Attachment A

47 Fed. Reg. 27520, 27530 (June 24, 1982)

Amendments to 40 C.F.R. Subpart O (Incinerator Rules)

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 122, 264 and 265

[SWH-FRL-2024-3]

The Hazardous Waste Management System

AGENCY: Environmental Protection Agency.

ACTION: Interim final amendments to interim final and final rules.

SUMMARY: The Resource Conservation and Recovery Act (RCRA) requires that EPA set regulatory standards for all facilities which treat, store, or dispose of hazardous waste. In partial implementation of its requirement, on January 23, 1981, EPA set regulatory standards for incinerators that burn hazardous waste. These regulations were issued as "interim final," which means that, although they were issued in final form, the Agency invited public comment on them with a view to future amendment.

Today, EPA is amending, on an interim final basis, certain of its regulations applicable to hazardous waste incineration facilities. Today's amendments include revisions to: the general standards for permitting hazardous waste incinerators (Part 264, Subpart O), published in the **Federal Register** on January 23, 1981; the interim status standards for hazardous waste incinerators (Part 265, Subpart O), revised on January 23, 1981; and the consolidated permit requirements for incinerators (Part 122), published on May 19, 1980 and January 23, 1981.

The amendments pertain specifically to: (1) The permit procedure for incinerators, (2) exemption of corrosive and some reactive wastes from selected Subpart O standards, (3) the performance standard for hydrogen chloride emissions, (4) the performance standard for particulate emissions, (5) designation of air feed rate as an operating and monitoring parameter, (6) inspection of the waste feed cutoff system, (7) visual inspection of the stack gas plume during interim status, and (8) requirements for data collection during the trial burn. Additional issues addressed by this preamble but not pertaining to regulatory amendments include: criteria for the selection of principal organic hazardous constituents (POHCs), applicability of the regulations to incinerators installed as air pollution control devices, and the need for regulation of particulate emissions.

DATES:

Effective Date: June 24, 1982.

Comments Date: EPA will accept public comments on these amendments until July 26, 1982.

ADDRESSES: Comments should be sent to: Docket Clerk, Office of Solid Waste (WH-562), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

Public Docket: The Public Docket for this amendment is located in room S-269, Waterside Mall, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. and is available for viewing from 8:30 a.m. until 4:00 p.m., Monday through Friday, exclusive of holidays.

FOR FURTHER INFORMATION CONTACT: The RCRA hazardous waste HOTLINE, Office of Solid Waste (WH-565), telephone: (800) 424-9346 or, in Washington, D.C.: 382-3000; or Jan Jablonski, Hazardous and Industrial Waste Division, Office of Solid Waste (WH-565), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460; telephone: (202) 755-9200.

SUPPLEMENTARY INFORMATION: Preamble Outline:

I. Authority

This amendment is issued under the authority of Sections 1006, 2002(a), 3004, and 3005 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 U.S.C. 6905, 6912(a), 6924, and 6925.

II. Overview

A. Background

The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, requires EPA to establish a national regulatory program to insure that hazardous wastes are managed in a manner which does not endanger human health or the environment from the time they are created until their eventual destruction or final disposition. To this end, the Act requires regulations governing generation and transport of hazardous waste and, most significantly for today's amendments, requires that all treatment, storage, and disposal of hazardous wastes be conducted in accordance with a valid RCRA permit.

The Act defines a hazardous waste as any solid waste which may cause mortality or serious illness, or may "pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed." (42 U.S.C. 6921) The statute further requires EPA to list specific hazardous wastes and to establish criteria by which wastes which are not specifically listed may be identified as hazardous. The statute also requires EPA to:

> Promulgate regulations establishing such performance standards, applicable to owners and operators of facilities for the treatment, storage or disposal of hazardous waste identified or listed under this subtitle, as may be necessary to protect human health or the environment. (42 U.S.C. 6924)

Each such facility must apply for and receive a permit which applies the standards to its own particular circumstances and states its particular compliance obligations.

RCRA allows existing facilities to operate during the period before a final permit decision is reached, provided that the owner or operator has made a timely submission of the required permit application. A facility is legally eligible for operation during this period, called the period of "interim status," only if it was in existence on November 19, 1980 and if the owner or operator submits a RCRA permit application.

On May 19, 1980, EPA published initial regulations as a first step in

the regulations, POHC selection would be arbitrary and overly burdensome, resulting in costly sampling and analysis requirements.

The Subpart O standards provide a mechanism for selecting POHCs and designating operating requirements on a case-by-case basis through the permitting process. The Agency has avoided setting cumbersome design and operating standards for nationwide application, and has developed a system which allows the permit writer to select those operating conditions, for each facility, which are the most effective in achieving compliance with the performance standards. This selection is based on a demonstration made by the permit applicant during the trial burn. In order to maintain the flexibility of this system, EPA must avoid the use of overly confining regulatory language, and for this reason the specific limits on POHC selection are not enumerated in the regulation. Section 264.342 cites two general criteria for consideration is selecting POHCs: quantity or concentration, and ease of incinerability.

The Guidance Manual for Evaluating Permit Applications for the Operation of Hazardous Waste Incineration Units presents a forumla for incorporating these two criteria into a numeric index intended as a general guide in POHC selection. That Manual can also assist the permit writer in specifying allowable waste constituents, based on the feed constituents burned in the trial burn, including trial burns with contrived waste blends.

EPA's manual on chemical analysis of wastes, "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (SW–846), provides analytical techniques which will detect concentrations of hazardous constituents in wastes down to approximately 1 part per million. In selecting POHCs, the Regional Administrator generally will not select constituents which are present in a waste feed at concentrations less than 100 parts per million, since, for many substances, special stack sampling procedures would be required to measure stack gas concentrations resulting from 99.99% destruction and removal efficiency of waste constituents present in concentrations below this level. EPA estimates indicate that waste constituents present in concentrations as low as 1000 ppm will be routinely detected by stack gas analysis following destruction and removal at 99.99% efficiency and that a waste concentration of 100 ppm probably represents a practical lower limit beyond which determination of 99.99% destruction and removal will be difficult to verify.

The Regional Administrator however, will not always be able to definitively establish that an organic hazardous constituent present in relatively low concentrations (i.e., concentrations between 100 and 1000 ppm) will not be detected in the stack gas following 99.99% destruction and removal. Therefore, a POHC may be selected which subsequently will not be detected in the stack gas, despite careful fulfillment of the sampling, analysis and quality control requirements set forth in the trial burn plan. In such an instance, EPA intends that attainment of 100% destruction and removal will be assumed for that POHC. In cases where the waste under consideration contains none of the organic constituents listed in Appendix VIII, no POHCs can or will be designated and the trial burn will be used only to establish the incinerator's ability to comply with the performance standards for hydrogen chloride and particulate emissions.

With respect to ease of incinerability, EPA has developed a ranking of the Appendix VIII hazardous constituents based on Heat of Combustion values. This hierarchy will allow the applicant to demonstrate the required level of performance for a large number of constituents by successfully burning one or several of those which are most difficult to destroy. The Agency does not intend however, that the incinerability ranking be used as a substitute for the permit writer's engineering judgment. The list will provide the permit writer and applicant with a useful means for identifying the constituents of a waste which are likely to most difficult to destroy and may be used in conjunction with other information relating to the incinerability of an organic constituent (e.g., Auto Ignition Temperature), when available.

Heat of Combustion values are measured under controlled laboratory conditions or derived from theoretical calculations. Therefore, they provide only an indication of the temperature at which a hazardous constituent will be destroyed. In situations where the Heat of Combustion values for the waste constituents under consideration do not differ considerably and no other information regarding incinerability is available, the ranking must be used cautiously and selection of a number of trial POHCs may be necessary.

By developing the incinerability hierarchy, the Agency has attempted to provide a mechanism which will aid in minimizing the number of POHCs selected for each trial burn. In theory, the permit writer need select as a POHC only the single hazardous constituent which is most difficult to destroy, as indicated by the hierarchy. However, because of the imperfections inherent to the hierarchy more than one POHC must be selected in many cases. Overall, the Agency believes that the incinerability ranking will allow permit writers to confine POHC selection to fewer than six constituents in most cases, reducing the need for costly sampling and analysis.

B. Applicability of the Incinerator Regulations to Fume Incinerators

Several commenters asked that EPA clarify the applicability of the incinerator regulations to fume incinerators. Such incinerators are installed as air pollution control devices pursuant to regulations under the Clean Air Act, and commenters contended that these facilities do not fall into regulatory jurisdiction under RCRA.

EPA agrees with commenters that fume incinerators are subject only to regulation under the Clean Air Act and does not intend that the Parts 264 and 265 regulations apply to these facilities. Fume incinerators which are used to destroy gaseous emissions from various industrial processes, for example, are not subject to regulation under RCRA. In general, the RCRA standards do not apply to fume incinerators since the input is not identifiable as a solid waste, according to the definition set forth in § 261.2.

C. Regulation of Particulate Emissions from Hazardous Waste Incinerators

The performance standard for control of particulate emissions is equivalent to the particulate standard established by EPA's New Source Performance Standard for municipal incinerators, promulgated under authority of the Clean Air Act (46 FR 7674). Several commenters contended that this use of a Clean Air Act standard to satisfy the requirements of RCRA was inappropriate.

In borrowing the Clean Air Act standard for use by the RCRA hazardous waste regulations, the Agency has simply adopted a standard which is known to be achievable (see the Background Document on Incineration, December, 1980) and which the Agency views as the minimum necessary level of control for hazardous waste incinerators. The reason for using this standard in the RCRA regulations is not the same as the reason for using it under the Clean Air Act. The standard for control of particulate emissions

Attachment B

J. Skinner letter to J. Scarborough Regarding RCRA Implications of Treating Gases Vented From Compressed Cylinders, 9441.1986(36)

December 17, 1984

PPC 9441.1984(36)

GASES VENTED FROM COMPRESSED GAS CYLINDERS - TREATING OF FLUORINE AND OTHERS

DEC 17 1984

MEMORANDUM

SUBJECT: RCRA Implications of Treating Gases
Vented From Compressed Cylinders

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

TO: James H. Scarbrough, Chief
Residuals Management Branch
Region IV

This is in response to your November 28, 1984, memorandum regarding a facility built to treat fluorine (PO56) and other gases vented from compressed gas cylinders. You are correct in you application of the response to the letter to the Compressed Gas Association from Christopher Capper, dated November 6, 1981.

According to that letter, customers return cylinders to gas suppliers for refilling, not for disposal, and no waste is involved. If the gas supplier decides to discard the contents of the returned cylinders, any liquid or physically solid waste removed from the cylinders are subject to RCRA if they are hazardous waste. Cylinders containing regulated quantities of hazardous waste would need to be manifested to off-site facilities for treatment, storage, or disposal. However, the letter goes on to say that the handling of gaseous residues removed from the cylinders and neutralization or scrubbing of gases prior to release are not subject to RCRA regulation. Any liquid or physically solid wastes derived from the treatment of hazardous compressed gas is still subject to RCRA regulations, if it is derived from listed waste or if the residual is hazardous under Part 261 Subpart C (characteristics).

Therefore, your conclusions are correct. The facility is not

a RCRA treatment facility for any handling of the gases removed from the cylinders. Any liquid or solid residues derived from the cylinders or from treatment of cylinder contents that are listed in 40 CFR 261 Subpart D or are hazardous under Part 261 Subpart C are subject to Subtitle C hazardous waste regulations. If you have any further questions, please do not hesitate to contact Alan Corson or Irene Horner, of my staff, at 382-4770.

cc: Hazardous Waste Branch Chiefs, Regions I-III and V-X

Attachment C

M. Williams letter to S. Wassersug Regarding Carbon Regeneration Facilities, 9442.1986(03)

April 2, 1986

9442.1986(03)

CARBON REGENERATION FACILITIES

APR 2 1986

MEMORANDUM

SUBJECT: Carbon Regeneration Facilities

FROM: Marcia Williams, Director
Office of Solid Waste, (WH-562)

TO: Stephen R. Wassersug, Director
Hazardous Waste Management
Division (3HW00)

This is in response to your March 11, 1986, memorandum regarding the applicability of the RCRA hazardous waste rules to carbon regeneration facilities. In particular:

1) Is the spent carbon a solid waste?

In general, yes. As you correctly state in your letter, spent carbon can be defined as a spent material or a sludge (i.e., spent carbon would normally be considered a spent material, unless it results from pollution control in which case it is considered a sludge). Spent materials (whether or not they are listed or contain a listed hazardous waste) and listed sludges being reclaimed are solid waste. In addition, if the spent carbon contains a characteristic spent material (and the spent carbon itself exhibits a hazardous waste characteristic), it also is a solid waste. On the other hand, if the spent carbon contains a characteristic sludge or by-product, it is not defined as a solid waste (even if the spent carbon exhibits a hazardous waste characteristic).

2) Is the spent carbon a hazardous waste?

Yes. That spent carbon defined as solid waste (as described above) is also hazardous if it contains a listed hazardous waste or exhibits a hazardous waste characteristic.

3) Which Part 264 standards apply?

If the spent carbon is a solid and hazardous waste, the owner or operator of the facility must comply with the storage facility requirements, including receiving a permit. The actual regeneration facility, including the afterburner, is exempt from regulation, however. In particular, recyclable materials other than those used in a manner constituting disposal are currently subject only to transportation and storage standards.1/ The recycling facility itself, including emissions from the facility, are not currently subject to regulation. (You should note that if the facility did not (voluntarily) use an afterburner to minimize organic emissions, the question of RCRA applicability would not even have been raised.) In the future, we intend to look at other recycling operations such as carbon regeneration to determine if standards are warranted.

Your concern that a determination that the off-gas is an unregulated emission would have adverse ramifications for incineration facilities does not appear to be a major problem. You express concern that an incinerator operator could vaporize his waste in a nonflame device prior to injection in an incinerator and claim that the unconfined gas is an unregulated treatment emission. Such a claim is not likely to be successful because the operator would need to show that the vaporization constitutes bona fide recycling not integral to the incinerator. We don't believe such a showing can be made.

If you have any further questions or comments, contact Matt Straus at 475-8551 or Robert Holloway at 382-7936.

1/ Recyclable materials burned for energy recover are only subject to the transportation and storage rules. The actual burning itself will be regulated in the future (i.e., we plan to propose this summer standards that would control emissions from boilers and industrial furnaces burning hazardous waste and off-specification used oil fuels).

Attachment D

Regulatory Determination Letter from M. Straus to Gregory Harvey Regarding Carbon Canisters Saturated With Vapors, 9441.1986(54)

July 15, 1986

9441.1986(54)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JUL 15 1986

Mr. Gregory J. Harvey
Industrial Hygenist
Occupational Medical Services
Newark Air Force Station, OH 43057-5000

Dear Mr. Harvey:

This letter is written in response to your request that EPA determine whether certain activated carbon canisters that are saturated with spent solvents should be managed as hazardous wastes under RCRA. More specifically, these canisters are used to collect vapors of the solvents Freon 113, 1,1,1-trichloroethane, and methylene chloride that are generated during their use as degreasing agents in paint spray booths.

As you are aware, the Agency has listed these compounds as hazardous wastes when they are used as solvents and have become contaminated with physical or chemical impurities and are no longer fit for use without being regenerated, reclaimed, or otherwise re-processed. Use as a solvent is defined as being used for their solvent properties, that is, to solubilize (dissolve) or mobilize other constituents; this includes use as a degreasing agent. (See 51 FR 6538, February 25, 1986.)

However, solvent vapor is not a solid waste (see Section 1004(27) of the Solid Waste Disposal Act, as amended, where the term "solid waste" is defined to include, among other things, contained gaseous material). Since these solvent vapors are not contained, they are not defined as a solid or hazardous waste. Furthermore, when the solvent vapor is adsorbed onto activated carbon, it would not be covered by the listing or by the mixture rule. Rather, these wastes would only be hazardous if they exhibit any of the hazardous waste characteristics. At this time, we do not know whether these cannisters would be defined as hazardous. However, you should be aware that on June 13, 186, the Agency proposed a new extraction procedure (TCLP) to be used in the toxicity characteristic and also proposed to expand the toxicity characteristic to include, among other constituents, 1,1,1-trichloroethane and methylene chloride. (See enclosure.) Should this rule become final in its present form, your

chloride. (See enclosure.) Should this rule become final in its present form, your spent activated carbon may exhibit the characteristic of toxicity, if the canisters are not already hazardous for some other reason.

In summary, the subject waste is not currently a listed hazardous waste under RCRA and would only be hazardous if it exhibits any of the characteristics of hazardous waste; however, this waste may soon be subject to the regulation as hazardous, if it is not already hazardous, due to the toxicity characteristic. Since you recognize that these canisters may pose a substantial present or potential threat to human health or the environment, I urge you to manage them appropriately.

Sincerely,

Matthew Straus, Chief
Waste Characterization Branch

Enclosure

Attachment E

M. Straus Letter to Clifford Ng Regarding Methanol Recovery Systems, 9441.1987(46)

June 17, 1987

9441.1987(46)

OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

JUN 17 1987

MEMORANDUM

SUBJECT: Mehanol Recovery System; Clarification of Waste Status

FROM: Matthew A. Straus
Chief, Waste Characterization Branch

TO: Clifford Ng, Engineer, Region II, AWM-HWF

This is in response to your memo of February 18, 1987, in which you request our interpretation of the waste streams associated with a specific methanol recovery process. First, I apologize for taking so long in responding to your request. I hope this delay has not caused you any problems.

With respect to your specific questions, the following is our interpretation of how this process is regulated under the hazardous waste rules:

1. Stream A, the methanol-laden air from the drying and granulation step of the process, does not meet the definition of a solid waste under RCRA because it is in vapor form and not confined in a container.

2. The carbon beds that both condense and adsorb the methanol from the air contains an F003 waste when the condensation of methanol occurs. Therefore, stream B, the carbon/methanol mixture is to be handled as a listed hazardous waste.

3. The solvent stripper is used to recover the spent carbon. Therefore, this process is not subject to regulation. See 40 CFR 261.6(c)(1). However, any residues (stream C) derived from it is considered an F003 waste. The spend carbon, which is the recovered product, is not a solid waste.

4. Stream C, the condensed steam/methanol mixture is a hazardous waste because it was derived from treating a hazardous waste (see 40 CFR 261.3(c)(2)(i)) and stream C would remain a hazardous waste, unless it is delisted under the provisions of 40 CFR Sections 260.20 and 260.22 or is mixed with another solid waste (see 40 CFR 261.3(a)(2)(iii)).

5. Since stream C is hazardous (unless it is delisted or has been mixed with a solid waste), then downstream tank 4 would be subject to RCRA hazardous waste regulations. Stream F is also derived from the treatment of a hazardous waste and, therefore, would be a hazardous waste. As you are aware, if stream F were sent to a POTW or discharged under an NPDES permit, then it would not be subject to RCRA regulations.

I hope this clarifies your concerns about the waste streams from this process. If you require additional information, please feel free to call Ed Abrams at FTS-382-4787.

Attachment F

Chlorinated Aliphatics Listing Rule

54 Fed. Reg. 50968, 50973 (December 11, 1989)

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 261, 271, and 302

[SWH-FRL-3630-8; EPA/OSW-FR-89-019]

Hazardous Waste Management System: Identification and Listing of Hazardous Waste CERCLA Hazardous Substance Designation; Reportable Quantity Adjustment

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) today is amending its regulations under the Resource Conservation and Recovery Act (RCRA) by listing as hazardous one generic category of waste generated during the manufacture of chlorinated aliphatic hydrocarbons by free radical catalyzed processes having carbon chain lengths ranging from one to five (EPA Hazardous Waste No. F025). EPA is also responding to comments on another generic category of waste (that was promulgated as an interim final rule on February 10, 1984) generated by the same process (EPA Hazardous Waste No. F024); the Agency is also finalizing this listing without substantive change, although the listing description has been clarified. In addition, the Agency is finalizing the addition of two toxicants to Appendix VIII of part 261. The effect of this regulation is that these wastes will be or will continue to be subject to regulation, respectively, as hazardous under 40 CFR parts 261–266, 268, 270, 271, and 124. This action, however, does not apply to wastes generated during the production of chlorinated aliphatic hydrocarbons that were previously listed as hazardous on May 19, 1980.

In addition, the Agency is also making final amendments to CERCLA regulations in 40 CFR part 302 that are related to today's final hazardous waste listing. In particular, EPA is making final the designation as hazardous substances under CERCLA all of the wastes made final in today's rule and the final reportable quantities that would be applicable to those wastes.

DATES: Effective Date: The listing of EPA Hazardous Waste No. F025 becomes effective on June 11, 1990; the amended listing for EPA Hazardous Waste No. F024 becomes effective June 11, 1990.

ADDRESSES: The RCRA docket is located at the following address, and is open from 9 to 4, Monday through Friday, excluding Federal holidays: EPA RCRA Docket (Room 2427) (OS–305), 401 M Street, SW., Washington, DC 20460.

The public must make an appointment by calling (202) 475–9327 to review docket materials. Refer to "Docket number F–89–GCAF–FFFFF" when making appointments to review any background documentation for this rulemaking. The public may copy a maximum of 100 pages of material from any one regulatory docket at no cost; additional copies cost $0.15 per page. Copies of the non-CBI version of the listing background document, Health and Environmental Effects Profiles (HEEPs), and not readily available references are available for viewing and copying only in the OSW docket. Copies of materials relevant to the CERCLA portions of this rulemaking are contained in Room 2427 U.S. EPA, 401 M St., SW., Washington, DC 20460. The docket is available for inspection from 9:00 a.m. to 4:00 p.m. Monday through Friday. As provided in 40 CFR part 2, a reasonable fee may be charged for copying services.

FOR FURTHER INFORMATION CONTACT: The RCRA/Superfund Hotline, at (800) 424–9346 or at (202) 382–3000. For technical information, contact Mr. John Austin, Listing Section, Office of Solid Waste (OS–333), at (202) 382–4789. For technical information on the CERCLA final rule, contact Ms. Ivette Vega, Response Standards and Criteria Branch, Emergency Response Division (OS–210). Both are available at U.S. Environmental Protection Agency, 401 M St., SW., Washington, DC 20460.

SUPPLEMENTARY INFORMATION:

Outline.

I. Legal Authority

These regulations are being promulgated under the authority of sections 2002(a) and 3001 (b) and (e)(2) of the Solid Waste Disposal Act, as amended, 42 U.S.C. 6912(a) and 6921(b) and (e)(2) (commonly referred to as RCRA), and section 102(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9602(a).

II. Background

Pursuant to section 3001 of subtitle C of the Resource Conservation and Recovery Act (RCRA), this notice finalizes the listing of two generic categories of wastes generated during the manufacture of chlorinated aliphatic hydrocarbons as hazardous wastes. The following discussion provides a brief overview of regulatory actions affecting the wastes being finalized today.

On August 22, 1979 (44 FR 49402), the Agency proposed, among other things, to list as hazardous, by generic description, a number of wastes generated from the production of chlorinated aliphatic hydrocarbons. On May 19, 1980, EPA promulgated an interim final rule which listed as hazardous a number of wastes from the production of specific chemicals within the general class of chlorinated aliphatic hydrocarbons; however, the generic listing was not promulgated at that time (see 45 FR 33084).

Then, on February 10, 1984 (see 49 FR 5308–5315), the Agency, in two separate actions, proposed the listing of one generic category of waste and made an interim final listing of a second generic category of waste generated during the manufacture of chlorinated aliphatic hydrocarbons [1] by free radical catalyzed processes, which have carbon chain lengths ranging from one to and including five ("C1–C5").[2] The category

[1] "Chlorinated aliphatic hydrocarbons" (also known as "chlorinated aliphatics") refers to a class of organic compounds. "Hydrocarbons" are organic compounds (molecules) composed solely of the atoms hydrogen and carbon. "Aliphatic" designates that the chemical bond between cabon atoms is single, double, or triple covalent (not aromatic) bonds. (Cyclic aliphatic hydrocarbons are included in this class.) "Chlorinated" means that some of the hydrogen atoms in the "aliphatic hydrocarbon" have been chemically replaced with chlorine atoms at one or more different positions.

[2] The Agency has limited these listings to C1–C5 chlorinated aliphatic hydrocarbons for two reasons. First, C6–C10 chlorinated aliphatic hydrocarbons are not produced in significant quantity in the U.S. by the generic chemical reaction processes addressed by these listings. Second, and more importantly, the higher molecular weight chlorinated paraffin manufacturing processes typically do not produce significant amounts of organic residuals.

operating procedures are followed. Such small quantities of spent solvents sometimes drain or are washed into wastewater sewer systems; in certain circumstances, it is also reasonable to discharge these small quantities into the nearest sewer connected to the wastewater treatment system. 46 FR at 56584. In contrast, EPA believes that in a well-designed and managed manufacturing plant for chlorinated aliphatic hydrocarbons, it is not unreasonably difficult to prevent small amounts of wastes from leaking or spilling into the wastewater system. Unlike the widespread prevalence of spent solvents throughout the plant, F024 and F025 wastes are principal waste streams and will be removed from discrete process units and confined and managed as hazardous wastes when this rule is finalized. For all these reasons, EPA believes that it would be unwise and unnecessary to create an additional exemption to the mixture rule for mixtures of F024 and F025 wastes and wastewater.

The regulated community may petition for an exclusion of any hazardous waste mixture on a generator- or waste-specific basis (which would require representative data from the industry). At this time, the Agency does not have sufficient information to make such a generic exclusion with the confidence that public health and the environment would still be protected; therefore, we are not modifying the rules. Another approach that the Agency is considering to address this situation is to establish *de minimis* regulatory levels for hazardous constituents in listed hazardous waste, including hazardous waste mixtures and residues.

7 One commenter stated that the Agency had sufficient data to list wastewater and wastewater treatment sludges at the time of the proposed and interim final rules. Such evidence was said to include ten damage cases from wastewater treatment lagoons described in the listing background document.

Although many incidents of contamination of ground water by chlorinated organics have been documented as a result of storing or treating wastewaters in unlined surface impoundments, the Agency has been able to document only two incidents which could be tied definitively to the *manufacture* of C1–C5 chlorinated aliphatic hydrocarbons. The incidents cited by the commenter provide evidence of the migratory potential of the hazardous constituents of concern in aqueous waste. However, the Agency does not have sufficient data at this time to characterize wastewater streams, which may be highly variable in regard to constituent concentrations. If the Agency obtains more data, it will be able to fully evaluate wastewaters and wastewater treatment sludges from these processes to determine if they should be listed. Notwithstanding the possibility of any such future determination, EPA believes that today's action satisfies the requirement in RCRA section 3001(e)(2) to make a determination of whether or not to list chlorinated aliphatics. Any future listings would be pursuant to EPA's general authority to list hazardous wastes under section 3001(b).

8. One commenter believed that the listing of light ends would be redundant, since most of the constituents of these wastes are currently regulated under § 261.33(f).

The commenter is apparently confused. The listing of commercial chemical products under § 261.33(f) does not apply to process waste streams. Rather, these listings cover unused commercial chemical products, which become wastes when disposed or are intended for disposal. Commercial chemical products consist of the pure grade of the chemical, any technical grades of the chemical, and all formulations in which the chemical is the sole active ingredient in a formulated product. Listing under § 261.31 covers wastes that are generated during certain generic production processes, such as the manufacture of chlorinated aliphatic hydrocarbons. Thus, the listing of light ends in waste F025 would not be redundant with already listed wastes.

B. Applicability of Rules to Wastes That are Recycled

Several commenters pointed out that several of the wastes may be sold as raw materials and, therefore, are not wastes. By listing them, they believed that there would be an unwarranted burden imposed on the sale of these residuals, even if necessary permitting and delisting procedures were complied with, thus encouraging customers to buy other feedstocks. Several other commenters requested that the Agency refrain from listing these wastes until it makes final its recycle/reuse rules.

The Agency agrees with the commenters that in many cases light ends from the manufacture of C1–C5 chlorinated aliphatic hydrocarbons are products and are sold as such. However, this is not always the case. If, in fact, light ends are sold as products, then the January 4, 1985 definition of solid waste regulations deal with the question of which materials being recycled (or held for recycling) are solid and hazardous wastes. See 50 FR 614. Among other things, the rule states that materials used or reused as an ingredient in an industrial process to make new products (provided the materials are not being reclaimed), or used or reused as effective substitutes for commercial products (again without being reclaimed), are not solid wastes. (See 40 CFR 261.2(e), 50 FR 664, and also preamble discussion at 50 FR 637.) If these residues (regardless of whether they are listed) are recycled in this manner, they are not considered solid wastes and therefore by definition are not hazardous wastes. See 40 CFR 261.3. However, these materials may still be solid and hazardous wastes if: (1) They are used/reused in a manner constituting disposal or used to produce products that are applied to the land; (2) they are burned for energy recovery or used to produce a fuel; (3) they are reclaimed; or (4) they are accumulated speculatively. See 40 CFR 261.2(e). (Since the recycle/reuse rules have already been promulgated, the second comment is moot.)

C. Proposal to List Condensable Light Ends

Several commenters objected strongly to the Agency's proposal to list light ends which are in the gaseous state but condensable by currently feasible technology to liquids at ambient temperature and pressure. The following arguments were offered.

Several commenters stated that the Agency does not have authority under RCRA to regulate gaseous process emissions, since these are not solid wastes (*i.e.*, they are not "contained gaseous material") as stated in the definition of solid waste. See RCRA section 1004(27). One commenter, however, supported the Agency by saying the proposal to regulate condensable light ends does not reflect in any way upon previous Agency policy applicable to contained gaseous materials, since these condensable light ends are not gaseous materials in the first place. Some commenters expressed the opinion that circumvention of regulation under RCRA by heating wastes to the gaseous state could be prevented by current permitting procedures.

Other commenters claimed that the fact that the Agency had previously listed light ends which were generated in the gaseous state did not empower the Agency to take similar action at a later date. One commenter also stated that the reason the phthalic anhydride listing of wastes K023 and K093 was not

questioned in 1980 was because, at that time, it was assumed that the listing only applied to the light ends in the condensed state. One commenter further argued that the phthalic anhydride light ends listing was not analogous, since the phthalic anhydride light ends contained maleic anhydride and phthalic anhydride, which was emitted from the process as particulates.

In addition, commenters objected to regulation under RCRA of gaseous emissions for other reasons, including that permitting would have a significant economic impact; that there currently are no standards for flares (and subsequently, permitting would be difficult); that regulation of fugitive emissions of gaseous liquids from valves and pipes might follow regulation of gaseous light ends under RCRA; that condensation of light ends to ambient temperature could cause equipment corrosion; and that the Agency had not adequately characterized these gaseous emissions.

In its proposal, the Agency explained that it believed that the exclusion from RCRA of gaseous materials that are not contained applied only to "true gases"—namely, those which are not capable of being condensed and which remain gaseous at standard temperature and pressure. Our concern was that a plant could evade regulation by designing a process to keep the process emissions in a gaseous state. See 49 FR 5314, February 10, 1984. Such a result could create human health and environmental concerns. For example, in the Bhopal incident, a volatile liquid (methyl isocyanate) escaped confinement from a storage tank in a situation analogous to the storage of condensed light ends.

Upon reconsideration of this issue (with the benefit of the comments received on the proposed rulemaking), EPA now believes our authority to identify or list a waste as hazardous under RCRA is limited to containerized or condensed gases (*i.e.*, section 1004(27) of RCRA excludes all other gases from the definition of solid wastes and thus cannot be considered hazardous wastes).[5]

EPA, therefore, has decided not to regulate these uncondensed light ends. In the case of chlorinated aliphatic hydrocarbon manufacture, the Agency knows that manufacturers typically employ condensation devices in conjunction with distillation equipment, since the condensable fraction of these emissions is either a valuable product or recyclable feedstock material. If the light ends are condensed and reused to make new products or effective substitutes for commercial products, they will not be considered solid or hazardous wastes, as long as they have not been reclaimed and they do not meet the criteria specified in § 261.2(e). See 50 FR 637 If every disposed (prior to any such reuse), however, these condensed light ends would be considered a solid waste and subject to today's listing. Consequently, our decision should not present an environmental concern.

Although we agree with the commenter that heating wastes to the gaseous state is subject to regulation under RCRA as treatment of hazardous waste, the Agency believes that it cannot use its current permitting procedures to mandate the production process design of a manufacturing facility so that it generates a waste as a liquid instead of (for example) installing some internal heating mechanism that generates the same liquid waste in the gaseous state. RCRA jurisdiction does not provide this kind of control over manufacturing processes. Of course, thermal threatment *after* a material becomes a hazardous waste is fully regulated under RCRA.

The Agency also agrees with the commenters that citing the phthalic anhydride light ends listing raises substantial questions with respect to establishing precedents. We have, accordingly, deleted references to it in the listing description and preamble.

D. Evaluation of the Hazardous Properties of the Wastes

Other comments expressed specific concerns with the Agency's evaluation of the hazardous properties of the wastes, either through its toxicological evaluations of individual hazardous constituents, its projection of concentration levels of constituents in the wastes, or its analysis of the ability of the constituents to migrate from the wastes.

1. Two commenters stated that some of the conclusions reached by the Agency do not accurately reflect the present state of knowledge of the oncogenic properties of the constituents in these wastes. They commented that the Agency did not attempt to clarify the level of risk (of carcinogens) or to provide substantiation of its conclusions that the Carcinogen Assessment Group (CAG) assessment documents on which the Agency relied are consistent with "current levels of knowledge and existing data they also stated that the Agency should have used weight of evidence characterizations in its assessment of the potential hazards of these compounds. In particular, the commenters asserted that the Agency should not have judged constituents to be "potential human carcinogens" when the evidence for carcinogenicity for several of these chemicals would fall into "Group 3: chemicals which cannot be classified as to their carcinogenicity to humans."

The agency's judgment on the potential carcinogenic and toxic effects resulting from continued low-level exposure to the constituents of concern are outlined in the Health and Environmental Effects Profiles for each constituent of concern. The major health concerns are summarized in the listing background document. The commenter gave no specific criticism that EPA's facts do not "reflect the present state of knowledge," (other than that noted above) and did not provide any additional data or other information to challenge the basis for EPA's decision to list. We are, therefore, unable to respond to this criticism. (It should be noted that the Agency has reviewed more recent studies addressing these constituents, and finds that this information corroborates the Agency's original decision to list. This information has been summarized and placed in the docket.)

With respect to the "weight-of-evidence" argument, the Agency promulgated guidelines for carcinogenic risk (see 51 FR 32656, September 24, 1986) which incorporates an assessment of the quality of experimental data for the overall hazard assessment for carcinogens. These guidelines specify the following five classifications:

Group A—Human carcinogen (sufficient evidence from epidemiologic studies)
Group B—Probable human carcinogen
Group B_1—Limited evidence of carcinogenicity in humans
Group B_2—A combination of sufficient evidence in animals and inadequate or no evidence in humans
Group C—Possible human carcinogen (limited evidence of carcinogenicity in the absence of human data)
Group D—Not classifiable as to human carcinogenicity (inadequate human and animal evidence of carcinogenicity or no data available)

[5] EPA's previously issued guidance concerning fume incinerators (contained in the preamble to the incineration regulations) remains in effect. See 47 FR 27530, June 24, 1982. Fume incinerators are installed as air pollution control devices pursuant to regulations under the Clean Air Act; they are used to destroy gaseous emissions from various industrial processes. EPA concluded that, in general, RCRA standards do not apply to fume incinerators because the input (an uncontainerized gas) is not a solid waste according to the definition set forth in § 261.2.

Attachment G

Technical Guidance Document for RCRA Air Emission Standards for Process Vents and Equipment Leaks

EPA 450/3-89-021

July 1990

United States
Environmental Protection
Agency

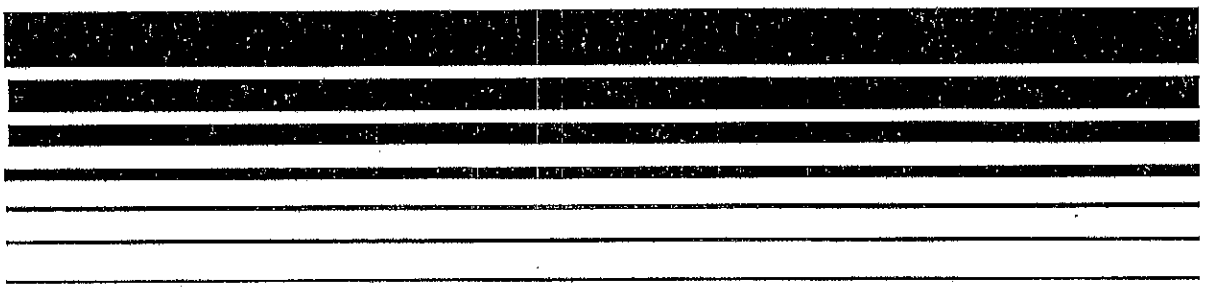
Office of Air Quality
Planning and Standards
Research Triangle Park NC 27711

EPA-450/3-89-021
July 1990

Air

EPA

Hazardous Waste TSDF - Technical Guidance Document for RCRA Air Emission Standards for Process Vents and Equipment Leaks



RCRA

The standards for process vents contain requirements that specific control device operating parameters be monitored continuously (Sections 264.1034 and 265.1034) and the monitoring information be recorded in the facility operating record to ensure that the devices perform according to their design and are properly operated and maintained. Operating parameters are specified for condensers, carbon adsorbers, flares, incinerators, and other enclosed combustion devices. While minimum operating conditions are identified for organic vapor destruction devices (e.g., incinerators and flares) to ensure 95 percent destruction, values or ranges of values for recovery device (i.e., condensers and carbon adsorbers) operating parameters cannot be specified on an industry-wide basis. A recovery device must be designed for a particular application and monitored to ensure that it is being operated within design specifications. (Note: This is an important point for permit writers/reviewers to keep in mind when evaluating control device efficiencies.) Proper design shall be determined through and documented by engineering calculations, vendor certification, and/or emission testing, although the use of emission testing to determine compliance with efficiency requirements is expected to occur only rarely. For facilities with final RCRA permits, periods when monitoring data indicate that control device operating parameters exceed established tolerances for design specifications for more than 24 hours must be reported on a semiannual basis. The records and reports must include dates, duration, cause, and corrective measures taken. (Note: Air standards also have been promulgated for the control of air emissions from permitted hazardous waste incinerators (40 CFR 264, Subpart O). These standards require that incinerators burning hazardous waste be operated to achieve a destruction and removal efficiency (DRE) of at least 99.99 percent for those primary organic hazardous constituents listed in the facility permit. However, the process vent stream (i.e., gases and vapors) from a hazardous waste management unit would not be classified as a hazardous waste. Noncontainerized gases emitted from hazardous wastes are not themselves hazardous wastes because the RCRA statute implicitly excludes them. Therefore, combustion of process vent streams in an incinerator is not subject to the 99.99 DRE requirement.)

Attachment H

In the Matter of: BP Chemicals America Inc., RCRA Appeal No. 89-4, August, 1991.

3 E.A.D. 667 (E.P.A.), 1991 WL 208971 (E.P.A.)

United States Environmental Protection Agency (E.P.A.)

Environmental Appeals Board

IN THE MATTER OF: BP CHEMICALS AMERICA INC., LIMA, OHIO

Resource Conservation and Recovery Act

RCRA Permit No. OHD 042 157 644
RCRA Appeal No. 89-4
August 20, 1991
REMAND ORDER

***1** Pursuant to Section 124.19 of the Agency's rules, BP Chemicals America Inc. filed a petition for review of a RCRA permit issued by Region V that authorizes hazardous waste management at BP's acrylonitrile manufacturing plant in Lima, Ohio. By order dated August 6, 1990, I granted the petition for review with respect to certain permit conditions that regulate hydrogen cyanide (HCN) vapors at the facility. The parties have briefed the issues upon which review was granted, and the case is now ready for disposition.[1]

I. Background

BP's HCN vapor is a gaseous emission produced during BP's manufacturing process. Raw material is passed through a reactor unit, a quench unit, an absorber unit, a recovery column, a fractionator column, and a product column, the last of which yields the product acrylonitrile. HCN vapor is produced from the fractionator column and is condensed to the extent technologically feasible. Condensed HCN is routed to an HCN column for final purification. See BP Brief at 2-3.

Any uncondensable HCN vapor is routed from the fractionator column to thermal oxidizers. Uncondensable HCN at the HCN column is also sent to the thermal oxidizers. If the HCN column is shut down, HCN vapor is sent directly to the thermal oxidizers from the fractionator. All HCN vapor influent to the thermal oxidizers is regulated under Ohio air pollution control laws pursuant to State air permits. BP represents that its thermal oxidizers destroy 99.997% or more of the HCN vapor influent. The oxidizers are also used to burn other waste, including hazardous waste, generated at the facility. See BP Brief at 2-3; BP RCRA permit, Part VI.

The RCRA permit issued by Region V authorizes continued hazardous waste management at the facility, including the incineration of hazardous waste in the thermal oxidizers. At issue in this case are permit conditions that regulate BP's handling of the HCN vapors. For example, permit Conditions VI.D.8.g and VI.D.9a require BP to monitor HCN delivery pressure to the oxidizers and to cut off all waste feed automatically if the HCN vapor supply pressure exceeds a specified threshold. permit Condition VI.E requires BP to prepare and submit a written contingency plan to contain and treat the HCN vapors when operating conditions are such that the permit prohibits the vapors from being incinerated in the oxidizers. The contingency plan must describe a method for monitoring the HCN vapors in the vicinity of the oxidizers. Although the permit is not entirely clear in this regard, it could arguably be read to prohibit HCN levels near the oxidizers from exceeding a specified level.[2]

The August 6, 1990 order granting review directed the parties to brief three issues:

1. Whether BP's HCN vapors are "solid waste" as defined in RCRA § 1004(27);

***2** 2. If not, whether the RCRA omnibus provision (§ 3005(c)(3)) may be used to justify RCRA permit conditions that regulate material that is not solid waste; and

3. Whether the permit's regulation of BP's HCN vapors conflicts with the Agency's obligation under RCRA § 1006(b)(1) to avoid RCRA regulation that duplicates regulation under the Clean Air Act.

For the reasons set forth below, the Region has failed to articulate an adequate justification for subjecting BP's HCN vapors

to the permit terms at issue. The proceeding will be remanded to the Region for further consideration.

II. Analysis

The Agency's jurisdiction under Subtitle C of RCRA is defined in part by the statutory definition of "solid waste." RCRA § 1004(27) defines "solid waste" to include "contained gaseous material" from industrial operations.[3] The Agency has interpreted this explicit inclusion of contained gaseous materials as constituting an implicit exclusion of uncontainerized gas. Evidence of this position is reflected in several sources. In the preamble to the 1982 RCRA regulations for hazardous waste incinerators, the Agency noted:

> Fume incinerators which are used to destroy gaseous emissions from various industrial processes, for example, are not subject to regulation under RCRA. In general, the RCRA standards do not apply to fume incinerators since the input is not identifiable as a solid waste, according to the definition set forth in [40 CFR] § 261.2.

47 Fed.Reg. 27520, 27530 (June 24, 1982). More recently, the Agency decided against listing certain light ends as hazardous waste despite concerns that appropriate regulation could be evaded by keeping the vapors in a gaseous form, stating:

> [O]ur authority to identify or list a waste as hazardous under RCRA is limited to containerized or condensed gases [i.e., section 1004(27) of RCRA excludes all other gases from the definition of solid wastes and thus cannot be considered hazardous wastes].

54 Fed.Reg. 50968, 50973 (December 11, 1989) (bracketed material in the original; footnote omitted). The RCRA rules provide that a container that has held hazardous waste as a compressed gas is "empty," and any hazardous waste therein is not subject to specified RCRA regulations, when the pressure in the container approaches atmospheric. See 40 CFR § 261.7(a)(1) & (b)(2).

These authorities show that the Agency views gaseous material to be "solid waste" only when it is containerized. Region V argues that BP's HCN vapor is "contained" by the various process units through which it passes, by associated piping, and by the plant as a whole. The Region's reading of the term "contained," however, cannot be reconciled with the Agency's treatment of fume incinerators. Such incinerators are used to treat vapors that are "contained" in the broad sense of being bound or controlled and not being emitted to the atmosphere, but the Agency considers such vapors to be outside the scope of the "solid waste" definition because they are not containerized in the narrower sense of being in an individual container such that the gas is amenable to shipment.

***3** Region V virtually concedes the difficulty in classifying BP's HCN vapors as solid waste, acknowledging that if BP burned only HCN vapors in its thermal oxidizers, they "might well" be beyond the reach of RCRA regulation. See Region Reply Brief at 3. The Region nevertheless seeks to justify its regulation of the HCN vapors by noting that the thermal oxidizers burn hazardous waste (in addition to the HCN vapors) and are thus regulated units. Although the oxidizers are indisputably regulated units, at least some of the contested permit terms do not address the thermal oxidizers directly, but instead relate to BP's handling of the HCN vapors apart from their incineration. For example, the requirement that BP prepare a contingency plan for handling the HCN vapors when they cannot be incinerated is regulation of the HCN vapors qua HCN vapors, not as material being treated in a regulated unit.

Region V contends that even if the HCN vapors are not solid (and thus not hazardous) waste, RCRA § 3005(c)(3) provides legal authority for the regulation of these vapors. This "omnibus provision" requires the Agency to include permit terms that the Administrator "determines necessary to protect human health and the environment." 42 U.S.C.A. § 6925(c)(3). Although the omnibus provision employs rather sweeping language, it does not expand RCRA jurisdiction indefinitely. The statutory context provides guidance on the proper interpretation of its breadth. For example, RCRA § 3005(a) requires the Agency to issue rules requiring a RCRA permit for persons owning or operating facilities "for the treatment, storage, or disposal of hazardous waste." RCRA § 3005(c)(1) requires permit applicants to demonstrate compliance with the requirements of RCRA § 3004(a), which in turn requires the issuance of performance standards "for the treatment, storage, or disposal of hazardous waste." Indeed, Subtitle C as a whole is entitled "Hazardous Waste Management." Where Subtitle C goes beyond the regulation of hazardous waste management, it does so expressly and in well defined contexts, such as the requirement in RCRA § 3004(u) that RCRA-permitted facilities address releases of hazardous constituents (not just hazardous waste) from solid waste management units (not just hazardous waste management units). This statutory context, with its repeated references to solid or hazardous waste management, makes clear that the omnibus provision should not be used as a blank check for unbridled regulation without an adequate nexus to solid or hazardous waste. Of particular importance to the case at

hand, the omnibus authority may not be used to override the exclusions (express or implied) from RCRA jurisdiction found in the definition of "solid waste." Otherwise, the exclusions would be rendered virtually meaningless, a result that would not produce a coherent and reasonable reading of the statute.

There are, of course, situations where the proper regulation of hazardous waste management requires permit terms that address materials that are not hazardous waste. For example, a RCRA permit may properly regulate cigarette smoking at a hazardous waste management facility where smoking poses a threat to flammable hazardous waste. On the other hand, the permit could not include restrictions on smoking based exclusively on health risks to the smoker posed by smoking itself because such risks do not have an adequate nexus to hazardous waste management. To take a more pertinent example, the Agency may regulate air emissions associated with hazardous waste management, as well as emissions from equipment that contains or contacts hazardous waste derivatives, even though such emissions might not be solid waste. These emissions are subject to RCRA regulation because they pose risks that are ultimately tied to hazardous waste management.[4] Where similar emissions result from product tanks, however, they may not be regulated under RCRA because there is no adequate nexus to hazardous waste.[5]

***4** In the case at hand, the Region has failed to show that each of the contested permit terms has an adequate nexus to solid or hazardous waste management. The mere fact that the thermal oxidizers used to incinerate the HCN vapors are also used to burn hazardous waste does not, by itself, justify all conceivable regulation of the HCN vapors, particularly in contexts unrelated to incineration (e.g., a requirement to prepare a contingency plan for handling HCN vapors when they are not burned).

Nevertheless, there might be legitimate justifications for some or all of the contested permit terms that have not yet been articulated by the Region or documented in the record. For instance, regulation of HCN vapor incineration might well be justified if the vapors would have an adverse synergistic effect upon hazardous waste treated in the oxidizers. Rather than attempting to define in today's order all situations where an adequate nexus to hazardous waste management exists, the better course is to address such determinations on a case-by-case basis. The case is therefore remanded to the Region for further proceedings consistent with this order. On remand, the Region should determine, in consultation with the Agency's Office of General Counsel and Office of Solid Waste, whether regulation of BP's HCN vapors is necessary to protect human health and the environment from threats with an adequate nexus to hazardous waste management. Any permit conditions regarding the HCN vapors included in the permit on remand should be supported by an explanation of why the condition is necessary to address such a threat. The contested permit conditions regarding the HCN vapors and any non-severable conditions (to be determined by the Regional Administrator) shall remain stayed during the remand. No administrative Appeal of the remand decision will be required to exhaust administrative remedies under 40 CFR § 124.19(f)(1)(iii).[6]

So ordered.

William K. Reilly
Administrator

Footnotes

1 August 6, 1990 order denied review on all other issues raised by BP's petition. BP's October 24, 1990 request for oral argument on the HCN issues is denied.

2 the permit Condition VI.E ("The procedure must contain details of monitoring method [sic] to be used to ascertain that the concentration of cyanide gas in the atmosphere in the vicinity of the oxidizer shall not exceed 1 ppmv.").

3 see 42 U.S.C.A. § 6903(27) ("The term 'solid waste' means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 1324 of [the federal Clean Water Act], or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).").

4 see 40 CFR §§ 264.1030-264.1065, §§ 265.1030-265.1064; 55 Fed.Reg. 25454 (June 21, 1990); 52 Fed.Reg. 3748 (February 5, 1987).

5 see 52 Fed.Reg. at 3754 (a facility that operates a distillation column for feedstocks is not covered by the RCRA air emission standards because it processes raw material, not hazardous waste); id. at 3761 (issuance of the RCRA air emission standards does

not affect the limited exemption in § 261.4(c) for hazardous waste generated in process-related equipment, such as product or raw material storage tanks or pipelines, because the risk posed by these units is incidental to the risk posed by the product or raw material); 55 Fed.Reg. at 25467 (same).

6 if regulation of BP's HCN vapors is necessary to address a risk with an adequate nexus to BP's hazardous waste management, such regulation would not be duplicative of regulation under BP's state air permits or contravene the Agency's obligation under **RCRA** § 1006(b)(1). Cf. 55 Fed.Reg. at 25468 (**RCRA** air emission rules are appropriate despite EPA's dual authority to regulate air pollutants under the CAA); 52 Fed.Reg. at 3761 (same).

End of Document

Attachment I

Boiler and Industrial Furnace Rule

56 Fed. Reg. 7134, 7200 (February 21, 1991)

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 260, 261, 264, 265, 266, 270, and 271

[EPA/OSW-FR-91-012; SWH-FRL-3865-6]

RIN 2050-AA72

Burning of Hazardous Waste in Boilers and Industrial Furnaces

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Under this final rule, the Environmental Protection Agency (EPA) is expanding controls on hazardous waste combustion to regulate air emissions from the burning of hazardous waste in boilers and industrial furnaces. Currently, such burning is exempt from regulation. EPA is promulgating this final rule after considering public comment on rules proposed on May 6, 1987, plus the comments on EPA's supplemental notices of October 26, 1989 and April 27, 1990.

These rules control emissions of toxic organic compounds, toxic metals, hydrogen chloride, chlorine gas, and particulate matter from boilers and industrial furnaces burning hazardous waste. In addition the rules subject owners and operators of these devices to the general facility standards applicable to hazardous waste treatment, storage, and disposal facilities. Further, today's final rule subjects hazardous waste storage units at regulated burner facilities to part 264 permit standards. Burner storage operations at existing facilities are generally now subject only to interim status standards under part 265.

Finally, today's rule takes final action on two pending petitions for rulemaking: (1) based on a petition by Dow Chemical Company, EPA is designating halogen acid furnaces as industrial furnaces under § 260.10; and (2) based on a petition by the American Iron and Steel Institute, EPA is classifying coke and coal tar fuels produced by recycling coal tar decanter sludge, EPA Hazardous Waste No. KO87, as products rather than solid waste. The rule also makes several technical corrections to regulations dealing with loss of interim status for facilities that achieved interim status as of November 7, 1984.

EFFECTIVE DATE: This final rule is effective on August 21, 1991. Technical corrections to § 270.73 are effective on publication.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of August 21, 1991.

ADDRESSES: The official record for this rulemaking is identified as Docket Numbers F-87-BBFP-FFFFF and F-89-BBSP-FFFFF, and is located in the EPA RCRA Docket, room 2427, 401 M Street SW., Washington, DC 20460. The docket is available for inspection from 9 a.m. to 4 p.m., Monday through Friday, except on Federal holidays. The public must make an appointment to review docket materials by calling (202) 475-9327. The public may copy up to 100 pages from the docket at no charge. Additional copies cost $.15 per page.

FOR FURTHER INFORMATION CONTACT: For general information contact the RCRA Hotline at: (800) 424-9346 (toll-free) or (703) 920-9810 locally. For information on specific aspects of this final rule, contact Shiva Garg, Office of Solid Waste (OS-322W), U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, (703) 308-8460.

EPA is planning to conduct six two-day implementation workshops beginning in mid February in the following cities: San Francisco, CA; Dallas, TX; Kansas City, KS; Atlanta, GA; Chicago, IL; and Philadelphia, PA. The purpose of the sessions is to explain responsibilities of owner/operators burning hazardous waste under this rule. The first day will be open only to government representatives involved in implementation, compliance, and enforcement of these regulations. The second day is open to the public. Preregistration is required to assure a reservation. Same day registration will be allowed as space is available. Interested parties should call 919-549-0722 to obtain further information and get on the mailing list for notices.

SUPPLEMENTARY INFORMATION:

Preamble Outline

Bevill exclusion. The Agency's historic approach to the issue of cogenerated residues has been to focus on the character of the residues to ascertain what determines their character—the Bevill material or the hazardous waste being burned/processed (see 50 FR 49190 (November 29, 1987)). The statute itself does not directly specify that the purpose of the burning is a relevant criterion, but instead states that certain types of waste are excluded from subtitle C regulation pending completion of required special studies. Since the Bevill devices would still be engaged in the Bevill activity, and composition of the residues would potentially be unaffected, the Agency sees no absolute bar to allowing Bevill status for such residues.

Part Four: Miscellaneous Provisions

I. Regulation of Carbon Regeneration Units

A. Basis for Regulating Carbon Regenerating Units as Thermal Treatment Units

In today's rule, EPA is clarifying the regulatory status of carbon regeneration [91] units. Since 1980, controlled flame (direct flame) carbon regeneration units which destroy organic contaminants adsorbed onto activated carbon have met the definition of incinerator and were subject to regulation as such, while carbon regeneration nonflame thermal units were treated as exempt reclamation units. Today's rule defines carbon regeneration unit and incinerator (see § 260.10) to ensure that both direct flame and nonflame thermal carbon regeneration units are regulated as thermal treatment units under the interim status standards of part 265, subpart P, and the permit standards of part 264, subpart X.

One commenter expressed concern that the thermal treatment standards of subpart X were vague. EPA disagrees and points out that subpart X, part 264 covers miscellaneous hazardous waste management units that do not or may not fit the description of any of the units covered by other part 264 regulations. Without subpart X, these unregulated units could only operate as interim status facilities and could not be fully permitted, thereby preventing the construction of new units or some expansions of existing units. EPA recognized that some types of new units that were not previously allowed to be constructed could reduce risks to human health and the environment from the management of hazardous waste. Promulgation of subpart X generic permitting standards was intended to allow such construction and flexibility for technical development and innovation and to cover diverse technologies and units. The subpart X standards specify that health and environmental safety must be a primary concern during the management of hazardous wastes in miscellaneous units. If the need arises, the Agency may develop specific technology standards in the future (see 52 FR 46964, December 10, 1987). Although several commenters supported the application of part 264, subpart O incinerator standards to direct flame and nonflame devices, EPA has decided against this since demonstration of conformance with the DRE standards (and the proposed CO/THC standards) may not be achievable or warranted for carbon regeneration units considering the relatively low levels of toxic organic compounds adsorbed onto the activated carbon.

B. Definition of Carbon Regeneration Unit and Revised Definition of Incinerator

Several commenters requested that EPA consider revising the definition of a carbon regeneration unit so that certain units used for air emissions control, wet oxidation, and general recycling, would not be regulated. Activated carbon units used as air emission control devices of gaseous industrial process emissions will not necessarily be regulated because trapped organics in such columns are not hazardous wastes because the gas originally being treated is not a solid waste (it is an uncontained gas [92]), and therefore any condensed organics do not derive from treatment of a hazardous waste. (The nongas residues from these devices could be hazardous wastes if they are listed or if they exhibit a characteristic, however.) However, regeneration or reactivation of carbon used to control air emissions from hazardous waste treatment, storage, or disposal facilities (e.g., under 40 CFR parts 264 and 265, subpart AA, June 21, 1990, 55 FR 25454) is subject to regulations as a RCRA thermal treatment unit.

We considered whether other units truly are engaged in reclamation, or whether the regeneration of the carbon is just the concluding aspect of the waste treatment process that commenced with the use of activated carbon to adsorb waste contaminants, which are now destroyed in the "regeneration" process (just as rinsing out a container of hazardous waste is a stage in the storage process and does not constitute recycling of the container). Irrespective of whether these units are better classified as waste treatment or recycling units (or whether the units are flame or nonflame devices), we are concerned, as indicated above, that emissions from the regeneration process can pose a serious hazard to public health if not properly controlled, and therefore are clarifying today that they are regulated as thermal treatment units.

We note that this revision also applies to those carbon regeneration units that, while in active service treating wastewater, meet the definition of wastewater treatment units in § 260.10. Such units are exempt from RCRA permitting standards while treating wastewater. However, these units are not exempt from RCRA regulation when they are being regenerated because they are not treating wastewater during the regeneration process. Rather, the activated carbon columns themselves are being treated thermally. The thermal regeneration unit is subject to part 265, subpart P (existing units) or part 264, subpart X (new units).

C. Units in Existence on the Effective Date of the Rule are Eligible for Interim Status

Although certain carbon regeneration units may technically have met either the 1980 or 1985 definitions of incinerator, the Agency believes that there has been legitimate doubt as to these units' regulatory status (which is why the Agency undertook this rulemaking to clarify the status). The units might potentially have been classified as incinerators, thermal treatment units, or perhaps exempt recycling units. It would also have been confusing to interpret the rules in a manner that carbon regeneration units were not all regulated in the same way, given that their functions and activities are roughly identical whether or not the units are direct-fired. In fact, the most natural classification of these units, and the one the Agency intended, is as thermal treatment units. (EPA does not believe that these are recycling units, but rather that regeneration is a continuation of the waste treatment process, that process consisting of removal of pollutants by adsorption followed by their destruction. Nor does the Agency believe that incinerator standards make technical sense for these devices, as noted above). In addition, few if any of these units have actually been regulated as incinerators in practice.

[91] The term "regeneration" includes reactivation of used carbon for reuse.

[92] See 47 FR at 27530 (June 30, 1982) and 54 FR at 50973 (Dec. 11, 1989).