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

meeting the requirements of RCRA. Appendix VIII of those regulations specified certain chemical substances which, when present in a waste, could serve as a basis for designating the waste as hazardous for purposes of regulation under RCRA. The regulations then explicitly listed a large number of hazardous wastes (see 40 CFR Part 261). In addition, these regulations list four "characteristics" by which additional wastes may be classified as hazardous. These are ignitability, corrosivity, reactivity and Extraction Procedure (EP) toxicity (which generally measures a tendency to release specific hazardous chemicals through leaching). The May 19, 1980 promulgation also included some general requirements for the operation of existing facilities during interim status, including limited interim status standards for hazardous waste incinerators.

On January 23, 1981, EPA promulgated regulations which established the statutorily required standards for issuing operating permits to one class of hazardous waste treatment facilities: incinerators (46 FR 7666). These standards set forth the requirements incinerators must meet to qualify for the operating permit which the statute contemplates every RCRA facility will eventually receive.

Because of the large number of RCRA permits that must be issued, the permit application needed to qualify for interim status may be due years before the facility's individual permit will be considered. Requiring all of the information needed for a decision concerning the facility permit at the time of qualification for interim status would result in a requirement that owners and operators provide a great deal of information to the Agency long before it is needed for regulatory purposes. Furthermore, because of the lengthy period which ensues following qualification for interim status, information provided so far in advance might well be outdated by the time EPA begins to evaluate the permit application.

To avoid this result, EPA has divided the permit application into two parts. Part A, which is relatively brief, is filed by owners and operators of existing facilities in order to qualify for interim status. Part B of the permit application contains the balance of the information necessary to fully evaluate the facility's performance and reach a decision concerning issuance of a permit. A facility may file a Part B application voluntarily at any time. Alternatively, the Agency may require its submission.

EPA's January 23, 1981 regulations specifically identified the information necessary to complete a Part B application for an incinerator. In many cases, the required information can only be collected by conducting a test burn using the hazardous waste which the facility will eventually be permitted to treat. The regulations therefore specified the information to be collected during such a test burn.

The regulations also specified three broad substantive requirements regarding incinerator performance. They are that the principal organic hazardous constituents (POHCs) designated in each waste must be destroyed and/or removed to an efficiency of 99.99%, that particulate emissions must not exceed 180 milligrams per dry standard cubic meter corrected to 12% carbon dioxide in the stack gas, and that, in most cases, the gaseous hydrogen chloride (HCl) resulting from combustion must be reduced by 99% prior to release to the atmosphere. The regulations also specified a number of requirements for incinerator operation, performance monitoring and inspections. Finally, they established the procedures by which permits to hazardous waste incinerators would be granted.

During the comment period which followed publication of the incinerator regulations, the Agency received numerous comments which suggested that changes or clarifications were needed. In addition, the Agency held a public hearing and technical assistance conference in Cincinnati, Ohio on April 21 and 22, 1981, at which additional comments were received. After careful evaluation of these comments, EPA has determined that modification of certain Subpart O regulations would enhance their technical feasibility and reduce the cost of compliance, while maintaining adequate protection of human health and the environment.

Portions of today's preamble and amendments address issues that were also raised by the litigants in *AMSA v. EPA, Nos. 81-1440 et al. (D.C. Cir. 1981)*, a lawsuit seeking review of the January 23, 1981 incinerator regulations. Those litigants include an environmental advocacy group (the Environmental Defense Fund), hazardous waste generators (the Chemical Manufacturers' Association and the Association of Metropolitan Sewerage Agencies) and waste incinerator specialists (the National Solid Wastes Management Association and SCA Services, Inc.). They have, in the context of settlement negotiations, seen an earlier draft of today's amendments. Their written comments are included in the record of this rule-making. The Background Document for today's amendments cites those comments whenever the Agency has relied on information included in them.

B. Introduction to Today's Preamble

Today, EPA is amending the incinerator regulations in a number of respects, none of which changes them fundamentally. Each of these changes is discussed, in detail, below. The changes fall into five major areas: (1) Changes to the procedures for issuing incinerator permits, (2) changes to the scope of applicability of the incinerator regulations, (3) modifications to the performance standards, (4) changes in the requirements for incinerator operation, performance monitoring and inspection, and (5) minor alterations in the trial burn data collection requirements.

The amendments published today include changes to all of the Part 264, Subpart O sections, except § 264.342 (Principal Organic Hazardous Constituents). Certain changes are being made simply to clarify the intent of the regulations or to correct for procedural difficulties. For example, § 264.341 (Waste analysis) is being revised to acknowledge problems encountered by applicants seeking permits for new incinerators prior to construction. This change simply formalizes the Agency's intent to require waste analysis information to the extent that it is available to owners and operators of new facilities. Other changes alter the regulatory requirements. For example, § 264.340 (Applicability) is being revised to expand the number of wastes which may be exempted from the performance standards of Subpart O.

As a result of the changes to Part 264, minor conforming changes are necessary in the permit application requirements of §§ 122.25 and 122.27. Other, more significant, changes to § 122.27 follow from recognition of the need to operate new facilities for periods before and after the trial burn. Today's amendments also include changes to the data reporting requirements of §§ 122.25 and 122.27. The Agency is removing the requirements for identification of hazardous combustion by-products from these sections since the amendment pertaining to those substances (proposed January 23, 1981, 46 FR 7684) is still under consideration. The provisions regarding waste analysis in § 122.27(b) have been rewritten in order to more clearly describe the three-step process by which wastes should be screened for hazardous constituents. Additionally, EPA has modified the requirement in § 122.27 for computation of a total mass balance of the trial

POHCs following completion of the trial burn.

Today's amendments include two changes to the interim status standards for incinerators (Part 265, Subpart O). Section 265.340 (Applicability) is being revised to reflect the amendment to § 264.340 concerning wastes which may be exempted from the Part 264, Subpart O performance standards. Secondly, the provision for hourly visual inspection of the stack gas plume (§ 265.347) is being deleted in order to compensate for various practical problems inherent in the original regulation. EPA believes that these and all of today's amendments will reduce the regulatory burden imposed on hazardous waste incinerators without compromising the integrity of its mandate under RCRA to protect human health and the environment.

The following table summarizes the significant changes made by today's amendments. It is presented here as an aid to the reader in recognizing the changes made in the regulatory requirements and is not intended to be used as a surrogate for the regulatory text. The statements appearing in the table are intended as brief summaries and do not include all aspects of the existing and amended regulations. The reader is referred to the regulatory paragraphs cited in the table for information concerning specific requirements.

Public comments received in response to the January 23, 1981 regulations raised several issues which related to interpretation of the regulations and the basis and purpose of specific requirements. Today's preamble also discusses these issues and provides a statement regarding the Agency's position on each.

The basis and purpose of today's amendments is presented, in greater detail, in the Background Document which is a companion to this notice. The document also provides the Agency's response to public comments which relate specifically to the amendments. Comments not germane to today's amendments continue to be under consideration by the Agency and will be addressed in the future.

SUMMARY OF SIGNIFICANT AMENDMENTS TO THE REGULATIONS FOR HAZARDOUS WASTE INCINERATORS

Section	Jan. 23, 1981 regulation	Amended regulation
264.340 [1]	Exempted wastes: (1) Listed ignitables and (2) those failing the test for ignitability, when shown to contain no Appendix VIII substances.	Exempted wastes: (1) Listed ignitables, corrosives and/or selected reactives and (2) those failing the tests for ignitability, corrosivity and/or selected reactivity characteristics, when shown to contain no or insignificant levels of Appendix VIII substances.
264.343(b)	Performance Standard for HCl Emissions: If: Waste input exceeds 0.5% chloride, Then: Remove 99% of stack gas HCl.	Performance Standard for HCl Emissions: If: Stack emissions exceed 1.8 kg HCl/hr, Then: Control emissions so that they do not exceed the larger of the following: (1) 1.8 kg HCl/hr, or (2) 1% of the HCl in the stack gas.
264.343(c)	Performance Standard for Particulate Emissions: Emissions may not exceed 180 mg/DSCM when corrected to 12% carbon dioxide.	Performance Standard for Particulate Emissions: Emissions may not exceed 180 mg/DSCM when corrected to 50% excess air or as otherwise specified in the permit.
264.344	No provisions for permits to new incinerators	Allows for four-phase permit for new incinerators: Phase 1: "Shake-down" phase. Phase 2: Trial burn. Phase 3: "Follow-up" phase. Phase 4: Permanent operation phase.
264.345	Air Feed Rate to be designated as an operating requirement.	Indicator of Combustion Gas Velocity to be designated as an operating requirement.
122.27	1. New facilities must have final RCRA permit prior to construction..	1. New facilities submit Part B of the permit application and required information for trial burn plan simultaneously. Permit is issued, after opportunity for public hearing.
	2. Requirement to monitor Hazardous Combustion By-Products during trial burn.	2. Deleted.
	3. Waste Analysis requirements for trial burn plan.....	3. Language Clarification.

[1] Equivalent changes have been made in the corresponding section of Part 265 (Interim Status Standards).

III. Amendments

A. Incinerator Permit Procedures

The January 23, 1981 regulations established application requirements and permitting procedures for granting RCRA permits to new and existing incinerators (46 FR 7681). Section 122.25(b)(5) established three methods by which applicants could satisfy the Part B permit application requirements. Briefly, owners and operators seeking to burn only wastes which might be eligible for exemption from the performance standards for incineration were required to provide a substantially abbreviated version of the permit application. Facilities that will burn other wastes were either required to conduct a trial burn or seek a waiver of the trial burn requirement by submitting sufficient alternative information.

1. *RCRA permits for new incinerators.* Prior to the issuance of the January 23, 1981 incinerator standards, EPA published the Consolidated Permit Regulations (45 FR 33290). Section 122.22(b)(1) of those regulations provided that new hazardous waste management facilities, i.e., those facilities not "in existence" on November 19, 1980, could not begin physical construction after November 19, 1980, until a final RCRA permit had been issued for the facility. This "construction ban" created a problem for new incineration facilities. Under the May 19, 1980 regulations, new incinerators could not begin construction until they had received a RCRA permit, and facilities choosing to use the trial burn method to apply could not receive a RCRA permit until they performed a trial burn and submitted the results. These new facilities were clearly placed in an untenable position, as they could not perform the trial burn until after construction, but could not construct until they had received a final RCRA permit, often requiring performance of a trial burn.

Today's amendments revise and simplify the January 23, 1981 permitting procedures for new facilities. For those facilities applying under the trial burn method, submission of a trial burn plan with the Part B application is required under revised § 122.27(b). The permitting authority (the "Director") will then process the permit completely through the Part 124 procedures, including preparation of a draft permit, and an opportunity for public comment and hearing. After completion of this process, the Director will issue a permit which establishes all of the conditions needed to comply with the standards of Part 264, Subparts B through H and Subpart O.

This permit will be the "finally effective RCRA permit" required, by § 122.22, for commencement of physical construction. It will be issued prior to the trial burn and will therefore allow advanced approval of new facilities applying by the trial burn method, an action which the previous regulation did not allow. This meets the concern expressed by commenters that they may be required to invest large amounts of capital before the Director has completed review of the facility design and operation, and approved a trial burn.

The permit will be structured to provide for four phases of operation. The initial phase begins immediately following completion of construction. During this phase, the facility may be operated for "shake-down" purposes, in

order to identify possible mechanical difficulties, ensure that the facility has reached operational readiness and achieve steady-state operating conditions prior to conducting the trial burn. These purposes may be partially accomplished by operating the unit with auxiliary fuel or non-hazardous waste (e.g., for conditioning of refractories).

One litigant felt that burning of hazardous waste should not be allowed during shake-down. Engineering considerations, however, will necessitate operation of the incinerator, prior to conducting the trial burn, using the hazardous waste or wastes for which the permit will be written. Thus, the amended regulation allows the Director to specify, on a case-by-case basis, conditions under which a new facility may operate to treat hazardous waste during the shakedown period.

This phase of the permit is limited to 720 hours of operation to treat hazardous waste (approximately 30 days of continuous operation) in order to prevent prolonged operation in the absence of permit requirements of demonstrated adequacy. The Director may extend the allowable hazardous waste treatment period for one additional period of up to 720 hours if the applicant is able to demonstrate cause for the extension. Requests for extensions should be accompanied by a detailed statement regarding the incinerator's performance and the need for the extension.

The provision for a single extension answers one litigant's concern that public participation might be excluded from decisions to allow burning of hazardous wastes during shake-down. The initial public hearing will allow an opportunity to comment on the permit conditions to be imposed during shake-down and on the single extension. If operational constraints require further extension of the shake-down period, opportunity for additional public participation is appropriate. Thus, further extensions will require modification of the permit, according to the procedures of § 122.15 (Modification or revocation and reissuance of permits).

The operating requirements for the shake-down period must meet two criteria: (1) They must be sufficiently stringent, based on the Director's best engineering judgment, to meet the performance standards of § 264.343, and (2) they must not restrict operation to such a degree that the operator is unable to prepare the incinerator to perform properly during the trial burn. Design and operating information submitted with Part B of the permit application and the experience gained from other permit deliberations will aid the Director in determining whether the incinerator is likely to achieve the performance standards of § 264.343 when operated under certain conditions. Sufficiently conservative conditions can be implemented by limiting the waste feed rate or concentration of hazardous constituents input to the incinerator, or by requiring operation at temperatures in the upper reaches of the incinerator's operating range. The Director should be able to specify conditions which will protect human health and the environment while allowing sufficient inputs of hazardous wastes to prepare the incinerator to function properly during the trial burn.

There are numerous feasible approaches to establishing acceptable operating conditions during the shake-down period. For example, some applicants may wish to operate in the early stages of the shake-down period using auxiliary fuel or non-hazardous wastes, followed by an informal or small-scale trial burn. The results of this burn might then be used to establish a preliminary set of operating conditions to be effective during the remainder of the shake-down. Alternatively, the applicant might operate during shake-down under the operating requirements originally proposed by EPA in December of 1978 (43 FR 59008). The final decision will be made on a case-by-case basis. The permit application must be accompanied by a statement which identifies the conditions under which he proposes to operate during shake-down and gives some justification for selecting these conditions. The Director will evaluate the proposal and decide upon the conditions to be included in the permit.

After timely and satisfactory completion of all shake-down operations, the second phase of the permit begins. This phase consists solely of the period allotted for conducting the trial burn. The operating requirements applicable during this phase will be set in accordance with the trial burn plan and will be determined following a careful review of the plan and all other information submitted with Part B of the permit application.

Following completion of the trial burn, a period of several weeks to several months will be necessary for completion and submission of the trial burn results and subsequent specification of operating conditions to reflect the results. This period represents the third operational phase of the permit. Since shutdown of the incinerator during this period might result in substantial financial losses, and in diversion of hazardous wastes to less effective treatment alternatives, the Agency has determined that some provision must be made to allow operation. The amendment, therefore, will allow the Director to specify a set of operating requirements to take effect following completion of the trial burn and until modified operating requirements are specified in the facility permit.

EPA has considered numerous approaches for setting requirements to be applied during this phase. The amended regulation requires that the permit conditions be designed to meet the performance standards of § 264.343. Therefore, as in the case of the shake-down period, engineering judgment will be necessary to set these conditions. Again, conservative conditions should be applied; for example, the Director may choose to impose the most stringent operating conditions imposed during the trial burn or he may restrict waste composition or feed rate. The incinerator will have been operated to treat hazardous wastes during the trial burn and perhaps during a shake-down period prior to the follow-up phase. Therefore, there may be circumstances in which the Agency will consider whether any continuous monitoring data collected during the trial burn could be used to assist in selecting operating requirements for the follow-up period.

For example, during the trial burn, the stack emissions might be monitored for total unburned hydrocarbons (i.e., all unburned organic substances in the stack gas). By assuming that the total concentration of unburned hydrocarbons measured is emitted in the form of the POHC [1] which is most difficult to burn, a destruction and removal efficiency (DRE) might be calculated using the unburned hydrocarbon data. The operating requirements which result in attainment of this DRE during the trial burn could then be designated for application during the follow-up phase. The assumptions involved in this approach are necessarily conservative and act to offset uncertainty concerning possible

[1] A principal organic hazardous constituent (POHC) is an organic chemical which is a constituent of the waste to be burned and has been identified as hazardous by EPA in Appendix VIII of 40 CFR Part 261. In each case, the permitting authority will designate POHCs to be used in measuring destruction and removal efficiency of the incinerator. As discussed later in this preamble the incinerator will be operated during a trial burn to demonstrate 99.99 percent destruction and removal efficiency for each POHC designated by the permitting authority. The operating conditions shown to achieve 99.99 percent destruction and removal efficiency will then become conditions of the permit. Generally, those organic constituents which are most difficult to destroy and most abundant in the waste will be selected as POHCs.

damage to human health and the environment. For this reason and because EPA lacks information concerning the feasibility of such an approach, today's amendment does not require that total unburned hydrocarbon data be used to set the permit conditions for the follow-up phase. However, EPA specifically requests that interested parties submit comments regarding the technical, financial, and practical aspects of such an approach. After further consideration of the method and review of any comments received, EPA will determine whether the above approach can be used with a high degree of confidence.

As in the case of the shake-down phase, the applicant should include a statement, with the permit application, describing the conditions under which he proposes to operate during the follow-up phase. In the event that data collected during the shake-down or the trial burn phases show that different operating conditions will be necessary, the applicant may amend the permit application and the Director may modify the permit conditions, as required. This modification may proceed according to § 122.17 (Minor modifications of permits), which does not require implementation of the procedures specified in Part 124, including preparation of a draft permit and opportunity for public hearing and appeal.

Detailed review of the trial burn results will show either that the incinerator is capable of complying with the performance standards when operating within the trial burn conditions, or that compliance was not attained during the trial burn and a second test is necessary. If compliance was shown, the permit may be modified to set, as the final operating requirements those demonstrated during the trial burn according to § 122.17 (Minor modifications of permits). If compliance has not been shown and an additional trial burn is necessary, the permit may also be modified under § 122.17, to allow for an additional trial burn. In cases where 99.99 percent DRE is achieved for some but not all of the trial POHCs, the permit must be modified to allow incineration of only those POHCs for which compliance has been demonstrated. A further trial burn will be necessary if the applicant wishes to show compliance for the remaining trial POHCs. When all permit modifications are complete, the facility begins its fourth and final operating phase which continues throughout the duration of the permit.

2. *RCRA permits for existing incinerators.* Because RCRA provides for existing incinerators to operate under interim status while awaiting the Agency's decision concerning permit issuance, these facilities do not experience the operating restrictions which complicate the permitting process for new incinerators. The amendments to the procedure for permitting existing incinerators therefore do not change the actual process. Instead, the changes which have been made only serve to clarify the sequence of events involved in the application process.

The revisions at issue affect §§ 122.25(b)(5) and 122.27(b). They require that owners and operators of existing facilities who apply under the trial burn method submit their trial burn plans either before or with their Part B permit application. The Director will then evaluate the plan and approve it after making the determinations required in § 122.27(b)(2). If a trial burn plan is submitted and approved before the permit application has been submitted, the applicant should conduct the trial burn, and submit the resulting data with the permit application. If completion of this process conflicts with the date set by the Director for submission of the Part B application, the applicant should contact the Director to extend the date for submission of the Part B application or submit the Part B without the trial burn results and provide the data within 90 days following completion of the trial burn. If a trial burn plan is submitted with Part B of the permit application, the Director, when approving the plan, will specify a time period for conducting the trial burn and submitting the results. Following submission of the trial burn results and the Part B application, the Director may prepare a draft permit which will specify the proper operating requirements under § 264.345, based on the results of the trial burn, along with all other applicable permit conditions. This permit will then be processed through the standard procedures of Part 124.

The trial burn application procedure for existing facilities differs from new facilities because an existing facility in interim status is authorized to conduct treatment of hazardous wastes. Therefore, an existing facility needs no prior approval to continue operation or conduct a trial burn. However, without the Director's approval, the owner or operator cannot be certain that the trial burn data will be sufficient to meet the Director's needs. Thus, the applicant will find it advantageous to obtain the Director's approval of a trial burn plan prior to conducting the test. During review of the trial burn plan, the Director will designate principal organic hazardous constituents to be monitored and will specify other data requirements. However, the applicant may choose to collect data during the course of normal operation under interim status or may acquire data from similar facilities burning similar wastes to be submitted with Part B of the permit application in lieu of conducting a trial burn according to an approved trial burn plan.

The January 23, 1981 regulations required that trial burn results be submitted to the Director no later than 30 days following completion of the burn. Comments received following publication of those regulations suggested that the 30 day period is not sufficient to allow completion of chemical analysis, data computation, and reporting. EPA concurred with commenters on this point and has extended the time period to 90 days following completion of the trial burn. As discussed above, the applicant may avail himself of various options for submitting the trial burn results and Part B of the permit application, and should recognize that EPA, in accordance with § 122.22(a)(2), will allow the applicant at least six months from the date of request to submit Part B of the permit application. Therefore, the 90-day limitation takes effect only after this six month period has elapsed.

B. Applicability of the Incineration Standards

The January 23, 1981 regulations exempted ignitable hazardous wastes from compliance with most of the standards for incinerators. This exemption was allowed because the regulations focused primarily on controlling emissions of hazardous organic substances, toxic metals and hydrogen chloride. As discussed below, the regulations require that incineration of hazardous waste result in destruction and removal of 99.99% of the hazardous organic waste constituents. The restriction on particulate emissions works to control release of toxic metals and hydrogen chloride emissions are controlled through imposition of a performance standard for air pollution control devices. Wastes which have been designated as hazardous solely because of ignitability were exempted from coverage because they lack the properties which these standards are designed to control.

As noted earlier, a solid waste becomes a "hazardous waste" subject to regulation under Subtitle C of RCRA in

one of two ways. Either the waste is designated as hazardous because it contains hazardous constituents listed in Appendix VIII and has been specifically listed as hazardous by EPA, or it is hazardous because it fails one or more of EPA's characteristic tests for ignitability, corrosivity, reactivity or Extraction Procedure toxicity. The exemption from the technical standards for incineration applied to wastes which are designated as hazardous by either means solely because of their ignitable properties.

Many commenters felt that the exemption for ignitable wastes should be expanded to include corrosive and reactive wastes. The majority of these commenters further suggested that the Agency should designate allowable concentrations of Appendix VIII constituents for the exempted wastes. They also suggested that the exemption should be automatic, based on criteria published in the regulations rather than left to the discretion of the Regional Administrator.

EPA has decided to expand the exemption, as requested by commenters, to include corrosive wastes and wastes having any of the reactivity characteristics described by § 261.23(a) (1), (2), (3), (6), (7), and (8). Today's amendment to § 264.340 provides for automatic granting of the exemption for these wastes when they have been shown to contain none of the hazardous constituents listed in Appendix VIII of Part 261. In contrast, ignitable, corrosive and reactive wastes having low concentrations of some Appendix VIII constituents may be exempted if the Regional Administrator finds that the exemption will not result in a potential threat to human health and the environment.

Wastes eligible for the exemption include those which are hazardous solely due to any of the selected characteristics and those which are hazardous solely due to any combination of those characteristics. Wastes which are listed as hazardous in Part 261 due to the presence of toxic constituents and wastes having the Extraction Procedure toxicity characteristic will not be eligible for the exemption.

EPA has not yet listed any wastes solely because of corrosivity. However, the exemption for corrosives now applies to wastes which are hazardous due to failure of the corrosivity test. Should the Agency determine that further listings are necessary, this exclusion may be applied when a waste is listed due to corrosive properties.

With respect to reactive wastes, the Agency has two concerns: (1) Certain reactive wastes require careful treatment, storage, and disposal because they may release toxic gases, such as cyanide, upon reaction with other substances, and (2) reactive wastes which are explosive, when burned in the presence of other wastes, create the potential for release of hazardous pollutants to the environment in the event of an explosion. The exemption for reactive wastes has therefore been limited to accommodate these concerns. First, wastes having the reactivity characteristics described by § 261.23(a) (4) and (5) will not be exempted since they may emit toxic gases and vapors upon reaction. Second, wastes described by any of the remaining reactivity characteristics are explosive or capable of violent reactions that could disperse toxic substances into the environment. Therefore, the amendment specifies that such wastes, if exempted, cannot be burned in the presence of any other hazardous waste.

EPA's selection of wastes to be exempted under § 264.340 was based on a consideration of the purpose underlying each of the performance standards of § 264.343. Since the destruction and removal efficiency (DRE) requirement measures emissions of hazardous organic constituents and the performance standard for particulate emissions is intended primarily as a means of controlling toxic metals and hazardous organic substances adhering to particulate material, application of these standards is inappropriate when the waste is known to contain none or only insignificant concentrations of the Appendix VIII hazardous constituents.

EPA has further determined that application of the performance standard for HCl emissions to incineration of these wastes is unnecessary. Although Appendix VIII does not include an exhaustive list of chlorinated organic substances, it does include a large percentage of the chlorinated substances expected to be present in hazardous wastes. Therefore, we believe that there will be few, if any, exempted wastes which, when burned, will create emissions in excess of the allowable emission rate of 4 pounds per hour, set by today's amendment to § 264.343.

Applicants seeking exemption under § 264.340 must submit sufficient waste analysis data with Part B of the permit application to document levels of all hazardous constituents listed in Appendix VIII of Part 261 which would reasonably be expected to be found in the waste. The waste constituents excluded from analysis must be identified, and the reason for their exclusion stated. During interim status, owners and operators are required to document, in writing, that any exempted waste would not reasonably be expected to contain any Appendix VIII hazardous constituents. This documentation must be retained throughout the period of interim status.

When setting the conditions of the permit, the Regional Administrator will determine whether an exemption should be granted for incineration of an ignitable, corrosive, or reactive waste base on a review of the waste analysis data. This review will focus primarily on the identity and numbers of any Appendix VIII (Part 261) hazardous constituents in the waste, and on the concentrations in which those constituents are found in the waste. Today's amendment allows an ignitable, corrosive, or reactive waste in which none of the hazardous constituents listed in Appendix VIII of Part 261 have been detected to be exempted without further consideration of its content. The Regional Administrator's review of the waste analysis plan and data, both of which accompany Part B of the permit application, is necessary in this case in order to determine that the sampling and analysis methods used and the data generated show that no hazardous constituents are present at levels which can be detected by the analytical methods required by § 122.27 (i.e., those specified in SW–846, "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods"). Although the exact detection limits vary for specific constituents, those present in concentrations below 1 part per million (ppm) in the waste generally will not be detected.

Since small, but detectable, concentrations of Appendix VIII hazardous constituents may not always pose a hazard to human health when incinerated, the amended regulation also provides that the Regional Administrator may grant an exemption when low concentrations of hazardous constituents are detected in the waste. One litigant criticized this provision as too lenient. However, if EPA provided no allowance for trace contaminants, the exemption would be unworkable. In making a determination regarding exemption in this case, the Regional Administrator may begin by considering the concentration of each hazardous constituent found in the waste feed and estimating the concentration (e.g., by assuming 99.99% destruction and removal) which will result in the stack gas.

EPA estimates indicate that constitutents present in the waste feed in concentrations as low as 1000 ppm

will be routinely detected by stack gas analysis 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 document. Stack gas concentrations resulting from 99.99% destruction and removal of constituents present in the waste feed in concentrations below 100 ppm can generally be measured only through the use of sampling and analysis techniques which exceed the capabilities of those recommended in EPA's guidance manual (Sampling and Analysis Methods for Hazardous Waste Incineration) and the Regional Administrator may presume they are allowable for purposes of the exemption.

The Regional Administrator may also consider available measures of the relative toxicity of each hazardous constituent in order to ascertain whether potential exists for threat to human health. In rare cases where the constitutents under consideration are known to be extremely toxic (e.g., 2,3,7,8-TCDD), the Regional Administrator may overcome the presumptive exemption, even when projected stack gas concentrations are so low that modified sampling and analysis methods will be necessary for measurement. This approach allows the Regional Administrator the option of denying an exemption when the toxic constituents present in a waste, in his judgment, pose a potential health hazard, even at low levels. In granting discretionary authority to the Regional Administrator in this limited area, EPA is particularly interested in determining the feasibility of future regulations specifying the toxicity criterion as a factor in POHC selection.

C. Amendments to the Incinerator Performance Standards

The regulations require that hazardous waste incinerators comply with three performance standards. The most important of these is the requirement that incinerators achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated in each waste feed. This standard is not affected by today's amendments. The second performance standard is a requirement that incinerators burning wastes containing more than 0.5% chlorine remove 99% of the gaseous hydrogen chloride (HCl) in the stack emissions. The final performance standard requires that incinerators emit no more than 180 milligrams of particulate material per dry standard cubic meter of stack gas (.08 grains per dry standard cubic foot), corrected to 12% carbon dioxide in the stack gas. Amendments to both the HCl and particulate control standards are discussed below.

1. *The performance standard for HCl removal.* The interim final, Subpart O, regulations require that incinerators burning a waste feed which is more than 0.5% chlorine remove 99% of the hydrogen chloride (HCl) in the stack gas. A substantial number of comments addressed the acceptability of this standard. The majority of these comments requested that the performance standard be modified to regulate organically bound chloride only. Many also stated that, since wet scrubbers used to remove chlorides operate with increasingly less efficiency as HCl concentrations decrease, specific provisions are necessary for burning small quantities of chlorinated organic wastes or waste streams having a low chlorinated organic concentration. Commenters pointed out that because the standard allows a large incinerator burning a waste relatively high in chloride to emit a much greater quantity of HCl than a small facility burning a waste which is relatively low in chloride, it does not regulate uniformly. Most contended that a maximum allowable HCl emission level would provide a more adequate means for regulating and suggested allowable ambient air concentrations ranging from 12 parts per billion to 10 parts per million.

The amended performance standard requires that incinerators emitting more than 4 pounds of HCl per hour achieve a removal efficiency of up to 99%. The required removal efficiency will vary for each facility since, for incinerators emitting more than 4 pounds of HCl per hour, removal need only be sufficient to reduce emissions to that rate. A minimum of 99% removal efficiency is required when removal at this efficiency will not reduce emissions to 4 pounds per hour. This requirement is based primarily on the Agency's determination that 99% removal represents currently achievable technology and is supported by data obtained from the test burns conducted by EPA's Office of Solid Waste during 1975 and 1976. Whenever HCl removal was measured, the 99% standard was achieved. Additional industry reports reinforce these data.

Establishment of the maximum allowable uncontrolled emission level at 4 pounds per hour results from consideration of a number of factors including information supplied by commenters. Specifically, the value was derived through application of the single source (CRSTER) model for short term air pollution exposures. The Threshold Limit Value for exposure to HCl in workplace air, developed by the American Conference of Governmental Industrial Hygienists, was modified to account for the hourly difference between occupational and environmental exposures. The resulting value was then altered by a safety factor of 100 in order to arrive at an appropriate ambient air concentration. This number was used to represent a safe exposure level and provided input to the single source model for calculation of the corresponding allowable emission rate. This approach is not only the most acceptable of methods currently available but is consistent with suggestions made by commenters. EPA believes that 4 pounds of HCl per hour is a safe and conservative allowable emission rate which insures adequate protection and resolves the problems raised by commenters regarding small facilities.

A case-by-case approach to setting mass emission limits, through the use of risk assessments in the permitting process, would further tailor this standard to reflect actual risks to human health. EPA has proposed the use of quantitative risk assessments as a basis for altering the performance standard in individual cases (46 FR 7684, January 23, 1981), and will evaulate its usefulness during the course of the regulatory impact analysis currently underway. If adopted as a final regulation, this approach will provide a mechanism for varying the HCl emission limit established by today's amendment.

2. *The performance standard for particulate emissions.* The interim final performance standard for control of particulate emissions requires that a hazardous waste incinerator emit no more than 180 milligrams of particulate material per dry standard cubic meter, when corrected to 12% carbon dioxide in the stack gas. This correction is designed as a protection against attempts to meet the particulate standard simply by diluting the stack gas, rather than by controlling the particulates. Selection of the correction factor was based on an assumption that the stack gas should contain 12% carbon dioxide when the incinerator is operated using 50% excess air. Further dilution with air, of course, would alter the percentage of carbon dioxide. However, comments suggested that the required correction of measured particulate emissions to 12% carbon dioxide is inappropriate since it originated from standards promulgated under the Clean Air Act which address burning of fuel relatively high in carbon content (i.e.,

bituminous coal). The correction factor, commenters contended, is not representative of typical hazardous waste carbon content, and does not consider the high quantities of excess air required for burning hazardous wastes.

The 12% carbon dioxide correction factor was indeed derived from data describing the combustion of coal. Without the use of excess air, burning of coal results in stack emissions which contain 18% carbon dioxide. Assuming that use of 50% excess air is representative of common practices, the appropriate carbon dioxide content drops to 12%.

As commenters indicated, there are two major problems involved in applying this factor to incineration of hazardous wastes: (1) The correction is based on conditions appropriate to burning materials of high carbon content and is inappropriate for hazardous waste incineration because carbon content varies considerably among wastes, and (2) since carbon dioxide is absorbed to a significant extent in wet scrubber systems, the correction procedure requires sampling the emissions in the hot zone of the stack, prior to clean-up by pollution control devices. In order to eliminate these difficulties and correct for the wide range of excess air use among hazardous waste incineration facilities the Agency has selected a replacement for the carbon dioxide correction procedure.

As amended, the performance standard for particulate emissions requires adjustment of the measured particulate concentration by the following correction factor (CF):

$$CF = \frac{14}{21-Y}$$

Where Y is the oxygen measured in the stack gas, expressed as a volumetric percentage.

This correction procedure parallels the carbon dioxide correction since it adjusts the measured particulate concentration to reflect the same standard conditions, specifically 50% excess air. The factor is derived from the formula:

$$CF = \frac{21-X}{21-Y}$$

Where X is the volumetric oxygen percentage of the stack gas resulting from burning with a given percentage of excess air, Y is the volumetric oxygen percentage measured in the stack and 21 is the oxygen content of ambient air expressed as a volumetric percent. At 50% excess air, the stack gas will contain 7% oxygen by volume and the formula becomes:

$$CF = \frac{21-7}{21-Y} = \frac{14}{21-Y}$$

This correction factor provides several advantages. Since pollution control devices do not significantly alter oxygen concentrations, it is no longer necessary to sample emissions in the hot zone of the stack. Sampling and analytical methods for oxygen measurement are sufficiently similar to those used for measurement of carbon dioxide so as to impose no additional cost. Furthermore, basing the correction on oxygen rather than carbon dioxide content relies on assumptions which are representative of conditions typically found during incineration of hazardous wastes. EPA views this change as one which will significantly decrease the burden imposed by the performance standard for particulate emissions, without increasing the potential threat to human health and the environment. For further discussion of the basis underlying this correction procedure, the reader is referred to the Background Document for today's amendments.

The utility of the new correction factor is restricted to incinerators which use only ambient air as an oxygen source. The factor will necessarily be altered for units which incinerate under oxygen enriched conditions. An appropriate correction factor will be selected on a case-by-case basis for these incinerators and will be established as a condition of the permit. A more appropriate correction factor may be calculated by replacing the volumetric percentage of oxygen in ambient air, used in the above formula (21%), with a value which represents the total oxygen input to the incinerator, also expressed as a volumetric percent. This combined value, K, is calculated from the formula:

$$K = \frac{21(V_a)+100(V_o)}{V_a+V_o}$$

Where V_a is the volume of air fed to the combustion zone and V_o is the volume of oxygen fed to the combustion zone, both corrected to standard conditions. The above correction factor then becomes:

$$CF = \frac{K-7}{K-Y}$$

And is substituted in the equation:

$$P_c = P_m \cdot \frac{K-7}{K-Y}$$

Where P_c is the corrected concentration of particulate matter and P_m is the measured concentration of particulate matter.

D. Requirements for Operation, Inspection and Monitoring

The regulations include several requirements for incinerator operation, inspection and monitoring. After a permit is issued, temperature, waste feed rate, air flow rate and stack gas carbon monoxide must be monitored continuously. In addition, the incinerator must be inspected for signs of spills, leakage and fugitive emissions and the emergency waste feed cutoff system must be tested daily. The regulations require that several operating requirements be specified in each permit. At a minimum, these include: limitations on waste feed composition, stack gas carbon monoxide, air feed rate, waste feed rate and allowable variations in design and operating procedures. Incinerators operating in interim status are required to monitor any existing instruments which relate to combustion and emission control at 15 minute intervals. Daily inspection for signs of spills, leakage and fugitive emissions and hourly observation of the stack gas plume must also occur during interim status. Several amendments to the operating, monitoring and inspection requirements are discussed below, including one amendment to the interim status requirements.

1. *Designation of air feed rate as a monitoring and operating parameter.* The interim final regulations listed several parameters which were to be designated as operating and monitoring requirements in each facility permit. These included carbon monoxide in the exhaust gas, waste feed rate, and combustion temperature. Several comments criticized the efficacy of air feed rate monitoring. Such monitoring, they contended, is not a reliable measurement of retention time [2] and is not feasible for all types of incinerators. Commenters suggested that measurement of other parameters, such as combustion gas flow rate, stack gas oxygen concentration, induced or forced draft fan flow rate, fan motor current, or pressure differential within the system,

[2] Generally, retention time correlates with the incinerator's destruction and removal efficiency. As retention time increases, destruction efficiency increases.

be allowed as substitutes for air feed rate as a retention time indicator.

EPA originally used the term "air feed rate" to indicate the rate at which air flows through the incinerator combustion zone. The comments indicate however, that this term has been interpreted more conservatively than the Agency originally intended. As commenters stated, incinerators such as rotary kilns do not employ a forced draft system which lends itself to measurement of air feed rate. Instead, air is drawn into the kiln at many points and actual feed rate is impossible to monitor. In such a situation, measurement of combustion gas flow rate is more appropriate.

Air feed rate was included as an operating parameter for two reasons: (1) To verify that sufficient excess air enters the combustion zone in order that combustion is completed to the extent feasible, and (2) to provide a ceiling for the gas flow rate through the combustion zone in order to assure sufficient retention time. Since specification of air feed rate as an operating parameter is not appropriate for all facilities, today's amendment adds language which allows the use of other appropriate indicators of combustion gas flow rate, in situations where measurement of air feed or flow rate is difficult. Suitable indicators, such as induction fan amperage or exhaust gas velocity, may be considered. Pressure differential within the system may also be monitored; however, it is important to recognize that pressure differential across exhaust gas wet scrubbers should not be relied on since many factors affect the scrubber pressure and will act to decrease the efficacy of its use as an indicator of combustion zone retention time.

The Agency intends that the owner or operator select a parameter which will allow calculation of the volumetric gas flow rate, to be measured during the trial burn, by considering accuracy, precision, ease of measurement and facility design. The Regional Administrator will then evaluate this selection, based on the relevant information included in Part B of the permit application and, taking the above considerations into account, the parameter to be measured will be designated in the facility permit. Owners and operators seeking to use such alternatives should supplement their Part B applications with information concerning possible sources of measurement error and the necessary compensatory measures, so that a meaningful evaluation can be made. Further guidance concerning selection of an appropriate indicator of combustion gas flow rate can be found in the Guidance Manual for Evaluating Permit Applications for the Operation of Hazardous Waste Incineration Units.

2. *Inspection of the waste feed cutoff mechanism.* The interim final regulations included a requirement for daily inspection of hazardous waste incinerators and associated equipment. Many commenters expressed concern that requiring daily inspection of the emergency waste feed cutoff mechanism would create an undue financial burden. They maintained that proper inspection requires the skill of a qualified instrument mechanic and is therefore too costly to be conducted on a daily basis. Furthermore, other commenters contended that the reliability of such emergency equipment is sufficient to support the assumption that an incinerator will operate safely even when failure of a component part occurs, and that in the event that the system should not respond, waste feed cutoff can be accomplished manually. In view of the reliability and limited use of such equipment, several comments concluded that weekly or monthly inspections would be more appropriate.

The amended regulation requires inspection at two levels of detail. Daily inspections may be limited to visual examination of the incinerator and associated equipment for signs of leakage, spills, corrosion or breakdown. A careful check of the emergency waste feed cutoff system and associated alarms must be conducted weekly. This inspection should be conducted by properly trained personnel (e.g., an instrument mechanic) and should include testing of the control panel circuits, triggering, through test circuits, of alarms and any other associated automatic functions (e.g., temperature maintenance systems). Operation of the waste feed cutoff valve should be included as part of the weekly inspection in cases where the valve is not "fail safe" (i.e., does not fail in the closed position). A fail safe valve, however, need not be operated weekly.

The degree to which inspection of the emergency waste feed cutoff system will disrupt normal operation of the incinerator will vary, depending upon facility design and other facility-specific factors. For example, liquid injection incinerators equipped with multiple feed nozzles may undergo weekly inspection with very little disruption simply by checking the cutoff to each nozzle individually while maintaining operation of the remaining nozzles. However, disruption may be significant in other instances. The amended regulation therefore gives the Regional Administrator the authority to allow inspection of the emergency waste feed cutoff system as infrequently as monthly. The Agency intends that this variance be granted only when the applicant has shown that weekly inspection will be highly disruptive (e.g., potential exists for refractory shock or other equipment damage) or will impose an inordinately large financial burden due to some facility-specific condition. In each case, granting of the variance should be conditional on a finding that proper operation will be maintained.

The inspection requirements have been disigned to provide adequate continuous assurance that the waste feed cutoff system will respond when needed. Although the mechanisms involved receive limited use and will not suffer greatly from wear, the potential for failure due to neglect is significant and the consequences of failure can be severe. Visual inspections will identify obvious needs for repair. However, since all components of the feed cutoff system are not visually accessible, periodic verification of the operability of the system in necessary both to assure protection of human health and the environment and to protect against the possibility of equipment damage in the event that the emergency waste feed cutoff system is triggered.

3. *Visual inspection of the stack gas plume during interim status.* The interim status standards for hazardous waste incinerators were published as interim final on May 19, 1980. On January 23, 1981, the regulations were amended and finalized. These standards included a requirement for hourly observation of the stack gas plume and subsequent correction of operating parameters, when necessary, as indicated by unusual color or opacity. Petitioners in *Association of Metropolitan Sewerage Agencies* v. *EPA 81–1440 (D.C. Cir.)* have identified two problems with implementation of this standard.

First, petitioners point out that visual inspection during nighttime hours is of little or no value. Secondly, since the regulation does not specifically identify "normal" appearance, petitioners contend that compliance with the requirement is difficult. Another litigent, however, argued that this provision should be retained as the only significant control applicable during interim status.

EPA concurs with the petitioners who contend that the visual inspection requirement is impractical. Initially, the inspection standard was intended to establish the operator's responsibility to recognize serious environmental and

human health hazards and take the actions necessary to prevent or alleviate the danger. During interim status however, the operator's ability to detect serious hazards is limited by the information obtained from reading any existing continous or periodic monitoring devices and observing the appearance of the stack gas plume. Since available equipment varies considerably from facility to facility, the regulation cannot rely on the use of any monitoring devices. Additionally, standards based on stack plume opacity or color are of limited usefulness since typical emissions vary in steam and particulate content. Absent a standard which would be reasonably applicable to all incinerators, the Agency has dropped the provision for monitoring the stack gas plume during interim status.

E. Trial Burn Requirements

The January 23, 1981 regulations set forth a detailed list of technical data and information which must be collected during the trail burn and submitted with Part B of the permit application. Today's amendments to the performance standards and the requirements for operating, monitoring and inspecting require that corresponding changes be made to the trial burn information requirements. For example, the phrase "combustion gas flow rate" has replaced "air feed rate". Two significant amendments are discussed below.

1. *Requirement for monitoring hazardous combustion by-products.* On January 23, 1981, in addition to promulgating the existing incinerator regulations, EPA proposed amendments to performance standards for incinerators. One requirement which the amendment would add is a performance standard for destruction and removal of hazardous combustion by-products which are formed during combustion. The amendment was intended to address those hazardous substances which may be formed when wastes are broken down in the combustion zone and the resulting chemical fragments recombine to form other hazardous substances.

In anticipation of finalizing the proposed amendment, EPA included a requirement in the promulgated regulations for monitoring hazardous combustion by-products during the trial burn. Some commenters and one litigant agreed that the requirement would provide the Agency with valuable data describing the formation of hazardous combustion by-products. EPA is currently evaluating the proposal and will address it after completion of the regulatory impact analysis of the incinerator regulations which is currently underway. Therefore, the requirement for identifying hazardous combustion by-products in incinerator stack gas during the trial burn has been deleted.

2. *Computation of a total mass balance of the trial POHCs.* Section 122.27(b) of the interim final regulations included requirements for quantitative analysis of the scrubber water, ash and other incineration residues and for computation of a total mass balance of the trial POHCs, both to be conducted following completion of the trial burn. Today's amendment to § 122.27 deletes the requirement for a "total mass balance of the trial POHCs." While analysis of the scrubber water, ash and other residues is still required, the amended regulation states that this analysis is intended to estimate the fate of the trial POHCs. Owners and operators will not be required to account for the destruction or removal of the total mass of each trial POHC. However, the required analysis must provide sufficient information to determine whether the PHOCs are primarily destroyed through thermal combustion or removed either by the air pollution control system, or in the bottom ash.

Comments received following publication of the Subpart O Regulation expressed a strong belief that the costs associated with conducting a trial burn would be much greater (i.e., $150,000 to $200,000) than EPA had estimated (i.e., $40,000 to $60,000). This discrepancy should be somewhat reduced by today's amendment to § 122.27(b) since it will eliminate any perceived need to shut down the incinerator and thoroughly empty and clean the scrubber system. Furthermore, since many applicants may petition the Agency under Part 260 to delist bottom ash or scrubber effluents, the required analysis of residues will often serve a dual purpose. The amended regulation therefore acts to decrease the costs incurred during the trial burn while preserving the intent of the orignial requirement.

IV. Other Important Issues

Several issues which concerned interpretation of the regulatory language or the basis and purpose of the regulations were raised by a majority of the commenters who responded to the January 23, 1981 promulgation. The issues include: selection of the POHCs in each waste feed, the applicability of the incinerator regulations to fume incinerators, and the need to regulate particulate emissions from hazardous waste incinerators. Although consideration of these issues did not lead to amendment of the regulations, further discussion may clarify these issues and is presented below.

A. Selection of Principal Organic Hazardous Constituents

In order to establish compliance with the performance standard for 99.99% destruction and removal of organic waste constituents, the regulations provide for selection, by the permitting official, of principal organic hazardous constituents (POHCs) for each waste feed to be burned. POHCs are hazardous organic substances present in the waste representative of those constituents which are most difficult to burn and most abundant in the waste. The incinerator standards set out the criteria to be used in selecting POHCs (i.e., ease of incinerability and concentration), EPA's Guidance Manual for Evaluating Permit Applications for the Operation of Hazardous Waste Incineration Units suggest one method for making the selection.

The destruction and removal efficiency is actually measured only for the POHCs and the incinerator's performance in treating these substances is used to indicate overall performance in treating organic wastes. When a contrived waste feed is used for the trial burn, these constituents will be added to the feed in concentration similar to those expected during normal operation. They are then to be quantified both in the waste and in the stack emissions during the trial burn. This provision acts to simplify the sampling and analysis efforts which are necessary to determine whether the performance standard has been achieved, thereby reducing the cost and complexity of the trial burn.

The regulation specified the following standard for use by the permitting official in designating POHCs:

> This specification will be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with Part B of the facility's permit application. Organic constituents which represent the greatest degree of difficulty of incineration will be the most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste. (40 CFR 264.342)

Many commenters requested that EPA provide more specific regulatory language concerning POHC selection and that a maximum allowable number of POHCs per waste be designated. In general, commenters expressed concern that, absent more specific guidance 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

results from concern for the release of toxic pollutants, particularly heavy metals, as well as organic hazardous constituents, which adhere to particulate material. Currently, no other controls for metal emissions are included in the RCRA regulations. Existing data shows that particulate emissions carrying toxic substances may pose risk to human health. EPA has chosen to use the current particulate regulation to establish basic control over this risk.

V. Supporting Documents

A. Background Documents

The record supporting these amendments includes background documents providing response to public comments and the rationale underlying the incernator regulations. These documents and the references listed in them, are part of the record indicating the basis and purpose of the promulgated regulations. The background documents address comments received on the interim final regulations published January 23, 1981 (46 FR 7666) which pertained to the issues discussed in this preamble, the interim final and interim status regulations published May 19, 1980 (45 FR 33066), and the proposed regulations published December 18, 1978 (43 FR 58946). Copies of these documents are available for review in the EPA Regional Office Libraries and at the EPA Headquarters Library, Room 2404, Waterside Mall, 401 M Street, SW., Washington, D.C. 20460.

B. Guidance Documents

EPA is preparing guidance manuals to assist facility owners and operators as well as regulatory officials. These documents do not have the force of regulations, but will provide assistance in applying the regulations and will include technical information concerning the operation of incinerators. These manuals include an Engineering Handbook on Hazardous Waste Incineration and the Guidance Manual for Evaluating Permit Applications for the Operation of Hazardous Waste Incineration Units. For a more complete list of manuals supporting the hazardous waste regulatory program, see the preamble to the interim final rules, published January 12, 1981 (46 FR 2802).

VI. Regulatory Impacts

EPA has determined, pursuant to Executive Order No. 12291, that today's amendments do not constitute a major rule and that no regulatory impact analysis is required. The amendments to the Parts 122, 264, and 265 regulations presented here will not impose any additional costs on the regulated community. EPA has submitted the necessary Standard Form 83 (Request for OMB Review) in accordance with the Paperwork Reduction Act and Executive Order No. 12291. Any comments received from OMB are included in the docket for this rulemaking.

The Regulatory Flexibility Act requires all Federal agencies to consider the impacts of their regulations on small business entities. For the reasons discussed in this preamble, EPA believes that the net effect of today's amendments will be to reduce the regulatory and economic burden imposed on all hazardous waste incinerators, including those belonging to small businesses. Pursuant to section 605 of the Regulatory Flexibility Act, it has been determined that today's amendments will not have a significant impact on a substantial number of small entities. A copy of this certification has been submitted to the Chief Counsel for Advocacy of the Small Business Administration.

VII. Interim Final Regulations: Effective Dates

On July 24, 1981, EPA published a Notice of Effective Dates of Interim Final Rules (46 FR 38318). This notice confirmed the effective dates of the incinerator regulations (July 22, 1981) and the standards applicable to hazardous waste storage facilities (July 13, 1981). The notice also announced EPA's intention to initiate rulemaking to suspend the effective dates of the interim final (Part 264) regulations for existing incinerators and storage surface impoundments, pending further evaluation of the appropriateness of the standards for those facilities.

Today's amendments address some of the issues related to the January 23, 1981 regulations. These regulations were noticed on an interim final basis, with a specific request for comments. Many comments were received in response to the request and today's amendments are being promulgated as interim final on the basis of that notice and comment period. Since the regulations are currently at the interim final stage, interested parties will have ample opportunity to comment on these amendments before the regulations are issued in final form.

Section 3010(b) of RCRA requires that revisions to regulations pertaining to requirements for permitting "* * * shall take effect on the date six months after the date of * * * revision." The Agency does not believe that a literal application of this requirement would be appropriate in this case. The purpose of section 3010(b) is to allow persons handling hazardous wastes sufficient lead time to prepare for compliance with new regulatory requirements. Because today's amendments generally ease the task of the permit applicant, delaying their effective date is not necessary to preserve the objective of section 3010(b). Futhermore, EPA believes that an effective date of six months after promulgation would be counterproductive, since much of the regulatory burden which these amendments seek to avert would already have been imposed on new facilities and because the existing permitting procedures create difficulties for owners and operators seeking permits for new incinerators. Today's amendments, therefore, become effective immediately.

List of Subjects

40 CFR Part 122

Administrative practice and procedure, Air pollution control, Hazardous materials, Reporting requirements, Waste treatment and disposal, Water pollution control, Water supply, Confidential business information.

40 CFR Part 264

Hazardous materials, Packaging and containers, Reporting requirements, Security measures, Surety bonds, Waste treatment and disposal.

40 CFR Part 265

Air pollution control, Hazardous materials, Packaging and containers, Reporting requirements, Security measures, Surety bonds, Waste treatment and disposal, Water supply.

Dated: June 21, 1982.

Anne M. Gorsuch,

Administrator.

For the reasons set out in the preamble, Title 40 of the Code of Federal Regulations is amended as follows:

PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

Subpart O—Incinerators

1. The authority citation for Part 264 reads as follows:

Authority: Sections 1006, 2002(a), and 3004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, as amended (42 U.S.C. 6905, 6912(a) and 6924).

2. Section 264.340 is amended by revising paragraph (b), redesignating and revising paragraph (c) as paragraph (d), and adding new paragraph (c) to read as follows:

§ 264.340 Applicability.

* * * * *

(b) After consideration of the waste analysis included with Part B of the permit application, the Regional Administrator, in establishing the permit conditions, must exempt the applicant from all requirements of this Subpart except § 264.341 (Waste analysis) and § 264.351 (Closure),

(1) If the Regional Administrator finds that the waste to be burned is:

(i) Listed as a hazardous waste in Part 261, Subpart D, of this Chapter solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(ii) Listed as a hazardous waste in Part 261, Subpart D, of this Chapter solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23)(a) (4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(iii) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under Part 261, Subpart C, of this Chapter; or

(iv) A hazardous waste solely because it possesses any of the reactivity characteristics described by § 261.23(a) (1), (2), (3), (6), (7), and (8) of this Chapter, and will not be burned when other hazardous wastes are present in the combustion zone; and

(2) If the waste analysis shows that the waste contains none of the hazardous constituents listed in Part 261, Appendix VIII, of this Chapter, which would reasonably be expected to be in the waste.

(c) If the waste to be burned is one which is described by paragraphs (b)(1)(i), (b)(1)(ii), (b)(1)(iii), or (b)(1)(iv) of this Section and contains insignificant concentrations of the hazardous constituents listed in Part 261, Appendix VIII, of this Chapter, then the Regional Administrator may, in establishing permit conditions, exempt the applicant from all requirements of this Subpart, except § 264.341 (Waste analysis) and § 264.351 (Closure), after consideration of the waste analysis included with Part B of the permit application, unless the Regional Administrator finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(d) The owner or operator of an incinerator may conduct trial burns subject only to the requirements of § 122.27(b) of this Chapter (Short term and incinerator permits).

3. Section 264.341 is amended by revising paragraph (a) as follows:

§ 264.341 Waste analysis.

(a) As a portion of the trial burn plan required by § 122.27(b) of this Chapter, or with Part B of the permit application, the owner or operator must have included an analysis of the waste feed sufficient to provide all information required by § 122.27(b)(2) or 122.25(b)(5) of this Chapter. Owners or operators of new hazardous waste incinerators must provide the information required by § 122.27(b)(3) or 122.25(b)(5) of this Chapter to the greatest extent possible.

4. Section 264.343 is amended by revising paragraphs (b) and (c) to read as follows:

§ 264.343 Performance standards.

* * * * *

(b) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour (4 pounds per hour) of hydrogen chloride (HCl) must control HCl emissions such that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or 1% of the HCl in the stack gas prior to entering any pollution control equipment.

(c) An incinerator burning hazardous waste must not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \cdot \frac{14}{21-Y}$$

Where P_c is the corrected concentration of particulate matter, P_m is the measured concentration of particulate matter, and Y is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, presented in Part 60, Appendix A (Method 3), of this Chapter. This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these facilities, the Regional Administrator will select an appropriate correction procedure, to be specified in the facility permit.

* * * * *

5. Section 264.344 is amended by revising the title and adding new paragraph (c) as follows:

§ 264.344 Hazardous waste incinerator permits.

* * * * *

(c) The permit for a new hazardous waste incinerator must establish appropriate conditions for each of the applicable requirements of this Subpart, including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of § 264.345, sufficient to comply with the following standards:

(1) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in paragraph (c)(2) of this Section, not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements must be those most likely to ensure compliance with the performance standards of § 264.343, based on the Regional Administrator's engineering judgment. The Regional Administrator may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(2) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the performance standards of § 264.343 and must be in accordance with the approved trial burn plan;

(3) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Regional Administrator, the operating requirements must be those most likely to ensure compliance with the performance standards of § 264.343, based on the Regional Administrator's engineering judgement.

(4) For the remaining duration of the permit, the operating requirements must be those demonstrated, in a trial burn or by alternative data specified in § 122.25(b)(5)(iii) of this Chapter, as sufficient to ensure compliance with the performance standards of § 264.343.

6. Section 264.345 is amended by revising paragraph (b)(4) and (c) to read as follows:

§ 264.345 Operating requirements.

* * * * *

(b) * * *

(4) An appropriate indicator of combustion gas velocity;

* * * * *

(c) During start-up and shut-down of an incinerator, hazardous waste (except wastes exempted in accordance with § 264.340) must not be fed into the incinerator unless the incinerator is operating within the conditions of operation (temperature, air feed rate, etc.) specified in the permit.

* * * * *

7. Section 264.347 is amended by revising paragraphs (a)(1) and (b), redesignating paragraph (c) as paragraph (d), and adding new paragraph (c) as follows:

§ 264.347 Monitoring and inspections.

(a) * * *

(1) Combustion temperature, waste feed rate, and the indicator of combustion gas velocity specified in the facility permit must be monitored on a continuous basis.

* * * * *

(b) The incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be subjected to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions, and signs of tampering.

(c) The emergency waste feed cutoff system and associated alarms must be tested at least weekly to verify operability, unless the applicant demonstrates to the Regional Administrator that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, operational testing must be conducted at least monthly.

(d) This monitoring and inspection data must be recorded and the records must be placed in the operating log required by § 264.73.

PART 265—INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

Subpart O—Incinerators

8. The authority citation for Part 265 reads as follows:

Authority: Sections 1006, 2002(a), and 3004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), and 6924).

9. Section 265.340 is amended by revising paragraph (b) to read as follows:

§ 265.340 Applicability.

* * * * *

(b) Owners and operators of incinerators burning hazardous waste are exempt from all of the requirements of this Subpart, except § 265.351 (Closure), provided that the owner or operator has documented, in writing, that the waste would not reasonably be expected to contain any of the hazardous constituents listed in Part 261, Appendix VIII, of this Chapter, and such documentation is retained at the facility, if the waste to be burned is:

(1) Listed as a hazardous waste in Part 261, Subpart D, of this Chapter solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(2) Listed as a hazardous waste in Part 261, Subpart D, of this Chapter solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23(a) (4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(3) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under Part 261, Subpart C, of this Chapter; or

(4) A hazardous waste solely because it possesses the reactivity characteristics described by § 261.23(a) (1), (2), (3), (6), (7), or (8) of this Chapter, and will not be burned when other hazardous wastes are present in the combustion zone.

§ 265.347 [Amended]

10. Section 265.347 is amended by removing paragraph (b) and redesignating old paragraph (c) as new paragraph (b).

PART 122—EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

11. The authority citation for Part 122 reads as follows:

Authority: Resource Conservation and Recovery Act, 42 U.S.C. 6901 *et seq.*, Safe Drinking Water Act, 42 U.S.C. 3007 *et seq.*, and Clean Water Act, 33 U.S.C. 1251 *et seq.*

12. Section 122.17 is amended by adding new paragraphs (e)(3), (e)(4) and (e)(5) as follows:

§ 122.17 Minor modifications of permits.

* * * * *

(e) * * *

(3) Change the ranges of the operating requirements set in the permit to reflect the results of the trial burn, provided that the change is minor.

(4) Change the operating requirements set in the permit for conducting a trial burn, provided that the change is minor.

(5) Grant one extension of the time period for determining operational readiness following completion of construction, for up to 720 hours operating time for treatment of hazardous waste.

* * * * *

13. Section 122.25 is amended by revising paragraph (b)(5) (i), (ii), (iii)(E)(*2*), (iii)(E)(*3*), and (iii)(F)(*4*) to read as follows:

§ 122.25 Contents of Part B.

* * * * *

(b) * * *

(5) * * *

(i) When seeking exemption under § 264.340 (b) or (c) of this Chapter (ignitable, corrosive or reactive wastes only):

(A) Documentation that the waste is listed as a hazardous waste in Part 261, Subpart D, of this Chapter solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(B) Documentation that the waste is listed as a hazardous waste in Part 261, Subpart D, of this Chapter solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23(a) (4) and (5) of this Chapter, and will not be burned when other hazardous wastes are present in the combustion zone; or

(C) Documentation that the waste is a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under Part 261, Subpart C, of this Chapter; or

(D) Documentation that the waste is a hazardous waste solely because it possesses the reactivity characteristics listed in § 261.23(a) (1), (2), (3), (6), (7), or (8) of this Chapter, and that it will not be burned when other hazardous wastes are present in the combustion zone; or

(ii) Submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with § 122.27(b); or

(iii) * * *

(E) * * *

(*2*) Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement),

(*3*) The certification and results required by § 122.27(b)(5)(ii).

* * * * *

(F) * * *

(4) Indication of combustion gas velocity.

* * * * *

14. Section 122.27 is amended by changing the title and revising paragraph (b) to read as follows:

§ 122.27 Short term and incinerator permits.

* * * * *

(b) *Hazardous Waste Incinerator Permits.* (1) For the purposes of determining operational readiness following completion of physical construction, the Director must establish permit conditions, including but not limited to allowable waste feeds and operating conditions, in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to bring the incinerator to a point of operational readiness sufficient to conduct a trial burn, not to exceed 720 hours operating time for treatment of hazardous waste. The Director may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to § 122.17 (Minor modifications of permits) of this Chapter.

(i) Applicants must submit a statement, with Part B of the permit application, which suggests the conditions necessary to operate in compliance with the performance standards of § 264.343 of this Chapter during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates and the operating parameters identified in § 264.345 of this Chapter.

(ii) The Director will review this statement and any other relevant information submitted with Part B of the permit application and specify requirements for this period sufficient to meet the performance standards of § 264.343 of this Chapter based on his engineering judgement.

(2) For the purposes of determining feasibility of compliance with the performance standards of § 264.343 of this Chapter and of determining adequate operating conditions under § 264.345 of this Chapter, the Director must establish conditions in the permit to a new hazardous waste incinerator to be effective during the trial burn.

(i) Applicants must propose a trial burn plan, prepared under paragraph (b)(2)(ii) of this Section with Part B of the permit application.

(ii) The trial burn plan must include the following information:

(A) An analysis of each waste or mixture of wastes to be burned which includes:

(1) Heat value of the waste in the form and composition in which it will be burned.

(2) Viscosity (if applicable), or description of physical form of the waste.

(3) An identification of any hazardous organic constituents listed in Part 261, Appendix VIII, of this Chapter, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in Part 261, Appendix VIII, of this Chapter which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified, and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 122.20), or their equivalent.

(4) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," (incorporated by reference, see § 122.20) or their equivalent.

(B) A detailed engineering description of the incinerator for which the permit is sought including:

(1) Manufacturer's name and model number of incinerator (if available).

(2) Type of incinerator.

(3) Linear dimensions of the incinerator unit including the cross sectional area of combustion chamber.

(4) Description of the auxiliary fuel system (type/feed).

(5) Capacity of prime mover.

(6) Description of sutomatic waste feed cut-off system(s).

(7) Stack gas monitoring and pollution control equipment.

(8) Nozzle and burner design.

(9) Construction materials.

(10) Location and description of temperature, pressure, and flow indicating and control devices.

(C) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(D) A detailed test schedule for each waste for which the trial burn is planned including date(s), duration, quantity of waste to be burned, and other factors relevant to the Director's decision under paragraph (b)(2)(v) of this Section.

(E) A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.

(F) A description of, and planned operating conditions for, any emission control equipment which will be used.

(G) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.

(H) Such other information as the Director reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in paragraph (b)(2)(v) of this section.

(iii) The Director, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this paragraph.

(iv) Based on the waste analysis data in the trial burn plan, the Director will specify as trial Principal Organic Hazardous Constituents (POHCs), those constituents for which destruction and removal efficiencies must be calculated during the trial burn. These trial POHCs will be specified by the Director based on his estimate of the difficulty of incineration of the constituents identified in the waste analysis, their concentration or mass in the waste feed, and, for wastes listed in Part 261, Subpart D, of this Chapter, the hazardous waste organic constituent of constituents identified in Appendix VII of that Part as the basis for listing.

(v) The Director shall approve a trial burn plan if he finds that:

(A) The trial burn is likely to determine whether the incinerator performance standard required by § 264.343 of this Chapter can be met;

(B) The trial burn itself will not present an imminent hazard to human health or the environment;

(C) The trial burn will help the Director to determine operating requirements to be specified under § 264.345 of this Chapter; and

(D) The information sought in paragraphs (b)(2)(v) (A) and (C) of this Section cannot reasonably be developed through other means.

(vi) During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations:

(A) A quantitative analysis of the trial POHCs in the waste feed to the incinerator.

(B) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs, oxygen (O_2) and hydrogen chloride (HCl).

(C) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial POHCs.

(D) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in § 264.343(a) of this Chapter.

(E) If the HCl emission rate exceeds 1.8 kilograms of HCl per hour (4 pounds per hour), a computation of HCl removal efficiency in accordance with § 264.343(b) of this Chapter.

(F) A computation of particulate emissions, in accordance with § 264.343(c) of this Chapter.

(G) An identification of sources of fugitive emissions and their means of control.

(H) A measurement of average, maximum, and minimum temperatures and combustion gas velocity.

(I) A continuous measurement of carbon monoxide (CO) in the exhaust gas.

(J) Such other information as the Director may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in § 264.343 of this Chapter and to establish the operating conditions required by § 264.345 of this Chapter as necessary to meet that performance standard.

(vii) The applicant must submit to the Director a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and must submit the results of all the determinations required in paragraph (b)(2)(vi). This submission shall be made within 90 days of completion of the trial burn, or later if approved by the Director.

(viii) All data collected during any trial burn must be submitted to the Director following the completion of the trial burn.

(ix) All submissions required by this paragraph must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under § 122.6.

(x) Based on the results of the trial burn, the Director shall set the operating requirements in the final permit according to § 264.345 of this Chapter. The permit modification shall proceed as a minor modification according to § 122.17.

(3) For the purposes of allowing operation of a new hazardous waste incinerator following completion of the trial burn and prior to final modification of the permit conditions to reflect the trial burn results, the Director may establish permit conditions, including but not limited to allowable waste feeds and operating conditions sufficient to meet the requirements of § 264.345 of this Chapter, in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to complete sample analysis, data computation and submission of the trial burn results by the applicant, and modification of the facility permit by the Director.

(i) Applicants must submit a statement, with Part B of the permit application, which identifies the conditions necessary to operate in compliance with the performance standards of § 264.343 of this Chapter, during this period. This statement should include, at a mimimum, restrictions on waste constituents, waste feed rates and the operating parameters identified in § 264.345 of this Chapter.

(ii) The Director will review this statement and any other relevant information submitted with Part B of the permit application and specify those requirements for this period most likely to meet the performance standards of § 264.343 of this Chapter based on his engineering judgement.

(4) For the purposes of determining feasibility of compliance with the performance standards of § 264.343 of this chapter and of determining adequate operating conditions under § 264.345 of this chapter, the applicant for a permit to an existing hazardous waste incinerator may prepare and submit a trial burn plan and perform a trial burn in accordance with paragraphs (b)(2)(ii) through (b)(2)(ix) of this section. Applicants who submit trial burn plans and receive approval before submission of a permit application must complete the trial burn and submit the results, specified in paragraph (b)(2)(vi), with Part B of the permit application. If completion of this process conflicts with the date set for submission of the Part B application, the applicant must contact the Director to establish a later date for submission of the Part B application or the trial burn results. If the applicant submits a trial burn plan with Part B of the permit application, the trial burn must be conducted and the results submitted within a time period to be specified by the Director.

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