not have substantial heat value. The enforcement guidance indicates that a waste has substantial heat value if it has a heat value of 5,000 to 8,000 BTU/lb, as a rule of thumb. Thus, a hazardous waste with less than 5,000 BTU/lb heat value as generated is not considered to be a legitimate fuel, and any waste that is intentionally mixed with such a low heat value waste is not a legitimate fuel. For enforcement purposes, if a waste contains high concentrations (say, >5%) of low heat value hazardous wastes, the Agency would have good reason to assume that intentional mixing has occurred, and should request documentation to the contrary from the party claiming the exemption. If it can be shown that each hazardous waste in the mixture has substantial heat value as generated, i.e., >5,000 BTU/lb, the waste is a legitimate fuel regardless of the concentration of low energy constituents (e.g., halogenated compounds like chlorinated solvents) in each waste or in the blended fuel.

The distinction between legitimate and illegitimate waste fuels is, at this point, a temporary necessity. We are regulating the burning of waste fuel in boilers and industrial furnaces under a two-phase approach. We will propose a rule this summer that prohibits burning in nonindustrial boilers of any hazardous waste and used oils that exceed a specification for toxic contaminants. Marketers and burners of hazardous waste fuels burned in industrial boilers and furnaces (and utility boilers) would be subject to notification, transportation, and storage requirements. Marketers and burners of off-specification used oil fuel would be subject to notification requirements and an invoice system to track shipments.

Technical controls on burning waste fuels in industrial boilers and furnaces will be proposed in spring 1985. We are not looking at regulatory alternatives for these units. When these regulations are promulgated, we will have controls for burning of hazardous wastes in these units regardless of purpose (i.e., regardless of whether the waste is a legitimate fuel burned for energy recovery or a low energy waste burned for destruction).

If you have comments or questions, please contact Dave Sussman of our Waste Treatment Branch at 382-7917.

cc: Hazardous Waste Division Directors, Regions I-X
Ginny Steiner, Solid Waste Enforcement
Steve Silverman, Legal Counsel

bcc: Steve Lingle, Waste Treatment Branch
Bob Holloway, Waste Treatment Branch
Dave Sussman, Waste Treatment Branch

JUL 5 1984

MEMORANDUM

SUBJECT: K001 Sludge Use as a Boiler Fuel

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

TO: Thomas W. Devine
Director, Air and Waste Management Division
EPA Region IV

This is in response to your memo of June 5, 1984, concerning whether K001 sludge qualifies as a legitimate fuel. A number of wood preservers around the country are routinely burning K001 sludge along with wood waste in their process steam boilers. K001 sludge contains a number of constituents, some of which (such as pentachlorophenol) have little or no heat value. Others may have a high heat value, bringing the average BTU of the sludge to a level that would constitute legitimate recycling, i.e., approximately 5000 BTU per pound. In order to make the determination as to whether burning a specific K001 sludge is legitimate recycling, it must be determined that the sludge has not been mixed with high BTU wastes to upgrade its heat value in order to circumvent the policy set forth in the March 16, 1983, Federal Register, page 11158, second paragraph.

As you know, we are developing standards to regulate the burning of hazardous wastes in industrial boilers and industrial process furnaces. When those standards are in place, we will regulate the burning of hazardous waste in these devices regardless of purpose. i.e., energy recovery or destruction. The performance requirements will be basically the same as for hazardous waste incinerators under 40 CFR 264.343. At that time, the policy stated in the March 16, 1983, Federal Register will become moot as burning for "energy recovery" or "beneficial usage" will no longer be the issue.

When these regulations are in place, burning K001 sludge in a wood fired boiler that generates process steam will require

a RCRA permit and probably a trial burn. However, should we decide to change the listing of K001 to include the dioxins and require "special management standards" as we have proposed for the F020 to 025 series of wastes, we would probably not allow combustion of this waste in a boiler. Until all these regulations are in place you must use the guidance in the March 16, 1983, and February 28, 1984, policy documents to determine whether this specific K001 waste is a legitimate fuel. We simply do not have adequate data to declare all K001 waste non-legitimate fuel and require the owners of these boilers to obtain RCRA incinerator permits. Furthermore, we know that this practice will fall under a different regulatory program in the future and thus, such a declaration is not appropriate.

Our advice in this situation is to inform the Langdale Company and the other wood preservers that:

- (1) The current regulatory exclusion for burning hazardous waste in energy recovery facilities is granted only for legitimate recycling (cite guidance) and that it is their responsibility to have appropriate documentation of BTU values of their K001 sludge and to demonstrate that high BTU wastes have not been blended into the K001 sludge to increase heat value.
- (2) The burning of K001 sludge as a fuel in industrial process steam boilers will be regulated under a forthcoming EPA rule and that they will likely be required to obtain a RCRA permit when that rule becomes effective.
- (3) In addition, they will probably have to meet performance standards similar to hazardous waste incinerators and probably perform a trial burn.
- (4) We still have the authority to regulate this activity under Subpart O, if appropriate. The decision of using this course of action will be clarified with the new "definition of solid waste" to be promulgated this fall.
- (5) There is a possibility of changing the K001 listing to include dioxin and the possibility of "special management standards" that may preclude the burning of the waste in boilers if the performance necessary to protect public

health cannot be assured in these devices.

- (6) The storage of these wastes prior to burning is subject to full regulation for storage over 90 days.
- (7) The residue from burning these listed wastes is also presently regulated under Subtitle C and requires disposal in a Subtitle C facility or must be delisted. Likewise, characteristic waste residue must be disposed in a Subtitle C facility unless it no longer meets the criteria in 40 CFR 261.24.

For more information on the waste-as-fuels regulatory approach, please contact David B. Sussman, Manager, Waste combustion Program (FTS 382-7927).

cc: Regional Waste Management Division Directors
Regions I-III and V-X